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

In The Matter Of:	)	
	)	
Comment on Broadband Adoption	)	**GN Docket Nos. 09-47, 09-51, 09-137**
	)	
	)	

To the Commission:

REPLY COMMENTS OF
NET LITERACY CORPORATION

Daniel Kent
Board of Directors
Net Literacy Corporation
426 Springwood Drive
Carmel, IN 46032
(317) 340-4011 Voice
Danielkent@netliteracy.org
http://www.netliteracy.org
http://www.netliteracyalliance.org

Introduction and Summary

Net Literacy submits these comments to the Commission in response to the Public Notice from the FCC, "Comments Sought on Broadband Adoption" (NBP Public Notice #16), released on November 10, 2009. Net Literacy is a Digital Literacy Corps of student volunteers and these comments detail its programs in response to Sections 4(b) iii and Section 5. Comments, policy considerations, and recommendations are included for portions of Sections 1-4.

Net Literacy recommends that:

- K-12 students on free or assisted lunch programs and without a computer at home should be the National Broadband Plan's highest priority.

- A Digital Literacy Corps of student volunteers should be an important component of the National Broadband Plan.

- Executive Order 12999 should be amended to provide K-12 schools a "right of first refusal" for all Federal Government computers deemed surplus.

Statement of Standing

Net Literacy[1] is a Digital Literacy Corps whose success at increasing broadband adoption is the result of a team effort of more than 1,000 student volunteers. Net Literacy's mission is to increase computer access, computer and Internet literacy, and Internet safety awareness, while

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[1] See http://www.netliteracy.org or http://www.digitalliteracycorps.org

teaching students job skills, life skills, and providing them an opportunity to serve their community.

Net Literacy's Board of Directors is 50% comprised of student volunteers and students perform 100% of the digital inclusion community service. Founded by middle school students in 2003, Net Literacy's student volunteers have provided over 100,000 hours of service to communities, increased computer access to over 130,000 individuals, and facilitated the refurbishing and distribution of computers to over 7,000 families of K-12 students on free or assisted lunch programs and to nonprofits during the last two years.

Net Literacy's Honorary Board is co-chaired by US Senators Evan Bayh and Richard Lugar, and includes members of Indiana's leadership including Congressman Carson, Lt. Governor Skillman, Indianapolis Mayor Ballard, and Fort Wayne Mayor Henry, among others. The Indiana General Assembly has passed two Net Literacy resolutions: in 2005, recognizing Net Literacy's methodology and youth empowered programs and in 2009, calling for Indiana PEG Channels to carry Net Literacy's Internet safety content. Net Literacy has also been recognized by our nation's leadership, including President Clinton in a New York City ceremony and President Bush in a White House ceremony.

Net Literacy's Digital Literacy Corps programs have been recognized or cited as an example by the US Internet Industry Association,[i] the European Union's Commission on Digital Inclusion,[ii] the Indiana Department of Education,[iii] the US Broadband Coalition's Adoption and

Use Report,[iv] and in Microsoft's *Innovating for inclusion: A Digital Inclusion guide for those leading the way*[v]*,* among others.

Response to the Comments Sought on Broadband Adoption

Our responses adhere to the organization and structure of the questions in NBP Public Notice # 16 released on November 10, 2009. Net Literacy is a Digital Literacy Corps of student volunteers and these comments detail its programs in response to Sections 4(b) iii and Section 5. Comments, policy considerations, and recommendations are included for portions of Sections 1-4.

1. **Measuring broadband adoption.**

    Broadband adoption should be calculated by approximating each distinct population group's differing uses of devices, applications, and frequency of use. Further, the definition of an adopter will change over time as an increasing amount of content, applications, and services become digitized.

    a. An individual who frequently accesses broadband at work and for business purposes only and does not access the Internet elsewhere and for personal purposes should not be considered an adopter; however, an individual who frequently accesses broadband at work or at the library for their personal use should be considered an adopter. One component of determining what defines individuals as adopters is the actual versus potential benefits that should be

realized by the average adopter in a specific population group. As an example, a high school student with a smart phone that accesses the Internet to utilize social media would not be considered an adopter if the student did not have a means to access the Internet to complete required schoolwork assignments.

b. Adoption should be measured by the manner, type, and frequency of use of certain applications by population groups. There are very few applications (e.g., browsing websites or using email) that are standard across most groups of people at the present time, and the criterion that defines an adopter will change over time.

c. Benchmarking improvements will require regular statistically significant surveys and a continual reexamination of what constitutes an adopter. One approach is to focus research resources to define adoption by population groups with the lowest adoption rates. A second approach is to review the methodology used by other countries that the Commission believes correlates to U.S. population groups. A third approach is to conduct regular statistically significant surveys in the targeted population groups to track adoption progress. While household subscription rates is one method to approximate adoption, a more complete measure would be to survey a representative sample of individuals in targeted population groups' homes.

