

## Digital Textbooks in K-12 Schools

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### Key Points

- Portable electronic devices such as smart phones, tablet computers, and e-book readers continue to grow in popularity, particularly among youth. Policymakers and educators are exploring how digital textbooks stored on these devices might augment or replace paper textbooks.
- A digital textbook is “an interactive set of learning content and tools accessed via a laptop, tablet, or other advanced device.” Because digital textbooks are interactive, students can click on a hyperlink for more information about a particular topic, search for specific words or phrases, or look up unfamiliar words in an electronic dictionary.
- The Tennessee General Assembly passed legislation in 2001 that added “electronic textbook” to the statutory definition of “textbook.” Tennessee law states that electronic textbooks may be “recommended, adopted, and purchased in the same fashion” as paper textbooks. The Tennessee Textbook Commission, a 10-member panel appointed by the Governor, is responsible for evaluating textbooks, both paper and digital, submitted by publishers for inclusion on the state’s official list of textbooks.
- Little state or national data is available on the number of districts that have adopted digital textbooks or on the number and type of digital textbooks that have been approved for use.
- Tennessee school districts may use textbook dollars generated by the state’s education funding formula, the Basic Education Program (BEP), to purchase digital textbooks. A total of 2,789 digital textbooks were purchased by Tennessee school districts between June 29, 2011, and May 13, 2013.
- Students must have access to an electronic device, such as a laptop or tablet computer, to use a digital textbook. The costs of a digital textbook program also include technological infrastructure, particularly a reliable Internet connection sufficient for students to benefit from the interactive capabilities of an electronic device, as well as technology-related teacher professional development.
- Several states, including Florida, Illinois, and Ohio, have passed legislation to permit, or in some cases to require, the adoption of digital textbooks by school districts.
- Digital textbook programs in at least two states (California and Utah) include open source educational materials, which are free educational resources, including digital textbooks, software, and tests, available on the Internet. In Tennessee, the decision whether to use open source digital textbooks rests with each local school district, though all digital materials used by districts must meet the state’s standards for approved textbooks.

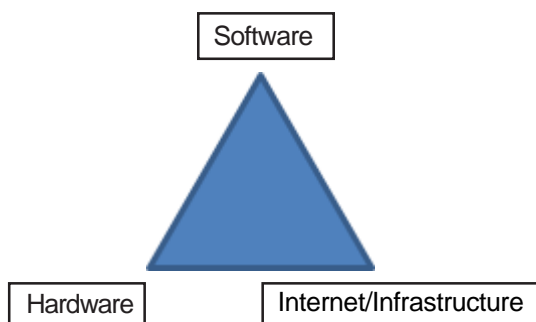
## Introduction

Education technology has grown significantly over the past three decades. The current use of personal computers and the Internet in the classroom make today's schools the most technologically advanced in history. The use of technology in education is likely to increase in tandem with future technological advances.

Modern classrooms are often equipped with several pieces of technology, including computers, televisions, and whiteboards. Some classrooms also contain portable electronic devices, such as smart phones, tablet computers, and e-book readers. These devices can accommodate digital textbooks, and may be capable of augmenting or replacing paper textbooks. A digital textbook is "an interactive set of learning content and tools accessed via a laptop, tablet, or other advanced device."<sup>1</sup> Digital textbooks can incorporate various forms of digital content, such as videos, photos, and electronic simulations.<sup>2</sup> Because digital textbooks are interactive, students can click on a hyperlink for more information about a particular topic, search for specific words or phrases, or look up unfamiliar words in an electronic dictionary.<sup>3</sup> In addition, multiple digital textbooks can be stored on a single, lightweight electronic device.

Students must have access to an electronic device, such as a laptop or tablet computer, to use a digital textbook. In addition, a certain level of technological infrastructure (e.g., a reliable Internet connection) is necessary for students to benefit from the full capabilities of an electronic device and the interactive features and applications of a digital textbook. These three components – *hardware*: the electronic device; *software*: the digital textbook; and *infrastructure*: an Internet connection, a reliable server – constitute a *digital learning environment*.<sup>4</sup>

### Exhibit 1: Digital Learning Environment



Little state or national data is available on the number of districts that have adopted digital textbooks or on the number and type of digital textbooks that have been approved for use.

The Tennessee General Assembly passed legislation in 2001 that added "electronic textbook" to the statutory definition of "textbook." (See [Appendix 1](#).) Tennessee law states that electronic textbooks may be "recommended, adopted, and purchased in the same fashion" as paper textbooks.<sup>5</sup>

## Textbook Adoption in Tennessee

The Tennessee Textbook Commission, a 10-member panel appointed by the Governor, is responsible for evaluating textbooks, both paper and digital, submitted by publishers for inclusion on the state's official list of textbooks.<sup>A</sup> The Textbook Review Committee, an advisory panel of expert teachers that represent a variety of subject areas and grade levels appointed by the Commission, evaluates textbooks submitted by publishers for alignment with state academic standards and best practices for teaching a particular subject, and then submits a list of recommended textbooks to the Commission for approval. The Commission then submits the list of recommended textbooks to the State Board of Education for final approval.<sup>B</sup> Following State Board of Education approval, the Commission publishes the official list of textbooks available for adoption by school districts.<sup>6</sup> (See [Appendix 1](#).)<sup>C</sup> Textbooks are approved on a six-year cycle, with textbooks in one of a total of six topic areas reevaluated each year.

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<sup>A</sup> The membership requirements of the commission are listed in [Appendix 2](#). The tenth member of the Commission, the Commissioner of Education, serves in an ex officio capacity. According to Commission staff, companies often include, with the purchase of a textbook, Internet access to a digital version of the same textbook. Source: Morgan Branch, Director, Office of Textbook Services, Tennessee Department of Education, e-mail, June 17, 2013, question 6.

<sup>B</sup> The Department of Education's website summarizes the process of selecting textbooks. See [Appendix 1](#). See [Appendix 3](#) for the current textbook adoption cycle. Actual [reviews](#) of mathematics textbooks can be viewed at <http://www.tennessee.gov/> (accessed Sept. 24, 2013).

<sup>C</sup> Districts that wish to use a textbook the Commission has not approved and/or is not on contract may do so by following guidelines established by the Commission. The complete [guidelines](#) are available at: <http://www.tennessee.gov/>.

Commission staff provides the public with an ongoing opportunity to review and comment on each textbook currently on the official list and those bid for adoption by visiting one of 10 sites around the state. The public can review and comment on the books at any time during the six-year cycle of each adoption, not just the initial adoption year.

