In the following report, Hanover Research provides an overview of educational technology leasing program models. We review literature on educational technology leasing, explore the benefits and drawbacks to leasing rather than purchasing equipment, and profile districts that have successfully established an educational technology leasing program.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary and Key Findings</td>
<td>3</td>
</tr>
<tr>
<td><strong>Section I: Educational Technology Leasing</strong></td>
<td>5</td>
</tr>
<tr>
<td>Educational Technology Leasing Overview</td>
<td>5</td>
</tr>
<tr>
<td>Educational Technology Leasing Practice</td>
<td>6</td>
</tr>
<tr>
<td>Educational Technology Lease-Types</td>
<td>7</td>
</tr>
<tr>
<td>Benefits and Drawbacks to Educational Technology Leasing</td>
<td>9</td>
</tr>
<tr>
<td>Benefits of Educational Technology Leasing</td>
<td>9</td>
</tr>
<tr>
<td>Drawbacks of Educational Technology Leasing</td>
<td>12</td>
</tr>
<tr>
<td><strong>Section II: Educational Technology Leasing Profiles</strong></td>
<td>17</td>
</tr>
<tr>
<td>Kershaw County School District, South Carolina</td>
<td>17</td>
</tr>
<tr>
<td>Background</td>
<td>17</td>
</tr>
<tr>
<td>Program Structure</td>
<td>20</td>
</tr>
<tr>
<td>Student and District Outcomes</td>
<td>21</td>
</tr>
<tr>
<td>Pascack Valley Regional High School District, New Jersey</td>
<td>22</td>
</tr>
<tr>
<td>Background</td>
<td>22</td>
</tr>
<tr>
<td>Program Structure</td>
<td>23</td>
</tr>
<tr>
<td>Student and District Outcomes</td>
<td>24</td>
</tr>
<tr>
<td>Bluffton-Harrison Metropolitan School District, Indiana</td>
<td>25</td>
</tr>
<tr>
<td>Background</td>
<td>25</td>
</tr>
<tr>
<td>Program Structure</td>
<td>26</td>
</tr>
<tr>
<td>Student and District Outcomes</td>
<td>28</td>
</tr>
<tr>
<td>Quakertown Community School District, Pennsylvania</td>
<td>29</td>
</tr>
<tr>
<td>Background</td>
<td>29</td>
</tr>
<tr>
<td>Program Structure</td>
<td>29</td>
</tr>
<tr>
<td>Student and District Outcomes</td>
<td>31</td>
</tr>
<tr>
<td><strong>Appendix A: Quakertown Community School District</strong></td>
<td>32</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION

Embracing 21st century learning has required school districts across the nation to adapt everything from curriculum to instructional techniques to technology in the classroom. New trends, such as flipped classrooms, have changed the way educators support learning, while technology has afforded teachers the opportunity to extend their reach beyond the physical limitations of the classroom and school day. In the words of one educator, “We are digital immigrants, but the kids are digital natives. This is the world they grew up in. Why would we keep technology out of their education?” However, budget constraints and the constant evolution of technology has made it difficult for many districts to provide the most up-to-date devices. To ensure students and educators have the best of what is available, districts have begun to explore alternatives to the traditional practice of purchasing technology.

In the following report, we review literature on educational technology leasing, explore the benefits and drawbacks to leasing rather than purchasing equipment, and profile districts that have successfully established an education technology leasing program. The following report is divided into two sections:

- **Section I: Educational Technology Leasing** summarizes available literature on the growing trend of leasing educational technology, paying special attention to the benefits and drawbacks to technology leasing, what equipment is most commonly used, and best practices in selecting a leasing vendor.

- **Section II: Educational Technology Program Profiles** examines key aspects of four school districts that have an educational technology program, three of which lease and one that chose to purchase the technology—highlighting each program’s background, program design, and educational impact. The four profiled districts are:
  - Kershaw County School District, South Carolina
  - Pascack Valley Regional High School District, New Jersey
  - Bluffton-Harrison Metropolitan School District, Indiana
  - Quakertown Community School District, Pennsylvania

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Key Findings

- **Technology immersion programs**, such as one-to-one programs, support a 21st century learning environment by extending learning beyond the confines of a brick-and-mortar classroom. Technology-based programs seek to increase student engagement, inquiry, and understanding, all of which have been shown to positively affect student achievement.

- The majority of school districts lack the capital to purchase the needed technology to implement a one-to-one program. To address budget shortfalls, districts have begun to explore alternative approaches to obtaining needed technology, most notably through bring-your-own-device programs and educational technology leasing. Although both methods have successfully put technology into the hands of students, bring-your-own-device programs require that students own current technology and are not as feasible in low income districts or schools.

- There are many financial benefits to leasing rather than purchasing educational technology equipment, such as conserving capital, avoiding long-term debt, regular and predictable payments, and no disposal costs. As technology evolves rapidly, leasing devices allows a district to update to new technology at the end of the lease, typically every three or four years. Additionally, leasing has been shown to support socio-economic equality by ensuring that all students have the same equipment, access, and ability to study and complete assignments.