2. **Cost of digital exclusion**

The cost of digital exclusion will increase dramatically over time as content, applications, and services are digitized and Americans increasingly use broadband as a required part of their daily lives.

    a. In conjunction with the foregoing, a policy consideration is to establish an index that estimates the national and individual cost for individuals who are non-adopters. The index could be structurally similar to the Consumer Price Index and would require selecting groups of applications by population group, quantifying the value created that adopters enjoy over non-adopters, and modifying them regularly as additional applications migrate to the Internet and broadband usage patterns change. A portion of this data could be collected as a component of determining the actual versus potential benefits that should be realized by the average adopter in a specific population group when determining what defines individuals as adopters as proposed in Section 1.

    b. Yes, generally, individuals who have less access to resources and services that are available without the use of broadband will be more significantly impacted by non-adoption than individuals that can access substitute resources or applications that do not require broadband adoption.

c. The incremental cost of not having access to broadband is the sum of the net costs of using dialup rather than broadband (e.g., the cost of the additional time required to complete tasks) plus the value of content, service, and applications that are not accessible without a broadband connection. The cost calculations should include the effect of content, service, and application substitutions that do not require an Internet connection (e.g., appointment viewing of a television program on broadcast television vs. destination viewing of videos via IPTV). Over time, dialup access will become an increasingly less efficient method of accessing the Internet (depending upon how the definition of broadband is modified in the future) as many of the applications become increasingly bandwidth intensive.

d. No response.

e. Adopters will require hardware[2] although certain populations groups (e.g., the disabled) may require additional resources to overcome the costs of exclusion.

f. One approach to approximating the costs faced by individual consumers who do not adopt broadband as well as the societal costs of having a large portion of society that remains un-connected to broadband is to model the costs experienced by individual consumers who were illiterate during the second half of the Twentieth Century and model the societal costs where there were larger portions

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[2] A physical device may, at a minimum, consist of a smart phone, a modem and either a laptop computer or a desktop computer)

of society that were illiterate in the second half of the Twentieth Century. Ultimately, non-adopters' ability to function in society will be so significantly impacted that a better conceptualization of the costs is to view them as having a form of functional disability.

3. **Barriers to adoption**

   a. An additional barrier to adoption is population groups that are not fluent in English (ENL).

   b. Consumer concerns about consumer protection pose a significant barrier to adoption, and especially for senior citizens. Net Literacy has conducted programs at senior centers that include (a) how to safeguard your grandchildren when they're online, (b) how to purchase safely online, and (c) Safe Connects, which contains general Internet safety training. While few non-adopters may cite consumer protection concerns as a primary reason for not adopting, stories in the media about identify theft, child pornography, and computer viruses cause some to have a feeling that the Internet is a dangerous place and inhibits adoption.

   c. From a product life style context, broadband adoption is in the "late majority" stage and consequently, there are awareness and conversion strategies that can be adapted to facilitate adoption, after which maximized broadband usage is more likely to be achieved. Late adopters purchasing technology products often require

the reinforcement of opinion leaders or a consultative sale to facilitate adoption. Net Literacy student volunteers are asked computer purchase and broadband selection questions by new adopters that they have trained. The new adopters' purchase decisions are complicated by seemingly conflicting sales offers and by product attributes they find unfamiliar (e.g., how download speeds, RAM, and hard drive storage space will impact their use of broadband).

d. The population groups that are least likely to understand the relevance of broadband include ENL, the mentally disabled, and those that have not graduated from high school. As an example, at a facility for individuals with mental disabilities, some non-adopters became aware of the relevance of computers after being taught how to play online games.

Some groups became aware of the relevance and benefits of broadband by family members or after learning about a compelling application that creates their broadband value proposition. Senior citizens residing in independent living facilities are asked by their adult children to become adopters so they can use email and become more self-sufficient. Some parents learn from school officials how they can track their children's grades and attendance at school via online applications.

e. The poor are a population group with low adoption rates. Providing them a value proposition, the required digital literacy, hardware, and access to broadband may result in them only becoming temporary adopters. In core cities, some of the poor

move frequently because they cannot afford the rent. During the winter, some

low income families move into a common home so they can collectively pay for

utilities. Basic needs will trump the benefits derived from adoption. The

National Broadband Plan will be impacted by larger societal ecosystem problems

that cannot be resolved solely by reducing barriers to adoption.

f. The Commission should prioritize adoption resources as an important component

of the National Broadband Plan. The families of K-12 students (on free or

assisted lunches and without a computer at home) should receive the highest

priority, together with organizations that support K-12 learning (e.g., nonprofits

including but not limited to schools, community centers, and public libraries).

The most significant lifetime value opportunity costs to society are created by K-

12 students who do not succeed in school and later in life for reasons related to

adoption barriers.

4. Overcoming barriers to adoption

a. The Commission should utilize Lifeline and Link Up programs to support

broadband connection charges, devices, and service costs for low-income

consumers. Individuals receiving subsidized hardware or services should have

ongoing training, self-education, and other responsibilities that qualify them to

continue to participate in government supported programs. Subsidized hardware

and services should not be an entitlement and an escalating series of consequences

should be established for those who do not adequately meet these responsibilities or who otherwise abuse or this program.

   i. A policy consideration is to utilize a hybrid voucher or tax incentive to support broadband service and associated hardware costs for low income consumers that also rewards service provider for installing and serving qualified non-adopters for specified time periods. This model would create a dynamic demand and supply process that reduces barriers to low-income consumers while encouraging providers to facilitate adoption to low income consumers.

   ii. The National Broadband Plan should provide an even playing field for service providers notwithstanding the technology used by their delivery systems or the number of services that they bundle. Subsidized consumers purchasing a second product should be required to pay an amount for a second service that equals the cost of purchasing the two services from the provider without the benefit of any subsidy.

   iii. The Federal Government should offer broadband hardware purchase programs to low income consumers by purchasing hardware at a discount, re-selling the hardware, and providing an incentive program where the cost of the hardware could be further discounted or forgiven based upon qualified consumers meeting training, education, or other requirements. As a matter of definition, all hardware should include, at a minimum, an

operating system, a browser, and an application that enables users to create documents. It is especially important that all computers be equipped with robust anti-spyware, antivirus, and anti-adware software to reduce the ability of third parties to access user information or use the computers in a manner that could adversely impact ecommerce or homeland security.