The decision whether to adopt digital textbooks rests with each local school board, which must determine whether the school district possesses the necessary technological capacity to justify the purchase of a digital textbook.<sup>7</sup> While textbook publishers must indicate whether their instructional products are “technologically dependent,” the Textbook Commission’s review protocol does not consider hardware or infrastructure requirements.<sup>8</sup> Districts that choose to use digital textbooks must provide students and teachers “reasonable access” to the electronic textbooks and to equipment necessary for their use.<sup>D</sup>

There is little information on the number of school districts in Tennessee that have adopted e-textbooks because the Textbook Commission staff does not track this information. They also do not track the number of digital textbooks approved.<sup>9</sup> The number of school districts in Tennessee or nationwide adopting digital textbooks could not be found. The State Education Technology Directors Association (SETDA) could not provide the number of districts nationwide that have switched to digital textbooks.<sup>10</sup>

### **Textbook Funding**

School districts may use textbook dollars generated by the state’s education funding formula, the Basic Education Program or BEP, to purchase digital textbooks.<sup>11</sup> BEP funding for textbooks totaled \$73,084,060 for school year 2013.<sup>12</sup> <sup>E</sup> The BEP also generates \$20 million per year in technology funding,<sup>13</sup> as part of the formula’s classroom component. According to department staff, districts are permitted to use this money to purchase software or hardware, or spend it for any classroom-related use.<sup>14</sup>

Tennessee school districts purchased a total of 2,789 digital textbooks between June 29, 2011, and May 13, 2013.<sup>15</sup> The Textbook Commission does not keep statistics on digital textbooks at the state level (i.e., the

rates of approval and rejection by the Commission) or the local level (i.e., the extent of digital textbook adoption in each school district).<sup>16</sup> Most of the publishers offer a digital/online format for the print books, thus allowing the local system to purchase the format of its choice.

### **Equipping Students with a Personal Electronic Device**

Districts seeking to implement a digital textbook program must consider how to equip students with the necessary hardware, a personal electronic device. Districts typically adopt one of the following two methods to ensure students have access to a device: (1) furnish each student with a device paid for by the school system – this method is often referred to as a “one-to-one computing” program; or (2) encourage students to bring their own electronic device to school, also known as a “bring your own device” program.

### **One-to-One Computing Programs**

A one-to-one computing program provides every student with a “personal digital wireless device that includes up-to-date software and access to the Internet at school.”<sup>17</sup> Schools that operate one-to-one computing programs are in a better position than schools without such programs to take advantage of digital textbooks because students already have access to the necessary hardware. Both schools and students will also be better prepared for online testing in the future. All students having the same equipment may make it easier to operate the program and use for a greater variety of educational purposes. Teachers may also use their personal digital devices for uses such as to keep “electronic grade books,” “communicate with other teachers, parents and administrators,” “create and update lesson plans,” and for “electronic testing.”<sup>18</sup>

In a 2012 survey, 70 Tennessee public schools indicated they have a one-to-one computing program.<sup>F</sup> The

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<sup>D</sup> *Tennessee Code Annotated* 49-6-2207(f).

<sup>E</sup> The BEP generates funding for textbooks on a ratio of \$76.75 per student.

<sup>F</sup> The [survey](http://www.crepsurveys.net/) was conducted by the Technology in Education Survey System at the Center for Research in Education Policy at the University of Memphis, <http://www.crepsurveys.net/> (accessed September 25, 2013). The survey was sent to 1,725 schools. Of the 1,621 schools responding, 4.3 percent (70 schools) reported having a one-to-one computing program.

schools reported using several types of electronic devices: 43 percent of the schools used PC laptops, 22 percent used iPads, 17 percent used Netbooks, 12 percent used Mac laptops, and approximately six percent used some other device.<sup>19</sup>

See [Appendix 4](#) for a list of Tennessee public schools with one-to-one computing programs. [Appendix 5](#) lists the student-to-computer ratios for each district.

The cost of a one-to-one computing program ranges from \$250 to \$1,000 per student, per year, according to one source. The student-to-computer ratio largely determines the estimated costs: the lower the ratio of students per computer, the higher the cost. As shown in [Exhibit 2](#), the estimated annual cost of a program with a ratio of three students to one computer was \$298 per student versus \$593 for a program with a 1:1 ratio.<sup>20</sup>

School districts must also designate funding to purchase, insure, upgrade, and periodically replace the devices.<sup>21</sup> Schools that choose to furnish students with personal electronic devices must designate funding to additional investments in technological infrastructure, such as augmenting Internet speed and capacity, and professional development to train teachers on the best methods for incorporating technology into the curriculum.<sup>22</sup>

### Bring Your Own Device Programs

“Bring Your Own Device” programs encourage students to bring their own electronic devices for classroom use. Such programs are designed to increase the use of electronic devices in classrooms while reducing schools’ hardware expenditures.<sup>23</sup>

Almost 21 percent of Tennessee public schools (334 schools) of the 1,621 schools that answered a 2012 University

of Memphis survey allow students to bring their own device to school.<sup>24</sup> (See [Appendix 6](#).) Williamson County Schools’ program permits students in grades 3-12 to bring to school any electronic device with web-browsing capabilities and Wi-Fi that enable it to connect to the district’s network.<sup>25</sup> Kingsport City Schools intends to implement a similar program beginning with the 2013-14 school year.<sup>26</sup>

“Bring Your Own Device” programs raise equity concerns because some students may be unable to afford a device. Williamson County addresses such concerns by purchasing devices that students can check out free of charge.<sup>27</sup> Kingsport City intends to purchase devices for low-income students unable to afford a device.<sup>28</sup>

### Digital Textbook Policy in Other States

Lawmakers in other states, including Florida,<sup>29</sup> Illinois, and Ohio, have passed legislation to permit, or in some cases to require, the adoption of digital textbooks by school districts.<sup>30</sup>

**Exhibit 2: Comparison of per student costs in traditional school and school with computer ratio of 1:1**

	Example 1: Traditional school, 3-to-1 student computer ratio, cost per student per year	Example 2: 1-1 Student computer ratio, cost per student per year
Hardware	\$101	\$255
Servers, router, firewall, and related software	\$13	\$25
Annualized software costs	\$96	\$128
Wireless network	\$14	\$22
Telecom	*\$5	**\$25
Tech support	\$38	\$75
Professional development	\$31	\$63
<b>Total costs per student per year</b>	<b>\$298</b>	<b>\$593</b>

Notes: \* = Cost per student per year at 10 kilobytes per second student average network speed.

\*\* = Cost per student per year at 50 kilobytes per second student average network speed.

Source: Copyright 2012, ISTE © (International Society for Technology in Education), *Revolutionizing Education Through Technology*, Thomas W. Greaves, Jeanne Hayes, Leslie Wilson, Michael Gielniak, and Eric L. Peterson, p.79, 1.800.336.5191 or 1.541.302.3777 (Int’l), [iste@iste.org](mailto:iste@iste.org), [www.iste.org](http://www.iste.org). All rights reserved. Distribution and copying of this excerpt is allowed for educational purposes and use with full attribution to ISTE.