- A common best practice for establishing an educational technology leasing program is to research how other districts have developed comparable programs of their own. Speaking with technology leaders and visiting schools that have implemented similar programs often illuminate successful elements of the program. Experts also recommended that districts speak to a number of vendors, finance companies, and third-party technology leasing agencies to get the best deals and most competitive interest rates.

- Districts that have attempted to save money by purchasing or leasing lower quality equipment often regret the decision. Less expensive options often fail to provide teachers and students with the quality and reliability they need. Districts that switch to higher quality technology have found that student perception of the program improves and they begin to treat the new devices with greater respect.
SECTION I: EDUCATIONAL TECHNOLOGY LEASING

The following section summarizes current trends in educational technology leasing. Below, Hanover Research describes the impetus behind district-level decisions to lease educational technology, explores the benefits and drawbacks to leasing as opposed to purchasing equipment, identifies commonly leased equipment, and includes a review of best practices in selecting a leasing vendor.

EDUCATIONAL TECHNOLOGY LEASING OVERVIEW

Advances in technology have played a critical role in the push for developing a K-12 curriculum focused on cultivating 21st century learners with 21st century skills. Educational leaders recognize that teaching solely from a textbook is no longer adequate, and that they need new tools and resources to help their students succeed.

In the future, computers will be a part of everyday jobs. By starting in kindergarten, [students] will be able to enhance that learning and will have the opportunity to develop critical thinking. Learning will be able to go beyond our four walls at the school. I think [a one-to-one program] will be a great asset to our school and a great tool to help our kids get ahead.2

In pursuing 21st century learning initiatives, districts have increasingly begun to explore and/or adopt curriculum that supports a more comprehensive approach to incorporating technology in the classroom. Evidence of this push to integrate greater levels of technology is found in the annual K-12 IT Leadership Survey, which measures how school system leaders leverage technology, both to predict the future educational landscape and to help educators make more informed decisions.3 Results indicate that:

Technology leaders do not have enough budget or staff to integrate technology into classroom instruction or implement new technologies – factors which have been identified as critical for student success.4

More specifically, only one in three school districts report a budget increase for academic year 2014-2015, while the remaining districts are faced with either a flat or declining budget. Half of survey respondents indicate “their districts do not have adequate funding to support existing equipment to meet board expectation or implement new classroom technologies.”5 Furthermore, digital materials are expected to account for over half of all

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2 Holdsworth, K., As cited by: Ibid.
4 Mirisis, N., As cited by: “K-12 IT Leadership Survey: More Districts Increasing Their Budgets.”
5 Ibid.
educational resources within the next three years. To work within the constraints of inadequate funding, the top four strategies used by technology leaders include:6

- Delay replacements or defer maintenance
- Utilize E-Rate funds to obtain affordable telecommunications and internet access
- Rely on grants
- Consolidate networks and servers

The budget shortfall underscores the importance for school districts to find new, innovative approaches to obtain up-to-date technology that compliments a transformative, 21st century learning environment. According to a survey conducted by T.H.E. Journal, a publication dedicated to “transforming education through technology,” one of the most popular trends in educational technology—bring-your-own-device (BYOD) to school—serves as a vehicle to ameliorate decreased funding:

The bottom line is that all schools in the country already are BYOD. Students are bringing the devices. It’s whether or not these districts choose to embrace the learning tool that makes the instructional difference.7

Early outcome studies have documented improved productivity and increased engagement among students who are able to use their own device for learning.8 The BYOD movement has been accelerating in recent years, most notably in response to tablet computing—a less expensive and more portable option than personal laptops. However, as school districts increasingly allow students to BYOD,

[T]he practice continues to raise questions of equity and does not address the need for sufficient devices to support online assessments. The growing momentum to shift from print to digital resources, often housed in the cloud, makes it incumbent on district leaders to recognize that each child must have a device and the connectivity to access resources from home—just as students from a prior generation would have had access to traditional print textbooks.9

**Educational Technology Leasing Practice**

Technology continues to advance at such a speed that computer labs, available to students for a limited number of hours each day and often not on weekends, are now considered by many to be obsolete. New initiatives aimed at creating 21st century learning environments, where students are encouraged to continually ask questions and explore ideas, have begun to support supplying students with laptops and tablets along with, and at times at the expense of, traditional learning materials. One-to-one programs, in which students are

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6 Ibid.
8 Johnson, L., As cited by: Ibid.
9 Flynn, A.L., As quoted by: Ibid.
given their own personal laptop or tablet, are increasingly being adopted by public and private schools alike, often as early as kindergarten.\textsuperscript{10}

However, district-wide initiatives, such as the one-to-one program are expensive. The feasibility of a school district faced with a budget shortfall furnishing each student with a device of their own seems like an insurmountable challenge. Despite the controversy, some districts have chosen to implement a version of the BYOD program, which has the potential to benefit the district, parents, and students alike—parents with the means to provide their children with such devices frequently do, freeing district resources to provide students without the means with comparable equipment.