To maximize consumer choice, the number of distribution channels and adoption, the Federal Government should encourage state governments, private industries, and pre-qualified third parties to offer these programs for a defined period of time, after which the program could be limited to the most efficient distribution channels.

iv. The Federal Government should find ways to incentivize both public and private hardware donations by (a) recommending Executive Order 12999 be strengthened so that K-12 schools have a "right of first refusal" to receive Federal Government owned computers that they deem surplus, (b) provide incentives to states that donate state-owned computers that they deem surplus to schools, (c) provide incentives to municipalities that donate municipally owned computers deemed surplus to schools, and (d) provide other organizations, including businesses and nonprofits, incentives to donate computers to schools. Since it is proposed that K-12 students on free or assisted lunches and without a computer at home

receive priority in the National Broadband Plan, donating the computers to schools will facilitate the placement of technology in students' homes (see the Computer Connects and Community Connects programs described in Section 5).

A policy option is for the Commission to also consider is facilitating the donation of computers to nonprofits or other organizations if the supply of computers exceeds demand by schools. If nonprofits are able to participate in this program, they should be prequalified and held accountable for their results.

The major benefits of hardware refurbishing program based upon Net Literacy's experience (see Section 5 for additional information) include:

- Efficiently provides incremental technology to schools and nonprofits – collaborating with the State of Indiana, Microsoft, businesses, schools, and other nonprofits, Net Literacy's Computer Connects program refurbishes and makes available thousands of computers at a cost of less than $15.00 per computer to schools and nonprofits. However and to expeditiously scale this program nationally, it may be most effective to hire coordinators to help facilitate the logistical aspects of this program. This would increase the cost per computer refurbished.

- Provides technology where the need is the greatest – computers (and the required training materials) are provided at no cost to individuals and organizations. Most nonprofits and families that receive refurbished computers from Net Literacy have few if any other options. As an example, refurbished computers are loaned by schools to the families of students on free or assisted lunch programs without a computer at home.

- Teaches the Digital Literacy Corps of student volunteers job skills, life skills, and provide them an opportunity to serve their community – many students that volunteer to participate in the Computer Connects program are not technically knowledgeable and do not have previous computer hardware or software refurbishing experience. Student volunteers learn valuable job skills and life skills by becoming more knowledgeable and comfortable with technology. By refurbishing computers for use by other students and especially by younger students in elementary schools, student volunteers feel a sense of satisfaction for making a difference in their community. \

- Environmentally friendly – refurbishing of computers reduces the number of computers and monitors that are dumped in landfills and the toxins that leak from electronic waste (e-waste). All schools receiving computers contractually agree to dispose of computers in an EPA compliant manner.

- Contributes to student success – the Computer Connects program incorporates both service learning and project based learning: experiences and skills that make school more relevant and help provide students with 21st Century skills. Since most computer refurbishing is conducted at Net Literacy chapters located within schools, it provides a vocational opportunity not available in many schools' curriculums. Computer Connects (and other Net Literacy programs) provide students after-school and summer activities that help them remain engaged and stay out of trouble.

- Increases adoption – Computer Connects is an integrated program that reduces barriers to adoption and supports Net Literacy's other four core programs as is further described in Section 5.

The major disadvantages of Net Literacy's hardware refurbishing program include:

- Computer donations are dependent upon the amount of hardware provided by the State, businesses, organizations, and individuals and consequently, Net Literacy's computer distribution planning is more difficult.

v. Hardware cost reduction should prioritize desktop computers and laptops. While it would positively impact adoption to subsidize other hardware,

such as printers, a significant portion of a printer's total cost of ownership is the variable costs associated with the purchase of toner and paper. With finite resources that will be made available to fund and execute the National Broadband Plan, the hardware essential for adoption should be prioritized. As the National Broadband Plan increases adoption, some hardware manufacturers may voluntarily offer equipment at a discount to gain market share and new customers.

vi. As the National Broadband Plan increases adoption, some hardware manufacturers may voluntarily offer equipment at a discount to gain market share and new customers. With finite resources that will be made available to fund and execute the National Broadband Plan, the hardware essential for adoption should be the priority..

b. Digital inclusion is a national priority and the National Broadband Plan should facilitate programs and policies that educate consumers and increase technology and digital literacy skills to ensure that individuals have sufficient ability to use hardware and navigate and process digital information and broadband-enabled applications. Non-adopters should master basic core competencies as part of the process of qualifying for subsidized hardware and software.

i. The Federal Government should establish nationwide standards for digital literacy, after reviewing the best of class digital literacy standards and curricula established by states, countries, and organizations. One

approach is to divide the standards into two general categories: digital core

competencies (e.g., computer, Internet, search, email, and safety basics)

and those applications and services that create a value proposition to non-

adopters and especially to groups that have the lowest adoption rates (e.g.,

for low income consumers, the training could include job search,

government resources search, and keyboarding skills). Digital core

competency would be determined by an evaluation conducted at the end of

each block of instruction. Additional education may be deemed a

requirement for an individual to continue to receive subsidized hardware

and/or broadband.