One of the most significant new laws was passed by the state of Florida, where a 2011 law requires all adopted K-12 instructional materials, including textbooks, to be in electronic or digital format by the 2015-16 school year.<sup>31</sup> Local districts must use at least 50 percent of their annual state textbook allocation to purchase digital or electronic materials on the state's adopted textbook list.<sup>32</sup> Florida's digital textbook implementation plan addresses the following issues:

- options for providing students with digital devices so they may access electronic materials,
- provisions for training and professional development for preservice and inservice teachers, and
- a detailed review of funding options, including the reprioritization of existing resources and recommendations for new funding.<sup>33</sup>

The Huntsville, Alabama, school board voted in June 2012 to switch the school district from paper to digital textbooks. The district contracted with Pearson Learning to assist in the program's design and implementation, and Pearson will provide students with paper copies of the new digital content during the transition period.<sup>34</sup>

## Open Source Digital Textbooks

School districts may reduce digital textbook expenditures by using open source digital textbooks. Digital textbook programs in at least two states (California<sup>35</sup> and Utah<sup>36</sup>) include open source educational materials, which are free educational resources, including digital textbooks, software, and tests, available on the Internet.<sup>37</sup> States and districts are responsible for determining whether open source educational materials align with their own instructional standards and, if they are a participating state, the Common Core state standards. A 2009 Texas law allows schools to use open source electronic textbooks in place of "paper textbooks." The law defines "open source textbook" as an "electronic textbook that is available for downloading from the Internet at no charge to a student." All open source textbooks used in Texas schools must meet the state's academic standards.<sup>38</sup>

In Tennessee, the decision whether to use open source digital textbooks rests with each local school district, though all digital materials used by districts must meet the state's standards for approved textbooks.<sup>39</sup> The department has no data on the number of school districts that use open source educational materials.<sup>40</sup>

### Federal encouragement for increased use of digital resources in schools

The Digital Textbook Playbook, a 2012 report published by the United States Department of Education and the Federal Communications Commission, encourages states and districts to make greater use of technology and digital resources. The Playbook cites the following benefits and obstacles to increasing the use of technology and digital materials in classrooms:

- Increased student achievement when technology is properly implemented; Technology-based instruction can reduce the time students take to reach a learning objective;
- Greater student engagement because technological applications are more relevant to today's generation of students;
- Digital instructional content can be more easily customized to fit an individual student's learning needs;
- Obstacles to the adoption and use of digital textbooks include state textbook procurement rules, device and content interoperability, connectivity costs, and management of the transition from paper to digital instructional materials;
- Establishing a digital learning environment requires significant initial and ongoing investments in planning, bandwidth, equipment acquisition and repairs, software, support, and teacher training. The important long-term question is the return on investment, looking at costs as well as educational opportunities and outcomes.

Source: The Digital Textbook Collaborative, "Digital Textbook Playbook," February 1, 2012, pp.9-11 <http://transition.fcc.gov/> (accessed Oct. 31,2012).



## Open Source Materials in Tullahoma City Schools

Tullahoma City Schools decided to move into “open-source textbooks,” to change the quality and currency of its curriculum to prepare for the Common Core and related PARCC assessments. Dr. Dan Lawson, Director of Schools stresses the importance of building an adequate “network infrastructure and sufficient bandwidth” before moving into using e-textbooks. This also enabled the district to implement a “bring your own device (BYOD)” program.

The district created its own updatable textbooks using open-source software from the CK-12 Foundation, a leader in open-source textbooks that provides “free high-quality standards-aligned open content in the STEM subjects.” District officials demonstrated how e-textbooks can be revised quickly at a City Hall presentation soon after the touchdown of the “Mars rover Curiosity. Within hours of the rover landing, we updated our seventh grade science ‘FlexBook’ and presented new materials to our board of mayor and aldermen.”

Officials were also able to demonstrate that content can be made more pertinent to students by including local information. They included video from NASA and other media providers, and referred “to the parachutes involved in slowing the descent of the rover.” This personalized the content and made it more interesting to Tullahoma students because the city has a major role in space-related testing – many of them know or are related to someone in the project. “Curiosity immediately was brought to the forefront of our students’ interest based on the connection between them, Arnold Engineering Development Complex and Mars.”

Sources: Dr. Dan Lawson, Director of Schools, Tullahoma City Schools, *TSBA Journal*, Summer 2013, pp. 18-20, <http://digital.graphcompubs.com/> (accessed Sept. 23, 2013). CK-12 Foundation, “About Us, <http://www.ck12.org/> (accessed Sept. 23, 2013).

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## **Appendix 1: Summary of Tennessee textbook adoption process and definition of e-textbook in Tennessee state law**

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The official list is divided into six sections, with new books considered for listing in one section each year. An invitation to bid, listing the categories to be considered that year, is mailed to each publisher with books currently on contract and to any other publisher expressing an interest in bidding. Notification of the invitation is published in *The Tennessean*, the Nashville daily newspaper. Publishers typically submit 250-300 books per year for the Commission's consideration.

The physical specifications to which books are constructed comprise one of the most important considerations for the books bid. In order to assure that the books are durable enough to withstand six years of use by students, the State Textbook Commission has adopted the Manufacturing Standards and Specifications for Textbooks of the National Association of State Textbook Administrators as its standard.

Since 1986, the State Textbook Commission has used an advisory panel of expert teachers in each subject area or grade level to advise the Commission on book selections. This panel, commonly referred to as the Textbook Review Committee, thoroughly reviews the books submitted. New members, with expertise in the subject areas up for adoption, are selected for this committee annually through an application process open to any teacher meeting the qualifications to serve on a local adoption committee.

Public input is solicited during the months of July and August. The public can visit one of our ten District Collection Sites to see the books currently under adoption and also those that are bid for adoption. There are forms at each site for input. This input is then forwarded to the Office of Textbooks Services for dissemination to the Textbook Commission.

The State Board of Education curriculum development cycle precedes the textbook adoption cycle in order that books bid by the publishers may be evaluated against the board-approved standards. Each year, a review instrument is developed to determine how well the books correlate to what the research says about teaching that particular subject as well as how well they correlate to our standards. Since local textbook adoption committees have limited time and a relatively short time frame in which to make their adoptions, it is essential that the list of books from which they select include only those books which adequately cover the respective courses.

Summary reports for each book or series listed are made available upon request to local school systems each year.

When the recommended official list is approved by the State Board of Education, publishers must contract with the State Textbook Commission to provide the listed books at the bid price for a six-year period. Local school systems must subsequently adopt books on the official list and provide them to their students. Local superintendents appoint committees of either three or five teachers and or supervisors who hold professional certificates, have three or more years teaching experience in the public schools, and are currently teaching or supervising the respective subjects. These committees recommend titles from the official list for the approval of the local board of education. Supplies of books are maintained in a depository in the state. Locals make their purchases directly from the depository.