School districts have a number of funding options available to support such initiatives, though most obtain funding through grants, financing arrangements, or a combination of the two.\textsuperscript{11} Leasing technology equipment is another option that has become more common for a number of reasons. In particular, establishing a lease agreement is less time-intensive than applying for grants and bonds, linking it more closely to the timeframe in which the technology needs to be acquired.\textsuperscript{12}

\textit{Educational Technology Lease-Types}

There are two types of lease arrangements—finance lease (i.e., installment loan) and true lease:\textsuperscript{13}

\begin{itemize}
  \item \textbf{Finance lease}—lessee becomes owner at the end of the lease
  \item \textbf{True lease}—lessor retains ownership of the equipment after the lease expires
\end{itemize}

When leasing technology, specifically one-to-one (1:1) technology, \textbf{school districts most often enter into a true lease arrangement}. Figure 1.1 provides a comparison of finance leases and true leases.

\textbf{Figure 1.1: Finance Lease versus True Lease}

<table>
<thead>
<tr>
<th>FINANCE LEASE</th>
<th>TRUE LEASE</th>
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<tbody>
<tr>
<td>• Lessee repays lessor the equipment’s entire purchase price, plus interest, over the lease term</td>
<td>• Lessee repays lessor an amount lower than the equipment’s full purchase price, plus interest, over the lease term</td>
</tr>
<tr>
<td>• Lessor’s risk is limited to lessee’s creditworthiness</td>
<td>• Less costly to a lessee than a finance lease of the same duration</td>
</tr>
<tr>
<td>• Lessor’s profit is dependent on the interest rate</td>
<td>o Lessee usually repays between 85 to 95 percent of the full purchase price</td>
</tr>
<tr>
<td>• Value of the equipment at lease end has little bearing on the transaction</td>
<td>• Lessor’s profit not derived solely from the interest rate—based on equipment’s value at</td>
</tr>
</tbody>
</table>

Due to the rapid rate at which technology changes, lease terms and length vary according to the type of equipment and the expected value of the product at lease end. Three-year lease terms are true leases because equipment is expected to retain value at lease end. Four-year lease terms can be either a true lease or a finance lease, depending on equipment type and the contract. Finally, most five-year lease terms are finance leases because equipment is not expected to retain value at lease end.15

Equipment expected to retain value throughout the contract (e.g., laptops and notebooks) become more affordable over time as the item’s residual value reduces payments over the life of the lease: “Every dollar the equipment is worth at the end of the lease is one dollar less the school has to pay while using it.”16 Thus, leasing makes little sense for items that are expected to hold little to no value after two to three years, such as desktop computers and networking equipment.

The key to a successful leasing program, one in which the benefits outweigh the costs, requires the following actions on the part of the lessee:17

- Thoroughly evaluate lease offerings and compare to cost of product ownership, including: training, maintenance, support, expected lifespan, and cost of disposal
- Create a competitive environment by introducing multiple credible lessors vendors, finance companies, or third-party leasing agencies into the bidding process
- Lease equipment for the expected economic life of the product—computers and technology, on average, last approximately three years
- Understand lease agreement terms, conditions, and school/district obligations
- Make timely decisions on the replacement and return of leased assets—renew items as needed, for an extended period to reduce monthly payments

Finally, when determining whether the lease terms are advantageous, lessees should consider the following questions:18

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14 Ibid.
15 Ibid.
18 Bullet points taken verbatim from: Ibid.
- How do you know what type of lease [is] being offered?
- If the lease terms do not transfer ownership, how do you know if the required payments are less than 100 percent of the equipment cost, plus interest?
- Is it financially preferable to lease or buy the equipment?
- What are the projected savings from leasing?
- Is the lessor offering a fair deal?

**Benefits and Drawbacks to Educational Technology Leasing**

School districts have a number of financial options available to them, such as special bond issues, grants, or paying for equipment out of operating funds. An article from Scholastic explains that, “While some schools float special bond issues or pay for new equipment out of regular operating funds, more and more districts are turning to leasing to fill classes with computers and other educational equipment.”

There are both benefits and drawbacks for school districts interested in establishing an educational technology leasing program; however, the benefit to drawback ratio ultimately depends on which technologies a district plans to incorporate in the classroom. The majority of current literature is centered on technology immersion programs, which cost approximately $1,000 per student. Technology immersion programs (i.e., 1:1 programs) entail pairing each student with his or her own device and outfitting schools with supplemental equipment (e.g., projectors, networking and software equipment). In such programs, it appears the benefits to leasing educational technology outweigh the potential drawbacks, summarized in Figure 1.2 and explained in greater detail below.