ii. The Federal Government should establish national digital literacy

standards required for individuals to receive subsidized hardware and

broadband service. The Federal Government should also aggregate best of

class instructional programs and related content to assist and support the

adoption process. A policy option is to encourage states to supplement and

further enhance the curricula with the use of state resources. This may

facilitate the creation of additional program materials that could help

novice and intermediate adopters become increasingly digital literate and

more fully take advantage of the content, applications, and resources

available by using broadband. The Federal Government can ensure that

individuals no longer in school acquire and maintain these skills by

engaging in work force training programs and a Digital Literacy Corps to

teach skills. Net Literacy proposes that as an added benefit for recipients that are non-adopters and qualify for unemployment compensation, welfare support, and certain other government programs, they should be offered the opportunity for self-improvement by learning basic digital literacy skills.

iii.   The Federal Government should create a national Digital Literacy Corps prioritized to assist in communities with low adoption rates and in those communities where substantial populations of non-adopters reside. As proposed to the Commission in May, 2009, submitted by US Internet Industry Association (USIIA) containing a paper jointly authored by Net Literacy and the USIIA in response to the Notice of Inquiry GN Docket No. 09-51 adopted on April 8, 2009 regarding a national plan for broadband:

> **"Creation of a "Student Net Literacy Corps."**
> Many individuals who are not Net literate have a general discomfort using technology. To help reduce this dissidence, and to provide a corps of instructors for the community center programs, a portion of the 30 million young Americans in high schools and colleges who have a command of basic computer and Internet literacy can be created.   Such a group would be consistent with plans by the Obama administration to utilize a volunteer corps to serve pressing needs in America."[3]

Also, the US Broadband Coalitions' Adoption and Use Report to the Commission also proposed as a policy recommendation:

> "Perform neighborhood outreach and support to engage nonsubscribers. Grass roots programs that

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[3] See the US Internet Industry Association's FCC filing naming Net Literacy's student corps of volunteer model as their recommended approach to reducing the digital divide in the U.S., (http://www.usiia.org/legis/FCC%2009-51%20Comments.doc)

> engage students, Americorps volunteers, and
> community nonprofits all promote adoption.[4]
> Continued investment in volunteer programs,
> especially through direct stipends and benefits,
> benefit both the volunteers and the community
> served."

In this section the Adoption and Use Report footnoted the report co-authored by the USIIA and Net Literacy, "Digital Inclusion: Bringing the rest of America online with Broadband."

    iv. Net Literacy recommends that a national helpdesk be created to assist individuals with basic technical, software, and digital literacy questions. As further detailed in Section 5, Net Literacy identified a college willing to establish a helpdesk to serve families receiving donated computers as a component of its Computer Connects initiative, but the program remains stalled due to lack of funding.

c. The Federal Government should help facilitate adoption by helping non-adopters understand how broadband is relevant to them.

    i. A Federally funded and coordinated outreach campaign utilizing multiple types of media and sources of information about broadband, including its relevance and utility, should be included as an essential component of the National Broadband Plan. The plan must contain both a "top down" mass media and a "bottom up" community initiated campaign to most

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4 D. Kent, D. McClure, "Digital Inclusion: Bringing the Rest of America online with Broadband." June 8, 2009, US Internet Industry, at http://www.usiia.org/pubs/Digital_Inclusion.doc .

effectively present the broadband value proposition to non-adopters.

Additional information about a "top down" and "bottom up" campaign

are included in the US Internet Industry Association's submission in

response to the Notice of Inquiry GN Docket No. 09-51 adopted on April

8, 2009 regarding a national plan for broadband:

> "A 'top down' media campaign that includes
> traditional media should be incorporated to
> reach individuals who are not Net literate. The
> media campaigns should be targeted to market
> segmentation that have lower Internet
> connectivity and contain messages that
> overcome the primary objections of nonusers.
> As appropriate, both national and local media
> should play a role in this endeavor. Additional
> Americans can be reached through Internet use
> demonstrations at locations used by the targeted
> market segments – including community
> centers, senior centers, and parent centers in
> schools.
>
> A 'bottom up' effort should be initiated using
> organizations and facilities whose constituencies
> include people who are not Internet literate.
> These would include senior centers, independent
> living facilities, faith-based organizations,
> community centers, schools, public libraries, and
> nonprofits. Consideration should be given to
> individuals who do not speak English at home,
> as these comprise 19.5 percent of the population.
> This "bottom up" initiative would be supported
> by the media campaign, and will be enhanced by
> a curriculum that is tailored to the needs to each
> 'computer lab' facility.
>
> Some of these classes in computer literacy and
> Internet safety are already underway in existing
> primary and secondary school environments, but
> other "computer labs" can be created within the
> facilities of faith-based organizations,
> community centers, schools (after hours and
> adult education), and other nonprofits. Since
> many of the underserved face serious constraints
> to their time, classes must be conducted at times

> convenient to the targeted populations. Training courses should be made available by volunteers at no cost to those investing their time to become computer and Internet literate – and graduates should be rewarded at graduation with a computer."[5]

This mass media component of this initiative could also encourage multichannel video operators and broadcasters to carry PSAs while requesting PEG Channels carry longer format informational programming. The Federally funded component of the awareness and value proposition campaign should be targeted to specific population groups. Each population group with low broadband adoption rates should be targeted with a customized media mix and message, as required. Organizations that serve the population groups with low adoption rates (e.g., the AARP for senior citizens) could be invited to comment on the marketing campaigns.