Source: Tennessee Department of Education, <http://www.state.tn.us/education/ci/textbook/TextbookAdoptionOverview.shtml> (accessed Nov. 21, 2012.)



THE POLICIES AND PROCEDURES FOR SELECTION OF TEXTBOOKS BY STATE TEXTBOOK COMMISSION, approved in 1981, include the following objectives for selection:

1. To provide a wide variety of materials that will enrich and support the curriculum as defined by the Rules, Regulations, and Minimum Standards of the State Board of Education.
2. To provide materials that will stimulate growth in factual knowledge, literary appreciation, aesthetic values, and ethical standards.
3. To provide materials that will enrich and support the curriculum and personal needs of the users, taking into consideration their varied interests, abilities, and learning styles.
4. To provide a background of information which will enable pupils to make intelligent judgments in their daily lives.
5. To provide materials on opposing sides of controversial issues so that users may develop under guidance of the practice of critical analysis.
6. To provide materials which realistically represent our pluralistic society and reflect the contributions made by these various groups and individuals to our American heritage.
7. To place principle above personal opinion and reason above prejudice in the selection of materials of the highest quality in order to assure a comprehensive media collection appropriate for the users.

Source: [Tennessee Department of Education](#).

### Electronic Textbooks

The following materials are classified as “electronic textbooks” in Tennessee state law:

- computer software,
- interactive videodisc,
- magnetic media,
- CD-ROM,
- computer courseware,
- local and remote computer assisted instruction,
- online service, and
- any electronic medium or other means of conveying information to the student or otherwise contributing to the learning process through electronic means.

Source: *Tennessee Code Annotated* 49-6-2202(d).

## **Appendix 2: Membership requirements of the State Textbook Commission**

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The State Textbook Commission is composed of ten members whose responsibility is to recommend an official list of textbooks for approval of the State Board of Education. By law, the Commission includes a county superintendent, a city superintendent, a principal, one teacher or supervisor from grades 1-3, one teacher or supervisor from grades 4-8, one teacher or supervisor from grades 9-12, and one member not employed in the educational system of the state from each of the three grand divisions of the state. The Commissioner of Education serves as Secretary of the Commission.

Source: Tennessee Department of Education, <http://www.state.tn.us/education/ci/textbook/TextbookCommission.shtml> (accessed March 23, 2013).

### Appendix 3: Textbook Adoption Schedule Revision May 2013

Section	Subjects	Curriculum Deadline	Bid Deadline*	State Review	Local Adoption	Contract Period
II	English Language Arts, ESL, Communication Skills, Foreign Languages	12/31/2008	3/1/2009	2009	Spring, 2010	6/1/10 - 6/30/16
I	Mathematics	12/31/2009	3/1/2010	2010	Spring, 2011	6/1/11 - 6/30/17
VI	Art, Music, Theatre Arts, Dance, Spelling, Literature, Driver Education, Computer Science, Health Sciences Education, Business Technology, Marketing Education, Technology Engineering Education, Trade & Industrial Education	12/31/2010	3/1/2011	Summer 2011	Spring, 2012	6/1/12 - 6/30/18
V	Reading	12/31/2011	3/1/2012	Summer 2012	Spring, 2013	6/1/13-6/30/19
IV	Social Studies	12/31/2012	3/1/2013	Summer 2013	Spring, 2014	6/1/14 - 6/30/20
I	Mathematics	12/31/2013	3/1/2014	Summer 2014	Spring, 2015	6/1/15 - 6/30/21
III	Science, Health & Wellness, Agriculture, Family & Consumer Sciences	12/31/2014	3/1/2015	Summer 2015	Spring 2016	6/1/16 - 6/30/22
II	English Language Arts, ESL, Foreign Languages	12/31/2015	3/1/2016	Summer 2016	Spring 2017	6/1/17- 6/30/23
VI	Art, Music, Theatre Arts, Dance, Spelling, Literature, Driver Education, Computer Science, Health Sciences Education, Business Technology, Marketing Education, Technology Engineering Education, Trade & Industrial Education	12/31/2016	3/1/2017	Summer 2017	Spring 2018	6/1/18 - 6/30/24
V	Reading	12/31/2017	3/1/2018	Summer 2018	Spring, 2019	6/1/19-6/30/25

Source: Tennessee Department of Education, Textbook Adoption Process, Tennessee Textbook Adoption Cycles (spreadsheet), [http://www.tennessee.gov/education/ci/textbook/doc/Textbook\\_Cycle\\_Revision\\_May\\_2013.xlsx](http://www.tennessee.gov/education/ci/textbook/doc/Textbook_Cycle_Revision_May_2013.xlsx).

## Appendix 4: Tennessee schools with 1:1 computer programs

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### Bledsoe County Schools

Cecil B. Rigsby Elementary

### Blount County Schools

Rockford Elementary  
Porter Elementary

### Claiborne County Schools

The Alpha School

### Clinton City Schools

Clinton Elementary  
North Clinton Elementary  
South Clinton Elementary

### Cumberland County Schools

Pine View Elementary

### Davidson County Schools

Hillwood Comprehensive High  
Joelton Middle School  
Glenn Elementary Enhanced Option  
Isaac Litton Middle School  
I.T. Creswell Arts Magnet Middle  
Goodlettsville Middle  
Dodson Elementary  
McKissack Middle  
Drexel Prep  
Cohn Adult High

### Giles County Schools

Pulaski Elementary

### Hardeman County Schools

Bolivar Elementary

### Hawkins County Schools

McPheeter's Bend Elementary  
Pathways Alternative

### Humboldt City Schools

Stigall Magnet Academy

### Jackson-Madison County Schools

Pope Elementary  
Jackson Central Merry High  
Arlington Elementary

### Johnson County Schools

Roan Creek Elementary  
Shady Valley Elementary

### Kingsport City Schools

John Adams Elementary

### Knox County Schools

Maynard Elementary  
Pond Gap Elementary  
L&N STEM Academy

### Lauderdale County Schools

Halls Junior High  
Halls Elementary  
Ripley High  
Lauderdale Middle

### Marion County Schools

South Pittsburg Elementary

### Mauzy County Schools

Spring Hill High

### McMinn County Schools

E.K. Baker Elementary

### McNairy County Schools

Michie Elementary  
Adamsville Junior/Senior High  
Selmer Middle  
Adamsville Elementary  
Ramer Elementary  
McNairy Central High  
Bethel Springs Elementary

### Memphis City Schools

Frayser High  
Graceland Elementary  
Lakeview Elementary  
Cherokee Elementary  
Carver High  
Holmes Road Elementary  
Georgia Avenue Elementary  
Power Center Academy Middle  
Power Center Academy High  
Wooddale High  
New Consortium of Law and Business  
Omni Prep Academy – North Pointe  
Kipp Memphis Collegiate High