**Figure 1.2: Pros and Cons of Leasing Educational Technology**

<table>
<thead>
<tr>
<th>Benefits of Leasing</th>
<th>Drawbacks of Leasing</th>
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<tr>
<td>Regular, predictable payments</td>
<td>Expensive interest rates</td>
</tr>
<tr>
<td>Flexible disbursement schedule</td>
<td>School does not actually own systems</td>
</tr>
<tr>
<td>Lease packages reduce overall cost</td>
<td>No computers to hand down</td>
</tr>
<tr>
<td>Conserving capital</td>
<td>Repair costs for damaged or broken systems</td>
</tr>
<tr>
<td>Tax-exempt lease terms</td>
<td></td>
</tr>
<tr>
<td>No more obsolescence</td>
<td></td>
</tr>
<tr>
<td>Option to buy at end of lease</td>
<td></td>
</tr>
<tr>
<td>No disposal costs</td>
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</table>

**Benefits of Educational Technology Leasing**

One of the primary benefits to school districts that opt to lease rather than buy educational technology is to avoid substantial up-front costs, as payments are spread over the equipment’s usable life. “Leasing also brings technology within the reach of cash-strapped schools, eliminates obsolescence, and makes the most of scarce capital.” Furthermore,
leasing enables schools to remain up-to-date with the newest technology by replacing equipment every two to three years.

In Section II of the report, three of the four profiled districts chose to lease technology for the reasons cited in the following quote. In fact, Kershaw County School District initially purchased its equipment, but eventually found that leasing was a more cost effective alternative.

The benefits of leasing provide a variety of incentives to organizations that want to reduce costs and improve their management of computer assets. To some, the potential financial savings offer the largest incentive. When effectively managed, leasing can reduce hardware costs by 10% or more. It can also enable organizations to conserve capital, to avoid the cost of disposing or retiring equipment, and to eliminate the risk of unknown asset values at the end of the lease period. Leasing also encourages a regular technology refresh and can assist lessees in managing their computer assets.  

The above referenced conservation of capital includes costs such as textbooks, paper, and assessments, in addition to time saved from reduced paperwork. In turn, less restricted funds can be invested in other resources as needed, such as maintenance, after-school activities, and capital projects.

According to Education Business, leasing equipment ensures that “educational outcomes can be delivered,” while helping districts “avoid the false economy of buying cheaper products.” Additional benefits include the following:

- Leasing allows for better equipment that would be too expensive to buy outright, resulting in better “total cost of ownership”
- Leasing allows for periodic, fixed payments, which help maintain cash flow, can be adjusted to fit a school’s timetable, and are easier to predict and budget than a lump sum
- Leasing hardware, software, and services as a package can reduce overall cost
- Leasing terms frequently include a variety of valued-added services—consultative pricing tools, device tracking systems, support and repair services, and fee-free return grace periods
- Leasing enables schools to upgrade as new equipment and the latest technology becomes available, often at the same fixed, monthly rate

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27 Upgrades may require a new fixed-term contract
Leasing relieves school districts from system disposal, saving approximately $50 to $75 per machine; although the district may opt to buy devices when lease ends.

- Leasing is inflation-friendly— Inflation is built into the lease and calculated according to current cost, not what the device will cost at the end of the contract.
  - As the cost of technology decreases, inflation may become less of a concern.

Additionally, school districts qualify for tax-exempt leasing with terms that often include non-appropriations language. Therefore, “if the institution does not appropriate funds in each subsequent year, the lease can be terminated (with return of equipment) with no legal obligations or liabilities going forward.”

- That language also precludes the lease from long-term debt calculations. Finally, the benefit depends on a district’s state aid formula: “if the formula provides aid for current expenditures but not capital expenditures, it may be better to lease.”

**Aside from the financial benefits to technology leasing, there are educational benefits as well.** Research has found that technology immersion programs, made financially tenable through leasing arrangements, produce more engaged learners. For example, a four-year study by Shapley, et al. (2009) of 5,000 middle school students found that laptop immersion programs led to fewer disciplinary problems. The study also found that those same students displayed significantly better technology skills, “so much so that after three years, low-income students in the laptop schools displayed the same levels of technology proficiency as wealthier students in the control schools.”

According to a national study of 997 schools, the three most influential factors affecting the successful implementation of a one-to-one program, and ultimately higher academic achievement, include:

- Ensuring uniform integration of technology in every class
- Providing time for teacher learning and collaboration (at least monthly)
- Using technology daily for student online collaboration and cooperative learning

**Henrico County Public Schools (HCPS) in Virginia provides an example of how a school district can benefit from leasing educational technology.** Beginning in 2001, the district began providing every high school student with a laptop; today it leases approximately 15,000 devices. During a recent lease refresh, district leaders discussed the program’s cost and whether the district would save money if it ended the program. According to HCPS’ Director of Technology, the program’s financial benefits far outweigh the costs: “the

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29 Ibid., p. 49.
31 Ibid.
32 Bullet points taken verbatim from: Greaves, T., et al., 2009, As cited by: Ibid.
computer is not really an additional device; it’s become very much integrated into the DNA of what we do.”