While the "top down" mass media campaign can target population groups with higher non-adoption rates, state, local, and tribal agencies together with qualified nonprofits have an existing relationship with these population groups and are some of the most effective methods of reaching and influencing non-adopters.

ii. Messaging in both the "top down" and "bottom up" campaigns should be targeted to specific population groups when possible and consist of a

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[5] Ibid

combination of both increasing awareness of the value proposition of broadband and overcoming objections to broadband. To maximize the effectiveness of the campaign, mass media messaging should conclude with a call-to-action that prompts non-adopters to contact a trusted resource to receive additional information.

The inclusion of information about how to protect individual privacy and against other online risks in such a campaign would be effective in increasing both adoption and usage rates. Many existing adopters are concerned about privacy and Internet safety, and their concerns and together reports in the media reinforce the feeling by some non-adopters that the Internet is a dangerous place. By better educating the public about privacy protection and online risks, adopters will be able to use the Internet more safely, non-adopters will understand that there are solutions that overcome these risks, and ultimately, the U.S. Internet infrastructure will become better protected against attacks.

iii. The "top down" component of the messaging campaign could serve as a marketing and awareness outreach program. The "bottom up" component of the campaign could serve as a non-adopter conversion program and would be better dispensed at the state, local, or Tribal level. The Digital Literacy Corps could help be foot soldiers who will help non-adopters

understand their own broadband value proposition. See Section 5 for additional details.

iv. The problem of non-adoption is shared by the Federal Government, private industry, and other government and non-governmental entities, and increasing digital inclusion will most effectively be accomplished by the information outreach program that the Commission is continuing to progress. After (a) any remaining required research is completed so that population groups with low adoption rates are identified, (b) the reasons for non-adoption are quantified by population group, (c) the information from Comments on the National Broadband Plan NOI, Comments On Broadband Adoption, and the information and recommendations from other requests for information have been considered, and (d) the Commission constructs the National Broadband Plan, as a policy recommendation, the Commission could consider soliciting comments regarding the tactical methods of implementing the National Broadband Plan when viewed in its entirety. While the National Broadband Plan's overarching goals and objectives may be presented in final form to Congress in February, the Commission may view the more tactical aspects of achieving the goals and objectives as a "process" by which ongoing feedback is solicited and that may be subject to enhancement if new process are identified and overtime as the population of non-adopters decreases which may change the priority of tactics used to help personalize the broadband value proposition and overcome barriers to

entry. Once the National Broadband Plan is approved, the Commission

could consider establishing working groups comprised of the major

stakeholders to serve as a resource to the Commission. Also, a series of

meetings or periodic regional and national meetings of stakeholders could

be convened to solicit feedback or suggestions as may be deemed

appropriate by the Commission. Another policy consideration is to

establish a website that facilitates the coordination, execution, and

information dissemination of the National Broadband Plan's implantation

and reporting of results.

d. No response.

e. No response.

f. No response.

g. No response.

h. No response.

5. Learning from existing programs

Figure One – The Digital Literacy Corps of student volunteers

a. Net Literacy's program goals are to addresses multiple adoption barriers to increase digital inclusion[6]. Specifically, Net Literacy's mission is to increase computer access, computer and Internet literacy, and Internet safety awareness while teaching student volunteers job skills, life skills, and providing them an opportunity to serve their communities. As an example, Net Literacy's Senior Connects[7] program increases computer and Internet literacy to senior citizens by (a) providing computers to establish or expand computer labs at senior centers, independent living facilities, and HUD and Section 8 senior citizen apartments, (b) requiring the facilities to show commitment by providing broadband for the computer lab, (c) providing senior citizens "user friendly" training materials with large font, pictures, and fewer technical terms, and (d) enabling senior citizens to cross through the digital divide as students cross through the intergenerational

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[6] See www.netliteracyalliance.org/about-nla/about-net-litearcy/
[7] See www.seniorconnets.org

divide. In this population, individuals have multiple barriers including no access to computers or broadband, a fixed income, disabilities, and approximately one-third of the senior citizens had previously tried conventional computer and Internet training programs without success. As computer labs were established within independent living facilities, Net Literacy saw adoption rates increase as residents (a) felt that the computer lab was now part of their "own home" which increased the number of residents that signed up for classes, (b) became more open to signing up for a class when they saw their neighbors taking computer and Internet training classes, (c) word-of-mouth advocacy is powerful and the seniors taking classes talked with other residents about using the Internet for researching healthcare resources, solving crossword puzzles, and using Google Earth to view their adult children's homes, (d) felt that the "friendly high school student volunteers" were endearing and this perception helped some of the residents overcome their technophobia, and (e) receive personalized one-to-one training with each student volunteer "adopting" one senior citizen, and (h) believed that the duration, frequency, and required practice sessions were reasonable. Each lesson included ten minutes of free time for the student to help the senior citizens discover their own personal value proposition and determine why they should incorporate broadband into their life. All students received "train the trainer" instruction which helped them understand how to help residents that had visual disabilities or were hearing impaired. During the first few Senior Connects training programs, quantitative and qualitative research was conducted to help Net Literacy fine-tune the lesson plans and program. At these independent living

facilities, the average age of residents taking the classes ranged from individuals in their 70's to 80's, approximately 25% of the residents taking classes had early stage Alzheimer's or dementia, and the facility managers stated that more than 50% of the residents had some form of disability. Depending upon the facility, 80-90% of the residents expressing interest in learning more about taking a class actually took the class and graduated with basic computer, Internet, and email skills. Informal focus groups and feedback from the residents to the independent living facilities' activity directors indicated that the residents experienced a high degree of satisfaction with the program. Net Literacy is refreshing the Senior Connects website and by the end of 2009, it will include computer and Internet training materials in Spanish and Russian and be used by the Community Connects and Senior Connects programs.