Monroe County Schools  
Madisonville Primary

Montgomery County Schools  
Moore Magnet Elementary

Paris City Special Schools  
W.O. Inman Middle

Robertson County Schools  
East Robertson Elementary  
Bransford Elementary

Rogersville Schools  
Rogersville Elementary

Sevier County Schools  
Jones Cove Elementary

Sullivan County Schools  
Ketron Intermediate  
Bluff City Middle

Sumner County Schools  
Westmoreland High



## Appendix 5: Student to computer ratios by Tennessee school district

District	Total Students	Total Teachers	Total Schools	Student to Computer Ratio
ALAMO CITY SCHOOL DISTRICT	680	40.0	1	0.8:1
ALVIN C YORK INSTITUTE	661	46.3	1	3.0:1
ANDERSON COUNTY SCHOOL DISTRICT	6,592	433.0	15	5.0:1
ATHENS CITY ELEMENTARY SCH DIS	1,632	100.5	5	2.0:1
BEDFORD COUNTY SCHOOL DISTRICT	8,051	542.5	13	2.0:1
BELLS CITY SCHOOL DISTRICT	442	31.0	1	4.0:1
BENTON COUNTY SCHOOL DISTRICT	2,426	188.9	8	2.0:1
BLEDSON COUNTY SCHOOL DISTRICT	1,970	116.5	5	3.0:1
BLOUNT COUNTY SCHOOL DISTRICT	10,764	667.5	18	3.0:1
BRADFORD SPECIAL SCHOOL DIST	569	46.0	2	2.0:1
BRADLEY COUNTY SCHOOL DISTRICT	10,189	606.5	16	2.0:1
BRISTOL CITY SCHOOL DISTRICT	3,967	355.0	7	2.0:1
CAMPBELL COUNTY SCHOOL DISTRICT	5,922	373.0	12	2.0:1
CANNON COUNTY SCHOOL DISTRICT	1,930	109.0	7	2.0:1
CARROLL COUNTY SCHOOL DISTRICT	40	254.0	2	4.2:1
CARTER COUNTY SCHOOL DISTRICT	5,728	442.5	15	2.0:1
CHEATHAM COUNTY SCHOOL DISTRICT	6,755	446.8	12	3.0:1
CHESTER COUNTY SCHOOL DISTRICT	2,821	148.0	6	4.0:1
CLAIBORNE COUNTY SCHOOL DIST	4,908	343.5	12	3.0:1
CLAY COUNTY SCHOOL DISTRICT	1,092	74.4	5	2.0:1
CLEVELAND CITY SCHOOL DISTRICT	5,203	327.0	8	2.0:1
CLINTON CITY ELEMENTARY S/D	881	71.5	3	0.5:1
COCKE COUNTY SCHOOL DISTRICT	4,826	325.0	12	3.0:1
COFFEE COUNTY SCHOOL DISTRICT	4,546	319.5	8	2.0:1
CROCKETT COUNTY SCHOOL DIST	1,911	130.5	5	3.0:1
CUMBERLAND COUNTY SCHOOL DIST	7,492	459.5	12	3.0:1
DAVIDSON COUNTY SD (Metro-Nashville)	78,564	5,230.6	139	3.0:1
DAYTON CITY ELEMENTARY SCH DIS	830	52.0	1	3.0:1
DECATUR COUNTY SCHOOL DISTRICT	1,680	130.0	4	3.0:1
DEKALB COUNTY SCHOOL DISTRICT	3,039	209.5	5	2.0:1
DICKSON COUNTY SCHOOL DISTRICT	8,269	569.6	13	5.0:1
DYER COUNTY SCHOOL DISTRICT	3,856	221.0	8	4.0:1
DYERSBURG CITY SCHOOL DISTRICT	1,557	102.0	2	2.0:1
ELIZABETHTON CITY SCHOOL DIST	2,411	178.5	6	3.0:1
ETOWAH CITY ELEMENTARY SCH DIS	365	26.0	1	3.0:1
FAYETTEVILLE CITY ELEM SCH DIS	1,303	88.0	3	3.0:1
FENTRESS COUNTY SCHOOL DISTRICT	2,265	163.0	5	2.0:1
FRANKLIN CITY ELEMENTARY S/D	3,705	327.0	8	2.0:1
FRANKLIN COUNTY SCHOOL DISTRICT	5,628	376.0	11	2.0:1
GIBSON SPECIAL DISTRICT	3,886	237.0	9	3.0:1

<b>GILES COUNTY SCHOOL DISTRICT</b>	4,064	318.5	8	2.0:1
<b>GREENE COUNTY SCHOOL DISTRICT</b>	7,383	497.5	16	2.0:1
<b>GREENEVILLE CITY SCHOOL DIST</b>	2,746	201.0	6	0.6:1
<b>GRUNDY COUNTY SCHOOL DISTRICT</b>	2,337	164.0	7	0.9:1
<b>HAMBLÉN COUNTY SCHOOL DISTRICT</b>	10,006	658.0	17	4.0:1
<b>HAMILTON COUNTY SCHOOL DISTRICT</b>	42,014	2,860.3	73	3.0:1
<b>HANCOCK COUNTY SCHOOL DISTRICT</b>	1,135	86.0	3	0.6:1
<b>HARDEMAN COUNTY SCHOOL DISTRICT</b>	4,182	315.5	10	2.0:1
<b>HARDIN COUNTY SCHOOL DISTRICT</b>	3,697	279.0	7	2.0:1
<b>HAWKINS COUNTY SCHOOL DISTRICT</b>	7,406	556.9	19	3.0:1
<b>HAYWOOD COUNTY SCHOOL DISTRICT</b>	3,490	230.5	6	4.0:1
<b>HENDERSON COUNTY SCHOOL DIST</b>	3,858	233.0	9	0.6:1
<b>HENRY COUNTY SCHOOL DISTRICT</b>	3,195	230.0	6	2.0:1
<b>HOUSTON COUNTY SCHOOL DISTRICT</b>	1,413	104.0	5	2.0:1
<b>HUMBOLDT CITY SCHOOL DISTRICT</b>	1,274	89.5	4	2.0:1
<b>HUMPHREYS COUNTY SCHOOL DIST</b>	3,123	254.5	7	0.5:1
<b>HUNTINGDON SPECIAL SCHOOL DIST</b>	1,239	87.0	3	2.0:1
<b>JACKSON COUNTY SCHOOL DISTRICT</b>	1,562	107.0	4	2.0:1
<b>JACKSON-MADISON CONSOLIDATED</b>	11,913	888.5	23	2.0:1
<b>JEFFERSON COUNTY SCHOOL DIST</b>	6,735	478.0	9	4.0:1
<b>JOHNSON CITY SCHOOL DISTRICT</b>	7,666	471.5	11	2.0:1
<b>JOHNSON COUNTY SCHOOL DISTRICT</b>	2,185	150.0	6	0.5:1
<b>KINGSPORT CITY SCHOOL DISTRICT</b>	6,815	460.0	11	2.0:1
<b>KNOX COUNTY SCHOOL DISTRICT</b>	59,731	3,861.7	86	3.0:1
<b>LAKE COUNTY SCHOOL DISTRICT</b>	953	80.0	3	2.0:1
<b>LAUDERDALE COUNTY SCHOOL DIST</b>	4,629	320.0	7	2.0:1
<b>LAWRENCE COUNTY SCHOOL DISTRICT</b>	6,438	453.5	11	2.0:1
<b>LEBANON CITY ELEMENTARY S/D</b>	3,636	264.0	6	2.0:1
<b>LENOIR CITY SCHOOL DISTRICT</b>	2,326	150.0	3	3.0:1
<b>LEWIS COUNTY SCHOOL DISTRICT</b>	1,946	141.0	4	4.0:1
<b>LEXINGTON CITY ELEMENTARY</b>	1,048	67.0	2	0.6:1
<b>LINCOLN COUNTY SCHOOL DISTRICT</b>	4,084	259.0	7	3.0:1
<b>LOUDON COUNTY SCHOOL DISTRICT</b>	5,188	337.5	9	2.0:1
<b>MACON COUNTY SCHOOL DISTRICT</b>	3,718	240.0	8	2.0:1
<b>MANCHESTER CITY SCHOOL DIST</b>	1,428	107.5	3	2.0:1
<b>MARION COUNTY SCHOOL DISTRICT</b>	4,397	319.0	10	3.0:1
<b>MARSHALL COUNTY SCHOOL DISTRICT</b>	5,194	329.0	9	2.0:1
<b>MARYVILLE CITY SCHOOL DISTRICT</b>	4,974	345.5	7	3.0:1
<b>MAURY COUNTY SCHOOL DISTRICT</b>	11,882	835.0	21	2.0:1
<b>MCKENZIE SPECIAL SCHOOL DIST</b>	1,389	100.0	3	2.0:1
<b>MCMINN COUNTY SCHOOL DISTRICT</b>	6,119	376.0	9	2.0:1
<b>MCNAIRY COUNTY SCHOOL DISTRICT</b>	4,493	350.5	8	0.6:1