The 1:1 program has been in operation for over a decade, has become ingrained in the district’s educational culture, and has impacted many district-wide decisions. For example, the district no longer spends money on textbooks, and over the course of the program, the cost of leasing the equipment has decreased from several million dollars a year to almost nothing. “If we got rid of the laptops, a lot of the money we were spending on [those] would have to be spent replacing the textbooks.” However, the program’s financial impact reaches beyond the cost of textbooks:

That kind of thinking goes on down the line. Because every student has a computer, every classroom effectively becomes a computer lab. In turn, dedicated computer labs have been turned into regular classrooms. If the 1-to-1 program were gone, those labs would have to be restructured for assessments and specialty software usage. We would lose so much school capacity, we might be forced to build a new school. It’s not an isolated decision. It has impact across everything that we do.

**Drawbacks of Educational Technology Leasing**

Despite the numerous benefits of leasing technology, there are several potential drawbacks to consider. The primary drawback to leasing educational technology is the amount of interest charged by vendors, which can range from between 5 to 15 percent annually. Interest charges pay for the equipment, cover vendor expenses and overhead, and include profit. Over the course of a three- or four-year lease, districts may pay an extra 25 to 50 percent. However, the drawback to interest rates is tempered by two factors. First, interest rates are calculated into the original lease terms, making the cost known and predictable. Furthermore,

Even though interest is being paid, leasing may result in lower annual cash outlays if the lease enables the district to obtain a substantial discount by buying in bulk.

These discounts may not be available if the district funds its technology plan by spreading purchases over several years.

A second drawback to leasing technology stems from the unregulated nature of the industry. As such, there are unscrupulous suppliers offering “too good to be true” deals. Companies may intentionally make it difficult to understand their terms and conditions, often burying hidden fees. A spokesperson for First American Education Finance, a company that finances one-to-one programs, notes that “[w]here schools face a lot of

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35 Taylor, P., As cited by: Ibid.
36 Taylor, P., As cited by: Ibid.
challenges is the ongoing management of the program and the end-of-lease considerations.”

Another potential drawback to leasing equipment is additional costs incurred at the end of the lease. When equipment is returned, normal wear and tear is fine, but if something is missing or broken, the lessee is responsible for either fixing the problem or paying for it to be fixed.

As with the benefits, drawbacks to leasing educational technology are device-specific. According to *T.H.E. Journal*, providing desktop computers for student use is becoming less common as learning becomes more interactive. Regarding desktop computers, Director of Education Technology for the National School Boards Association, Ann Lee Flynn, notes that,

> Although these workhorses of education labs and libraries still serve a purpose in key locations or for specialized applications, they should no longer be the dominant learning device for K-12 students when the concept of learning has become increasingly interactive and can happen anytime, anywhere. The flexibility afforded by other computing devices makes the usefulness of these machines pale by comparison.

**Furthermore, technology immersion programs have shown mixed educational outcomes.** Evaluations from Maine’s statewide program, for example, show little effect on student achievement after five years, with the exception of nominal improvements in writing. A second study evaluating Michigan’s one-to-one laptop program confirms these results—among eight matched pairs of schools, four immersion programs had higher test results, three had lower results, and one showed no difference. However, the lack of improvement may be attributed to state assessments, which do not measure 21st century technology skills.

Finally, research has found that stagnant academic achievement may be attributed to the schools or districts that adopt technology immersion programs. A study from Massachusetts found that after three years, one of five middle schools implementing a one-to-one program had failed to document an improvement in student technological skills: despite having their own laptops, students used technology at a rate comparable to students in schools without laptops. Districts that fail to provide adequate professional development will have teachers who lack knowledge of the technology, how to best use it, and thus, may not support the initiative.

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40 Wiedenhofer, C., As quoted by: Ibid.
EDUCATIONAL TECHNOLOGY LEASING

Organizations that choose to lease technology equipment have a number of options available, from the vendors they choose to the actual equipment they select.

EDUCATIONAL TECHNOLOGY LEASING – EQUIPMENT

Aside from the most commonly referenced laptops and tablets, a variety of equipment is available for lease depending on an organization’s specific needs. Technology equipment may include:

- PCs
- Laptops
- Tablets
- Servers and storage
- Routers
- Networking equipment
- Telecommunications
- Printers and multifunction printers
- Copiers
- Smartphones
- Multimedia equipment

EDUCATIONAL TECHNOLOGY LEASING – VENDORS

Organizations that choose to lease educational technology have the option to contract through a vendor, a finance company, or a third-party technology leasing agency. Leasing through a third-party organization releases the lessor “from committing to an organization that may lag behind others in technological development or service over the course of the lease.”

Furthermore, third-party leasing companies operate independent of vendors and manufacturers, which means that lessees have a variety of technology brands available.

A best practice used by the school districts profiled in Section II, and one frequently mentioned in the literature, is to court a number of different vendors and third-party agencies at once to identify the best deals and the most competitive interest rates—a greater number of companies competing for business will be more likely to drive down cost. Furthermore, it is recommended that when the lease terms are coming up for renewal, shopping around again may result in better deals for the upcoming contract.