The Community Connects[8] program also addressed multiple barriers in HUD and Section 8 apartments, schools, libraries, community centers, preschools, faith-based organizations, and other nonprofits in population groups other than senior citizens. The Senior Connects training materials proved to be so effective when teaching other non-adopters, that the instructional materials have been standardized across all programs.

To support the Senior Connects and Community Connects outreach programs, Net Literacy has developed its own content to train different population groups in a compelling and an effective manner. As an example, Net Literacy's student

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[8] See www.communityconnects.org

board members felt that many of their classmates did not take Internet safety seriously because the traditional training materials and programs had an authoritarian, pedagogical, and parental tone that was not conducive to effectively communicating to students. Consequently, Net Literacy developed a youth-oriented Internet safety program with a youth-oriented message and tone. After it was reviewed by the Indiana Department of Education, ten PSAs[9] targeting Internet safety for students were created. Three twenty-five minute videos targeting the 4th-6th graders, 7th-8th graders, and high school students were scripted and produced for carriage on PEG Channels. Similar scripted PowerPoint presentations were created so that students could conduct Internet safety seminars with their classmates, younger students, and parents in the schools after school.

Many high school students do not understand the importance of financial literacy and find existing financial literacy websites to be "boring." Students were unaware of powerful online financial resources. In conjunction with the Indiana General Assembly requiring financial literacy be taught to 6th-12th grade students, Net Literacy created the content for a financial literacy website that will be launched in January, 2010. The Financial Connects website[10] will include areas of focus contained in the IDOE's financial literacy curriculum, except it illustrates financial literacy in a series of comedic, youth-focused videos that range from family budgeting to identity theft. The site will also contains 200 best of class interactive web based financial literacy games, videos, and calculators selected

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[9] See www.safeconnects.org/tenList.asp
[10] See www.financialconnects.org (to be launched in January, 2010.

after an exhaustive review of over 5,000 financial literacy websites. In 2010,
additional funding has been requested to increase the depth and breadth of the
content.

b. A significant component of Net Literacy's success was the student board
members' ability to engage a diverse partnership of State agencies, more than 250
nonprofits and businesses, and the support of both municipal and state leadership.

The Corporation for Education and Technology, a nonprofit that was funded by
the Indiana General Assembly, facilitated Net Literacy's ability to provide
thousands of computers for schools each year. CEO Marvin Bailey worked
together with Indiana Surplus to ensure schools throughout Indiana received
computers that were deemed surplus by the State. While most of these computers
were refurbished by Net Literacy chapters in the schools, schools used the
computers to place additional computers in the classrooms, build new computer
labs, and loan computers to the families of children on free or assisted lunches
without a computer at home. As resources permitted, Net Literacy's volunteers
wired computer labs in community centers, faith-based organizations, and
schools.

Net Literacy established partnerships with the nonprofit organizations that had a
shared mission of increasing digital inclusion, providing them computers and
training materials. When Net Literacy's resources did not permit student

volunteers to teach computer and Internet skills, activity directors received lesson plans and other resources to help them teach members and residents computer and Internet skills.

A Digital Literacy Corps of student volunteers that works to increase the digital literacy of America's workforce is good for business; and representatives from companies that include Intel, Microsoft, Dell, and Bright House Networks supported Net Literacy's initiatives and are members of the Net Literacy Board of Directors.

A Digital Literacy Corps of student volunteers that work to reduce the digital divide is good public policy, and Indiana's local and state leadership supported Net Literacy's mission and initiatives. Municipalities supported Net Literacy's computer drives by allowing computer drives to be conducted inside city halls and by passing Net Literacy sponsored city council resolutions encourage digital inclusion[11]. Indiana's state leadership joined Net Literacy's Honorary Board of Directors in a show of support for a Net literacy corps of student volunteers.[12] The Indiana General Assembly supported Net Literacy's digital inclusion

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[11] Municipalities issuing proclamations, allowing Net Literacy to conduct computer drives in their city halls, or donating computers to reduce the digital divide include Indianapolis, Carmel, Noblesville, Fishers, Westfield, Fort Wayne, among others

[12] Including US Senators Lugar and Bayh, Lt. Governor Skillman, Indianapolis Mayor Ballard, and Fort Wayne Mayor Henry, among others.

initiatives and student volunteer model by passing Joint House Resolution 85 in 2005 and House Resolution 95 in 2009.[13]

c. Net Literacy's student volunteers have achieved much since 2003:

- Over 130,000 individuals in hundreds of locations and thousands of homes have received increased computer access.

- During the last two years, over 7,000 computers have been refurbished and donated at no cost to any individuals or organizations receiving the equipment.

- Thousands of individuals have received computer, Internet, and Internet safety awareness training at no cost.

- Well over 1,000 student volunteers have learned job skills, life skills, and provided service to their community, contributing in excess of 100,000 hours of volunteer service. Providing an ROI to grantors and corporate supporters is a business lesson learned by Net Literacy student volunteers. In 2009, Net Literacy created a website thanking some of its corporate and foundation partners[14].