<b>MEIGS COUNTY SCHOOL DISTRICT</b>	1,791	120.0	4	3.0:1
<b>MEMPHIS CITY SCHOOL DISTRICT</b>	104,986	6,463.7	201	2.0:1
<b>MILAN CITY SPECIAL SCHOOL DIST</b>	2,191	160.0	3	3.0:1
<b>MONROE COUNTY SCHOOL DISTRICT</b>	5,435	321.4	12	3.0:1
<b>MOORE COUNTY SCHOOL DISTRICT</b>	1,000	54.0	2	0.5:1
<b>NEWPORT CITY ELEMENTARY S/D</b>	707	64.0	1	2.0:1
<b>OAK RIDGE CITY SCHOOL DISTRICT</b>	4,702	366.8	8	2.0:1
<b>OBION COUNTY SCHOOL DISTRICT</b>	3,575	254.0	7	3.0:1
<b>ONEIDA CITY SCHOOL DISTRICT</b>	1,264	91.5	3	2.0:1
<b>OVERTON COUNTY SCHOOL DISTRICT</b>	3,471	226.5	8	2.0:1
<b>PARIS CITY SPECIAL SCHOOL DIST</b>	1,661	119.0	3	0.6:1
<b>PERRY COUNTY SCHOOL DISTRICT</b>	1,243	95.0	4	3.0:1
<b>PICKETT COUNTY SCHOOL DISTRICT</b>	548	37.0	1	4.0:1
<b>POLK COUNTY SCHOOL DISTRICT</b>	2,767	175.0	6	4.0:1
<b>RHEA COUNTY SCHOOL DISTRICT</b>	2,685	186.0	4	2.0:1
<b>RICHARD CITY ELEMENTARY S/D</b>	352	26.5	1	2.0:1
<b>ROANE COUNTY SCHOOL DISTRICT</b>	7,212	459.0	17	3.0:1
<b>ROBERTSON COUNTY SCHOOL DIST</b>	11,249	774.0	19	3.0:1
<b>ROGERSVILLE CITY ELEM SCH DIST</b>	680	47.0	1	0.7:1
<b>RUTHERFORD COUNTY SCHOOL DIST</b>	36,797	2,433.5	42	2.0:1
<b>SCOTT COUNTY SCHOOL DISTRICT</b>	3,052	224.0	7	2.0:1
<b>SEQUATCHIE COUNTY SCHOOL DIST</b>	1,347	89.0	2	2.0:1
<b>SEVIER COUNTY SCHOOL DISTRICT</b>	14,628	1,029.0	27	5.0:1
<b>SHELBY COUNTY SCHOOL DISTRICT</b>	45,868	3,059.4	51	2.0:1
<b>SMITH COUNTY SCHOOL DISTRICT</b>	3,244	225.0	9	2.0:1
<b>STEWART COUNTY SCHOOL DISTRICT</b>	2,110	157.5	4	3.0:1
<b>SULLIVAN COUNTY SCHOOL DISTRICT</b>	10,952	803.5	25	2.0:1
<b>SUMNER COUNTY SCHOOL DISTRICT</b>	27,978	1,911.0	46	3.0:1
<b>SWEETWATER CITY SCHOOL DIST</b>	1,579	96.8	4	2.0:1
<b>TENNESSEE SCHOOL FOR BLIND</b>	150	32.0	1	1.1:1
<b>TENNESSEE SCHOOL FOR DEAF</b>	182	44.0	3	2.0:1
<b>TIPTON COUNTY SCHOOL DISTRICT</b>	11,618	793.0	14	2.0:1
<b>TRENTON CITY SCHOOL DISTRICT</b>	1,448	95.0	3	2.0:1
<b>TROUSDALE COUNTY SCHOOL DIST</b>	1,306	94.0	3	2.0:1
<b>TULLAHOMA CITY SCHOOL DISTRICT</b>	3,322	238.5	7	0.6:1
<b>UNICOI SCHOOL DISTRICT</b>	2,619	180.5	7	2.0:1
<b>UNION CITY SCHOOL DISTRICT</b>	1,468	122.0	3	0.7:1
<b>UNION COUNTY SCHOOL DISTRICT</b>	2,546	189.5	6	0.6:1
<b>VAN BUREN COUNTY SCHOOL DIST</b>	754	65.0	2	0.5:1
<b>WARREN COUNTY SCHOOL DISTRICT</b>	6,622	457.5	11	2.0:1
<b>WASHINGTON COUNTY SCHOOL DIST</b>	9,131	604.0	15	2.0:1
<b>WAYNE COUNTY SCHOOL DISTRICT</b>	2,781	199.0	8	2.0:1
<b>WEAKLEY COUNTY SCHOOL DISTRICT</b>	4,542	342.8	11	0.5:1
<b>WEST CARROLL SPECIAL DISTRICT</b>	992	81.0	3	2.0:1
<b>WEST TENNESSEE SCHOOL FOR DEAF</b>	54	9.0	1	0.6:1
<b>WHITE COUNTY SCHOOL DISTRICT</b>	4,204	287.5	9	4.0:1
<b>WILLIAMSON COUNTY SCHOOL DIST</b>	32,255	1,967.3	41	2.0:1
<b>STATEWIDE TOTAL</b>				2.0:1

Source: Center for Research in Education Policy, the University of Memphis, [Technology in Education Survey System \(TESS\) Survey for the Tennessee Department of Education](http://www.crepsurveys.net/), <http://www.crepsurveys.net/> (accessed July 30, 2012).