The number of third-party leasing agencies that contract specifically with schools is vast, and perhaps the best way to identify the one most apt to meet district needs is to speak with other school districts that have successfully established a technology leasing program of its own. Further, Hanover identified a several leasing agencies with experience working specifically with school districts—First American Education Finance, CSI Leasing, UpgradeUSA, and CDW—two of which are profiled below.

First American Education Finance (FAEF) contracts with over 300 schools, colleges, and universities to assist them in financing purchases for everything from technology to chairs. The following bullet points include observations from FAEF of how and what schools most often lease, and offer recommendations as to what districts should avoid when launching a leasing arrangement:\footnote{Stern, A., Op. cit.}

- The most common education technology investments require high implementation costs, and include one-to-one laptops, iPads, and related infrastructure upgrades
- Typical lease programs last the length of a manufacturer’s warranty—between two to three years—an ideal length of time because of how quickly technology evolves
- Leases frequently include refresh plans, so when the lease term ends, schools are often able to upgrade existing equipment to their advantage
  - “[B]efore Apple released its new iPad, schools were awaiting the unveiling because they expected a subsequent drop in the price of iPad 2s that would enable them to acquire those older models at reduced rates. They were right.”\footnote{Rogozinski, J., As cited by: Ibid.}
- The key factors that shape individual leasing programs include:\footnote{Bullet points taken nearly verbatim from: Wiedenhofer, C., As cited by: Ibid.}
  - The general state of interest rates, which are currently at historic lows
  - The underlying credit of the institution
  - The projected residual value of the leased equipment over the course of the leasing term
  - The fees charged and services offered by lenders... many lenders bury assorted fees tied to the ends of the lease in fine print—return fees, restocking fees, damage fees, and so on

CSI Leasing (CSI) is another third-party leasing agency that has had success in a number of sectors, including schools. With more than 70 offices in 36 countries, CSI has developed strategic relationships with capital equipment and service vendors, dealers, and distributors to provide its clients with “computer systems, software, vehicles, public safety equipment, energy management systems, and telecommunications.”\footnote{“Government & Education Leasing,” CSI Leasing. http://www.csileasing.com/our-services/government-education-leasing/} CSI has published a number of case studies that document its success in outfitting clients according to their technological leasing needs.

For example, CSI contracted with a school district in Alabama to install 158 intelligent classrooms that included ceiling-mounted projectors, wireless tablet PCs for every high school student, wireless printers, 10 mobile labs, and grade-specific educational software.\footnote{“Alabama School District’s Dream Accomplished,” CSI Leasing. http://www.csileasing.com/whycsi-leasing/case-studies/alabama-school-districts-dream-accomplished/} The district chose to lease rather than purchase the equipment, avoiding “having to make a
‘have versus have not’ decision.”

An additional benefit of the district’s decision to lease included not worrying about the equipment depreciating over time, meaning that students, faculty, and administrators will never have to use a computer over five years old. Furthermore, the district no longer has to worry about disposing of the old equipment—CSI handles the hard drives according to the National Institute of Standards and Technology.

School districts may also opt to contract directly with technology vendors, as evidenced in Section II of the report. Among the districts profiled, Hewlett-Packard (HP) is the most common vendor that school districts chose to work with directly, as it provides 100 percent financing of both HP and non-HP equipment, services, software and installation, no capital expenditure, no security deposit, and fixed payments for the lease term.55

Other common vendors include Apple, Compaq, IBM, and Dell. A new arrival to the educational technology leasing stage is Google, which is able to offer low lease terms because of the low cost of its Chromebook. School districts pay a $20 per month subscription fee for each laptop (businesses pay $28 per month). Similar to other contracts, there are no up-front expenditures and upgrades to newer systems are included in the regular hardware refreshes.56
SECTION II: EDUCATIONAL TECHNOLOGY LEASING PROFILES

The following section presents four educational technology program profiles to provide an overview of the varied reasons behind, and approaches to, program development and implementation. Each district chose to implement a one-to-one program in an effort to offer students the best available technology to support 21st century learning. Three programs lease equipment for terms ranging from two to four years, while the fourth district chose to purchase its equipment and is the only district to allow students to BYOD. Two of the districts that lease equipment were early one-to-one adopters and have been doing so for over a decade, while the third program was established in 2010; thus all three districts have been through at least one lease refresh. Years of experience offer insight into which program components work and those that do not, while also documenting program impact on both students and school culture. The four school districts profiled in this section of the report include:

- Kershaw County School District, South Carolina
- Pascack Valley Regional High School District, New Jersey
- Bluffton-Harrison Metropolitan School District, Indiana
- Quakertown Community School District, Pennsylvania

KERSHAW COUNTY SCHOOL DISTRICT, SOUTH CAROLINA

BACKGROUND

Kershaw County School District (KCSD) has over 10,300 students enrolled in 20 schools, including three high schools, four middle schools, 11 elementary schools, one career center, one alternative school, and one adult education program. Each of the district’s schools is outfitted with a high-speed wireless network through the district’s iCAN initiative.\(^{57}\) Through the $8 million initiative, KCSD was the first district in South Carolina “to provide individual wireless personal computing devices to all high school students,” and to offer distance learning opportunities.\(^{58}\) The district’s ultimate goal “was to deploy a solution that would be so embedded with classroom instruction that it would be an integral part of a child’s life, just like a text book.”\(^{59}\)

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In the past, KCSD had made considerable technology investments that ultimately failed to provide desired student outcomes. When the district decided to embark on the iCAN initiative, stakeholders realized “We had to examine the way we acquired equipment, because we determined that the historical process of purchasing technology outright left us with aging devices that we couldn’t afford to dispose of, replace four years later or continue to maintain/upgrade.”