- Net Literacy's success and efforts to increase awareness of the digital divide has impacted hundreds of thousands of individuals. Net Literacy's programs have appeared on state and national media, including ABC's Transformation Nation, People Magazine, NPR, the AARP Magazine, and

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[13] In 2005, Joint House Resolution 85 called for a Net Literacy week and affirmed Net Literacy's mission. In 2009, House Resolution 95 called for Public, Education, and Government Access Channels throughout Indiana carry more Internet safety content and specifically Net Literacy's Safe Connects content.
[14] See www.netliteracy.org/indy

on hundreds of websites.[15] Net Literacy's programs have been recognized by President Clinton and by President Bush.

- Net Literacy has worked to impact public policy with organizations including the US Internet Industry Association[16] and as a member of the US Broadband Coalition.[17]

- Net Literacy is technology neutral. It is a member of the WCAI and the USIIA. It has received funding from a variety of organizations, ranging from cable to telecom operators.

- Through its use of a novel youth-empowered model and programmatic websites, Net Literacy has created a scalable and replicable digital inclusion model and program for other communities.

- Net Literacy has partnered with over 250 organizations to increase digital inclusion. As an example, Net Literacy student volunteers were asked to create a website in Microsoft Word that could be easily modified by the Near Eastside Community[18] organization in Indianapolis and created websites for nonprofits unable to afford an online presence to publicize their services.[19]

- With $351,000 of cash raised since inception, Net Literacy has provided a strong ROI to grantors and corporate sponsors. In 2008, the average cost of refurbishing the more than 3,000 computers that were donated to

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[15] See www.netliteracy.org/inthenews.asp#senator
[16] See www.usiia.org/pubs/Digital_Inclusion.doc
[17] See http://www.baller.com/pdfs/US_Broadband_Coalition_AandU_Report_11-13-09.pdf
[18] See www.NESCOcommunity.org
[19] See www.indynonprofit.org

schools and nonprofits was less than $15.00 each.[20] As of October 31, 2009, 4,200[21] computers have been refurbished year to date and at a cost of approximately $15.00 per computer.

d. Net Literacy's core curriculum includes training on (a) basic computer skills, (b) basic Internet skills, (c) how to create and use an email account, and (d) Internet safety training. Other training programs are population group specific[22] and supplement the core curriculum.

   i. Net Literacy's Computer Connects program provides thousands of computers to partner organizations each year, and more than 7,000 computers during the last two years.

   ii. Computer Connects uses XP Professional Edition as its primary operating system, and each computer has an office suite, antivirus, and antispyware applications.

   iii. Internet Explorer and Firefox browsers are included with each computer.

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[20] Includes transportation, hardware acquisition, licenses, warehouse space, refurbishing, and distribution costs.
[21] Net Literacy projected refurbishing 5,000 to 6,000 computers in 2009, but was limited by the fewer than expected computers that it received from the State.
[22] Including programs on "How To Purchase Safely Online," "How to Ensure Your Grandchildren Safely Use the Internet," and financial literacy content.

iv. Net Literacy teaches users how to purchase safely online, effectively purchase merchandise on eBay, and customizes its training programs to meet the needs of its audience.

v. At no cost to any user, Net Literacy provides the hardware (computer, monitor, keyboard, mice and power cords). Net Literacy does not provide broadband service.

e. Net Literacy focuses serving its constituents who are in population groups that have a low adoption rates. The organization's training materials and methodology is customized and student volunteers work to meet the needs of the specific group they teach. Training programs have been modified for Spanish speakers, senior citizens, users with disabilities, among others, and have been customized in age appropriate modules for K-12 elementary, middle school, and high school students.

f. Net Literacy has provided service in rural, suburban, and urban areas. Population centers range from Indianapolis, Indiana (urban population of approximately 784,000) to Carmel, Indiana (suburban population of approximately 60,000) to Brazil, Indiana (rural population of approximately 8,200). The Net Literacy programs focus on low income and other population groups that have low adoption rates. Training programs have been modified for Spanish speakers, senior citizens, users with disabilities, among others, and have been customized in

age appropriate modules for K-12 elementary, middle school, and high school students.

g.   Net Literacy's core programs (Senior Connects, Safe Connects, Computer Connects, Community Connects, and Financial Connects) have programmatic websites to help share resources with other communities. A community launch manual was created in 2006 that contains forms and the methodology necessary to launch many of the core programs in other communities. However, resource constraints have precluded Net Literacy from refreshing the manual. Net Literacy has received many emails from school and nonprofits outside of Indiana asking program specific questions, and believes portions of the programs have been used throughout the country on an informal basis. The European Union's Commission on Digital Inclusion became aware of Net Literacy when it asked a school in Germany where it obtained the Senior Connects program that it had deployed and the students showed them the Net Literacy website.

h. Since inception, Net Literacy has raised $351,000 in cash and has approximately $100,000 in cash, of which approximately 50% is allocated for projects that are in process and the remainder in a contingency fund that would fund operations for approximately six months.

Net Literacy has not had the resources to conduct a comprehensive cost benefit analysis or analyze the value created by providing computer, Internet, and Internet safety programs. Net Literacy does provide grant reports to funders that describe

the value of its programs. Net Literacy is 100% grant supported – there is no fee or charge for any equipment or services provided to any organization or any individual.

Historically, Net Literacy has been able to procure computer hardware, transport, refurbish, licenses, warehouse, and distribute computers for approximately $15.00 in cash expenditures per computer and generate $200-$300 in value per distributed computer. Net Literacy has scaled its Computer Connects program as the State has made thousands of surplus computers available to schools and for Net Literacy to refurbish each year.