## Appendix 6: Schools with Bring Your Own Device Programs

School District	Elementary	Middle	High	Middle/High	Magnet	Charter	Other
<b>Anderson County Schools</b>							
	Andersonville	Clinton	Anderson County				
	Briceville	Lake City	Clinton				
	Claxton	Norris					
	Dutch Valley	Norwood					
	Fairview						
	Grand Oaks						
	Lake City						
	Norris						
	Norwood						
<b>Bedford County Schools</b>							
	Liberty	Community			Thomas		
<b>Benton County Schools</b>							
			Benton County Adult	Benton County Career/Technical			Briarwood (3-5)
							Big Sandy (K-12)
<b>Bledsoe County Schools</b>							
	Cecil B. Rigsby		Bledsoe County				
	Pikeville						
<b>Blount County Schools</b>							
	Walland	Carpenters	William Blount				
		Heritage	Heritage				
<b>Bradley County Schools</b>							
	Hopewell	Ocoee	Bradley Central				
	Parkview		Walker Valley				
<b>Campbell County Schools</b>							
		LaFollette	Jellico				White Oak (K-8)
				Campbell County Comprehensive			
<b>Cannon County Schools</b>							
			Cannon County				Woodbury Grammar (PK-8)
			West Side				
<b>Carter County Schools</b>							
	Hampton	Happy Valley	Hampton				
	Happy Valley		Happy Valley				
	Unaka		Unaka				

School District	Elementary	Middle	High	Middle/High	Magnet	Charter	Other
<b>Cheatham County Schools</b>							
	Pegram	Cheatham County	Sycamore				
	East Cheatham	Sycamore Middle	Harpeth				
		Harpeth Middle					
<b>Claiborne County Schools</b>							
	Powell Valley		Cumberland Gap				
	Midway						
<b>Clay County Schools</b>							
			Clay County Adult				
			Clay County				
<b>Cleveland City Schools</b>							
	Blythe-Bower	Cleveland	Cleveland				
<b>Cocke County Schools</b>							
	Smoky Mountain		Cocke County				
	Del Rio		Cosby				
	Grassy Fork						
	Parrottsville						
	Bridgeport						
<b>Coffee County Schools</b>							
		Coffee County	Coffee County Central				
<b>Cumberland County Schools</b>							
	Glenn Martin		Cumberland County				The Phoenix School (PK-12)
	Frank P. Brown		Stone Memorial				
	North Cumberland						
	Stone						
	South Cumberland						
	Homestead						
<b>Davidson County Schools (Metro-Nashville)</b>							
	Glenn Enhanced Option	Isaac Litton	Hillwood Comprehensive		Head Middle Mathematics/ Science		Harris Hillman Special (K-12)
	Percy Priest	McKissack	The Academy at Opry Mills		East Literature		
	Sylvan Park Paideia Design Center	West End	MNPS Middle College at Nashville State Community College		Martin Luther King Jr. at Pearl High School		
	A.Z. Kelley	John Early	McGavock Comprehensive		LEAD Academy		



School District	Elementary	Middle	High	Middle/High	Magnet	Charter	Other
<b>Davidson County Schools (Metro-Nashville) continued</b>							
		Wright	Big Picture School		Rose Park Math/Science		
		John T. Moore	Antioch		Nashville School of the Arts		
		Bellevue	Hillsboro Comprehensive				
		Donelson	Glenciff Comprehensive				
		Brick Church	Whites Creek Comprehensive				
		Bailey	Maplewood Comprehensive				
		Meigs	Hunters Lane Comprehensive				
		Neely's Bend					
		Jere Baxter					
<b>Dayton City Schools</b>							
	Dayton City						
<b>Decatur County Schools</b>							
			Riverside				
<b>Dickson County Schools</b>							
		Dickson County	Dickson County				
		W. James	Creek Wood				
<b>Dyersburg City Schools</b>							
			Dyersburg				
<b>Elizabethton City Schools</b>							
	East Side						
<b>Franklin City Schools</b>							
		Freedom					
<b>Gibson Special Schools</b>							
	Dyer	Medina	South Gibson				
	Yorkville		Gibson County				
	Spring Hill						
<b>Greene County Schools</b>							
	Camp Creek		Chuckey Doak				
	West Pines		North Greene				
<b>Greenville City Schools</b>							
	Eastview		Greenville				
<b>Hamilton County Schools</b>							
	Allen	Red Bank	East Ridge	Sale Creek	Chattanooga High Center for Creative Arts		
	Lookout Mountain	Dalewood	Ooltewah	East Hamilton	Tyner Academy		

School District	Elementary	Middle	High	Middle/High	Magnet	Charter	Other
<b>Hamilton County Schools (continued)</b>							
	Nolan	Signal Mountain	Hixon		Normal Park Museum		
		Ooltewah	Howard Academy of Technology		Chattanooga School for Arts and Science - Upper		
			Red Bank		Chattanooga School for the Liberal Arts		
			Brainerd				
			Sequoyah				
<b>Hardeman County Schools</b>							
		Bolivar					
<b>Hawkins County Schools</b>							
	Church Hill	Surgoinsville	Cherokee				
		Church Hill	Volunteer				
<b>Henry County Schools</b>							
	Henry	Lakewood					
	Lakewood						
<b>Jackson-Madison County Schools</b>							
		Northeast	South Side				
			North Side				
<b>Johnson City Schools</b>							
	Fairmont		Science Hill				
	Towne Acres						
<b>Johnson County Schools</b>							
			Johnson County				
<b>Kingsport City Schools</b>							
	John Adams	Robinson					
<b>Knox County Schools</b>							
	Blue Grass	Holston	Fulton		Vine Middle		
	Brickey	Karns	Central				
		Halls	Hardin Valley				
			Powell				
<b>Lake County Schools</b>							
			Lake County				
<b>Lawrence County Schools</b>							
			Loretto				
			Summertown				
<b>Lincoln County Schools</b>							
			Lincoln County				Lincoln County Ninth Grade Academy (9)
							Blanche School (PK-8)
<b>Loudon County Schools</b>							
			Loudon County				