“We determined that the historical process of purchasing technology outright left us with aging devices that we couldn’t afford to dispose of, replace four years later or continue to maintain/upgrade.”

Stakeholders began speaking to other districts that had already implemented one-to-one programs of their own to learn about successes and lessons learned. First and foremost, professional development and training were critical:

[Y]ou can’t just order equipment without training users on how to integrate it into instruction on a daily basis. When teachers and students got frustrated and didn’t know how to manage the technology, they put it aside to gather dust. That’s an expensive waste.

Many district students did not have access to technology at home, which meant that if students were to continue learning outside of the classroom, they would need their own devices. KCSD met with and received proposals from five technology vendors. Ultimately, the district opted to work with Hewlett-Packard (HP), which proposed the following:

- Equip every child with a laptop PC for optimal access to technology
- Finance the acquisition with lease payments to make the equipment affordable
- HP would provide technology support and train educators to use the technology effectively

When KCSD first implemented the iCAN initiative, it chose to lease rather than purchase devices to avoid a $5 million expense. Through a four-year lease term, the district initially provided each high school student and teacher with a HP Compaq nx5000 notebook computer for annual payments of $1.2 million (2005 and 2006), which increased to $2.2 million beginning in 2007 as more students joined the program. For the district, these terms were ideal because it could receive the technology it needed through regular and predictable payments that did “not overload [district] finances every few years.”

Today, however, the district uses HP ElitePads Tablets.

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60 Slayman, A., As quoted by: Ibid.
61 Slayman, A., As quoted by: Ibid.
62 Bullet points taken with minimal variation from: Ibid.
A component of the district’s vision and mission statement includes its *Five Individual Technology Dimensions*, “a framework that emphasizes a combination of critical elements necessary for the school district and [the] schools to effectively integrate technology to accelerate student achievement and learning.”65 The framework is structured to allow for adaptations to respond to ever-changing technology trends, outlined in Figure 2.1. As mentioned in Section I, flexibility at the district-level was cited as a best practice in technology planning and implementation.

**Figure 2.1: Kershaw County School District’s Technology Dimensions**

<table>
<thead>
<tr>
<th>TECHNOLOGY DIMENSION 1: LEARNERS AND THEIR ENVIRONMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Kershaw County School District will integrate technology in instruction, to engage students to achieve technological literacy and to attain 21st century skills by meeting the state’s academic standards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TECHNOLOGY DIMENSION 2: PROFESSIONAL CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Kershaw County School District will emphasize strategies to develop ongoing and sustained professional development programs for all staff and educators - teachers, principals, administrators, and school library media personnel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TECHNOLOGY DIMENSION 3: INSTRUCTIONAL CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Kershaw County School District will emphasize development of strategies to integrate technology into curricula and teaching and explore ways to promote teaching methods that are based on data-driven analysis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TECHNOLOGY DIMENSION 4: COMMUNITY CONNECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Kershaw County School District will cultivate and enhance partnerships to maximize parent and community involvement in education and to support technology-related activities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TECHNOLOGY DIMENSION 5: SUPPORT CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Kershaw County School District will provide constant, consistent, and reliable support for all technology users, maintain all hardware and software resources, and manage the appropriate use of technology in all teaching, learning, and support activities.</td>
</tr>
</tbody>
</table>

Source: Kershaw County School District66

As a part of the lease agreement HP provides state-of-the-art equipment to the district annually. *Today, equipment and services include tablets, servers, wireless access points, network switches, and technology support.* The lease also includes a warranty for all devices, reducing the need to budget for repairs. Mirroring the benefits highlighted in Section I, KCSD’s Assistant Superintendent for Curriculum and Instruction states: “By leasing the equipment, our budget became more predictable and manageable. And because the equipment is on a four-year lease, we’re able to avoid the obsolescence issues that plagued us in the past.”67

To further support the initiative, each classroom is outfitted to be multimedia-capable with interactive whiteboards and LCD projectors. Through its K8 initiative, mobile technology carts are available to all elementary and middle school students as a part of its four-to-one ratio.

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66 Ibid.
program. And despite the cost, the district has been recognized as having “a high return on investment” by the Center for American Progress.