Net Literacy is an entrepreneurial organization that leverages partnerships to create value in a digital and holistic ecosystem. Without the in kind donations of computers from the State and corporations, the assistance of organizations including Microsoft and Intel, the advertising and production resources provided by Bright House Networks, the scholarships provided by IUPUI and the support of schools for this project based learning and service learning program, Net Literacy's successes would have be more limited. *However, the single most important contributor to Net Literacy's ability to efficiently create value is its model of youth ownership, responsibility, and empowerment – it is the ingredient required to engage the digital generation to undertake and sustain this type of initiative.*

i. Net Literacy has experienced several funding related challenges. Further exasperating the challenge, grantors themselves have lost significant portions of the endowment during the 2008 recession and are forced to reduce funding to focus on more basic social needs such as homelessness and hunger.[23]

- Net Literacy has found it more difficult to budget because of the staggered notification of grants awards.

- Net Literacy does not have the internal expertise to apply for government grants and resources.

- Funding also impacts the efficiency of the organization and its ability to scale. Net Literacy is an all volunteer nonprofit which complicates the coordination of activities.

- Student volunteers conduct research and analysis during a new program's launch and inception, but do not have the financial resources or internal capability to continuously monitor its services so that improvements are more quickly incorporated. Net Literacy student volunteers write the grants and prioritize strategies consistent with the organization's mission statement, while the adult board members have primary responsibility for the governance and treasury functions.

- Net Literacy believes that individuals receiving their first home computer require telephone helpdesk support. While several colleges have expressed an

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[23] Since many of Net Literacy's student board members are core city youths, they understand that a student that is hungry has difficulty learning. That notwithstanding, they also believe that students and adults that are not digitally literacy will be relegated to a "permanent underclass."

interest in piloting or creating a helpdesk, Net Literacy has been able to obtain even modest funding to test this service.

- Net Literacy has been unable to make progress providing broadband connectivity to its constituents. In the US Broadband Coalition's Adoption and Use Report, Net Literacy specifically proposed that all K-12 students whose families are on free or assisted lunch programs received subsidized or free computer hardware and broadband connectivity. The Adoption and Use Committee agreed with this proposal and it was included in the final report.

- Net Literacy, as have all American digital inclusion nonprofits, have been adversely impacted because there is no national trade or government organization whose responsibility is to help increase digital inclusion and share best practices. Net Literacy is approaching this problem by creating the Net Literacy Alliance,[24] an organization that has a database of other digital inclusion nonprofits and a slowly growing alliance of organizations ranging from Computers For Youth to the YWCA. The Net Literacy Alliance is a need that has been identified but whose progress is hindered by a lack of resources and funding.

- While existing Net Literacy chapters have the capacity to double or triple computer refurbishing production, computer drives and surplused computers from the State are insufficient to meet school requirements. Executive Order 12999 encourages surplused computers from the Federal Government to be donated to schools, but only a small fraction of the computers are donated to

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[24] See www.netliteracyalliance.org/about-nla/

schools and the computers that are available are significantly oversubscribed by schools requesting them. The US Broadband Coalition's Adoption and Use Report proposed the policy option that Executive Order 12999 be strengthened, and is one of the most important low cost ways that the Federal Government could efficiency increase digital inclusion.

j. One of the Net Literacy Alliance's objectives is to share best digital inclusion practices. It has received permission from One Community to incorporate portions of the Knight Center of Digital Excellence website.

Three subject matter experts that can provide additional information about consensus among existing adoption programs and best practices are Karen Archer Perry, Principal at Karacomm (see www.karacomm.com and email at kaperry@karacomm.com), Dave McClure, CEO of the USIIA (see www.usiia.org and email at david.p.mcclure@usiia.org) and Marvin Bailey (email at mbailey47@comcast.net) , former CEO of the Corporation for Education and Technology and current Vice Chair of the Net Literacy Corporation.

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[i] See the US Internet Industry Association's FCC filing naming Net Literacy's student corps of volunteer model as their recommended approach to reducing the digital divide in the U.S., (http://www.usiia.org/legis/FCC%2009-51%20Comments.doc)

[ii] See the EU's Commission on Digital Inclusion study identifying Net Literacy as one of the 91 most "promising digital inclusion models" in a report that analyzed their 27 Member States, the US, India, and other countries (http://ec.europa.eu/information_society/eeurope/i2010/benchmarking/index_en.htm#Digital_Literacy_Review_-_Public_policies_and_stakeholders_initiatives_in_support_of_Digital_Literacy)

[iii] The Indiana Department of Education included Net Literacy's Internet safety PSAs as a resource for Indiana School Districts (www.doe.in.gov/edmatters/ed_matters_apr08/pdf/080310pr%20-%20Net%20Literacy%20Internet%20Safety%20Campaign.pdf)

iv The US Broadband Coalition's Adoption and Use Report that cited Net Literacy directly or by footnote in the adoption, education, and disability sections (http://www.baller.com/pdfs/US_Broadband_Coalition_AandU_Report_11-13-09.pdf)

v See Microsoft's publication *Innovating for inclusion: A Digital Inclusion guide for those leading the way*, (http://download.microsoft.com/download/c/d/f/cdf8d9fa-c7b6-4524-b516-198e7812a85f/78403_071128_PublicSector_Manuscript_f1t0_mg.pdf)