School District	Elementary	Middle	High	Middle/High	Magnet	Charter	Other
<b>Marion County Schools</b>							
			Whitwell				
<b>Maryville City Schools</b>							
	John Sevier	Maryville Intermediate	Maryville				Fort Craig School (closed 2012)
		Maryville					
<b>McMinn County Schools</b>							
	Mountain View		McMinn				
	Riceville		Central				
	Niota						
<b>Memphis City Schools</b>							
	Gardenview	Craigmont	Carver	Oakhaven		Memphis Academy of Health Sciences	
	Springdale	River View	Central	Westwood		Soulsville	
	Rozelle	Westside	Southwest Career and Technical			Memphis Academy of Science and Engineering	
	Lucie E. Campbell		Douglass			City University Boys Preparatory	
	Lester		Ridgeway			City University School of Liberal Arts	
	Orleans		Craigmont			Promise Academy	
	Knight Road		Mitchell			Circles of Success Learning Academy	
	Scenic Hills		MCS Prep School – Southeast 826			Memphis Business Academy	
			Middle College			New Consortium of Law and Business	
			East				
			Northside				
			Fairley				
<b>Milan City Special Schools</b>							
	Milan	Milan	Milan				
<b>Monroe County Schools</b>							
	Rural Vale	Madisonville	Sequoyah				
			Tellico Plains				
			Sweetwater				

School District	Elementary	Middle	High	Middle/High	Magnet	Charter	Other
<b>Montgomery County Schools</b>							
	Barkers Mill		West Creek				
<b>Moore County Schools</b>							
			Moore				
<b>Oak Ridge City Schools</b>							
		Robertsville	Oak Ridge				
<b>Obion County Schools</b>							
			Obion County Central	South Fulton			
<b>Oneida City Schools</b>							
	Oneida	Oneida	Oneida				
<b>Overton County Schools</b>							
		Livingston	Livingston				
<b>Perry County Schools</b>							
	Linden	Linden	Perry County				
	Lobelville						
<b>Pickett County Schools</b>							
	Pickett County						
<b>Richard City Schools</b>							
							Richard Hardy Memorial School (K-12)
<b>Roane County Schools</b>							
		Cherokee	Midway				
			Oliver Springs				
<b>Robertson County Schools</b>							
	White House Heritage	Springfield	Greenbrier				
<b>Rutherford County Schools</b>							
	Barfield		Smyrna				
<b>Sequatchie County Schools</b>							
			Sequatchie County				
<b>Sevier County Schools</b>							
		Seymour Intermediate	Sevier County				
<b>Smith County Schools</b>							
	Defeated	Smith County	Gordonsville				
<b>Stewart County Schools</b>							
	Dover	Stewart County	Stewart County				
	North Stewart						
<b>Sullivan County Schools</b>							
	Blountville	Blountville	Sullivan North				
	Bluff City	Sullivan	Sullivan South				
		Holston					

School District	Elementary	Middle	High	Middle/High	Magnet	Charter	Other
<b>Sumner County Schools</b>							
	Madison Creek	Knox Doss at Drakes Creek	Westmoreland		Merrill Hyde		
	Union Year Round	White House	Station Camp				
	North Summer	Station Camp	Hendersonville				
	Jack Anderson	Robert E. Ellis	Gallatin Senior				
	Howard	T.W. Hunter					
	Beech						
<b>Sweetwater City Schools</b>							
	Sweetwater	Sweetwater Junior					
<b>Tennessee School for the Blind</b>							
							Tennessee School for the Blind (PK-12)
<b>Tennessee School for the Deaf</b>							
	Tennessee School for the Deaf		Tennessee School for the Deaf				
<b>Unicoi County Schools</b>							
			Unicoi County				
<b>Union City Schools</b>							
	Union City	Union City	Union City				
<b>Union County Schools</b>							
	Big Ridge						
<b>Warren County Schools</b>							
	Irving College						
<b>Wayne County Schools</b>							
			Collinwood				Frank Hughes School (PK-12)
			Wayne County				
<b>White County Schools</b>							
			White County				
<b>Williamson County Schools</b>							
			Brentwood				
			Summit				
			Middle College				
			Fred J. Page				

Source: Technology in Education Survey System (TESS) for the Tennessee Department of Education, Margie Stevens, MS, CRC, SMS Administrator, Center for Research in Educational Policy, The University of Memphis.



## Appendix 7: Other resources

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Tennessee has a website about the Common Core in Tennessee at <http://tncore.org/>.

Some other sources of OEM/OER (open educational materials / open educational resources) are the Open Courseware Consortium at <http://www.ocwconsortium.org/>, OER Commons at [www.oercommons.org](http://www.oercommons.org), Connexions Information Sharing Services at [www.connexions.org](http://www.connexions.org), Creative Commons at [www.creativecommons.org](http://www.creativecommons.org), Curriki at [www.curriki.org](http://www.curriki.org), FreeReading at [www.freereading.net](http://www.freereading.net), <http://content.k12.opened>, Monterey Institute for Technology in Education at [www.montereyinstitute.org](http://www.montereyinstitute.org), and Connexions at [www.cnx.org](http://www.cnx.org).

Michigan and South Dakota <http://myoer.org/index.php> have very similar websites that have OER resources by subject and by standard. They are at <http://more.mel.org/> and <http://myoer.org/index.php>, respectively (as of November 29, 2012).

The U. S. Department of Education lists several examples and sources of open-source educational materials, including:

- Open High School of Utah (<http://www.openhighschool.org/>) – This school uses open educational resources to create an open source curriculum. To create this curriculum, teachers gather and sort through open source materials, align them with state standards, and modify the materials to meet student needs.
- CK-12 CK-12 FlexBooks are customizable, standards-aligned, digital textbooks for grades K-12. They are intended to provide high-quality educational content that will serve both as core text and provide an adaptive environment for learning.
- Leadership Public Schools (LPS) In each of the four LPS schools, teachers work together to utilize open-source materials to meet the specific learning needs of their students. Through a partnership with CK-12, LPS has developed College Access Readers, a series of online books with literacy supports embedded in them to meet the individual needs of students, from advanced to under-performing students.
- Khan Academy is a not-for-profit organization providing digital learning resources, including an extensive video library, practice exercises, and assessments. These resources focus on K-12 math and science topics such as biology, chemistry, and physics, and include resources on the humanities, finance, and history.

Utah has “links to the OER materials and teacher support documents Utah has created to support teachers and students in implementing CCSS-aligned lessons and units: Elementary mathematics:” <http://ccak52012.wikispaces.com/>, secondary mathematics: <http://www.mathematicsvisionproject.org/> and Secondary ELA: <http://www.schools.utah.gov/CURR/langartsec/Digital-Books.aspx>. The state also has a Utah Education Network that provides additional core-related free materials at [www.uen.org](http://www.uen.org).



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