**PROGRAM STRUCTURE**

Beginning in 2004, KCSD provided every grade 9 student with a laptop, which helped the district avoid leasing 5,000 computers all at once. Every year since, incoming freshman are equipped with a new machine at the beginning of the school year, which they carry throughout high school and return before graduation, when the lease expires. Today, the district has 7,028 laptops, 1,926 PC desktops, and 90 Apple Systems. Further, each high school is outfitted with technical support services and approximately two certified technicians, while elementary and middle schools have one technician for every four schools. While all students in grades 9-12 have their own tablets, the district remains focused on reducing the ratio of students to computers, as well as increasing student access to technology resources and assistance outside of school.

In its student handbook, the district outlines acceptable technology use guidelines for students and employees, which state:

The Kershaw County School District expects responsible behavior from technology users. Technology use is a privilege, not a right, and inappropriate use may result in a loss of those privileges as well as other disciplinary action. Willful damage or vandalism will result in legal or disciplinary action as well as repair or replacement charges.

Acceptable use for students and employees entails using the devices at home and school for educational purposes (e.g., classwork, note-taking, research, and homework). The fees associated with the iCAN program are minimal: students pay a one-time $25 fee for insurance that covers a lost or stolen device; however, defacing the device (i.e., stickers, writing, etc.) voids the warranty. A unique component of KCSDs program is that it allows students to store music on the tablets as long the music was legally purchased, adheres to the Acceptable Use Policy, and does not take up space needed for instruction.

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71 “District Technology Plan.” Kershaw County School District.
   http://www.kershaw.k12.sc.us/district/technology/techplan/
73 Ibid., p. 15.
75 See pp. 55-63 for Student, Employee, and Non-Employee Acceptable Use Policies:
76 Hanover Research could not determine whether the $25 fee covers the cost of multiple repairs/replacements.
78 Ibid., p. 2.
As with the other school districts profiled in this section of the report, KCSD places high importance on providing its faculty with continued professional development opportunities centered on new and innovative ways of integrating technology into the classroom.\(^79\) The district provides “meaningful sustained professional development... using research-proven technology integration strategies across the curriculum to improve student achievement,” through graduate level technology certification courses, ongoing technology best practices workshops, and school-level instructional technology coaches, among other opportunities.\(^80\)

**STUDENT AND DISTRICT OUTCOMES**

Through its “fully interactive learning environment,” the district has been better able to accommodate a range of learning styles by encouraging “collaboration and critical thinking.”\(^81\) To document the program’s success, the district initially measured metrics such as: “frequency of classroom use, student and teacher competency levels, frequency and ease of communication between home and school, and parents’ skill levels.”\(^82\) Over time, the district also began to tracked “grades, attendance rates, classroom dynamics and level of positive engagement during instruction.”\(^83\) Within the first year, student engagement improved, and has continued to do so over the last 10 years. The district has also found that the equipment helped to “level the playing field” between regular and special needs students in regard to PC skills. Further, it provided socio-economic equality among students as everyone now had the same equipment and access to complete assignments.

The district has also experienced increased teacher retention, and has found that the iCAN initiative has helped with teacher recruitment, as teachers from more affluent areas have moved to KCSD, while some veteran teachers chose to postpone retirement. Additionally, parent/teacher communication has increased.\(^83\)

In recognition of the iCAN initiative’s impact on student success, South Carolina has followed KCSD’s lead by supporting one-to-one initiatives in districts across the state.

“After experiencing the learning environment we created... students who leave Kershaw County School District are going to be able to compete with anyone worldwide. It says a lot that the entire state has chosen to embrace the same vision that Kershaw County and HP developed in partnership.”\(^84\)

\(^80\) Ibid., pp. 18-19.
\(^82\) Ibid., p. 3.
\(^83\) Ibid., p. 4.
\(^84\) Slayman, A., As quoted by: Ibid., p. 2.
**Pascack Valley Regional High School District, New Jersey**

**BACKGROUND**

A second pioneer in one-to-one computing, Pascack Valley Regional High School District (PVRHSD), first introduced its *1:1 Laptop eLearning Initiative* in 2004. The district’s motivation for developing the initiative was to support “continued improvement of instruction through addressing the skills of the 21st century teacher and learner, in an effort to better reflect both society and the workforce, and to best prepare students for their college careers.” It took four years for the district to launch the initiative, which followed the below trajectory:

- Development of rationale and goals
- Research
  - Educational and instructional practices
  - Experiences from other districts that support a 1:1 project
- T2 Plan (Tools of Technology)
  - Laptops and configuration
  - Infrastructure
    - Wireless network
    - Internet service level
  - Network and laptop security
- Professional development
- Program implementation
- Program maintenance following implementation

Similar to Kershaw County, during the research and T² implementation phases, PVRHSD hosted most of the major laptop vendors in the U.S. to discuss leasing options and to identify the most viable option.

Today, PVRHSD issues over 2,300 laptops with base software. Each student receives a 13.3-inch Sony VAIO S model, while teachers and administrators receive a 15.4-inch Sony VIAO A or FS model. Additional software is available according to class enrollment. Further, the district employs certified repair technicians to assist with hardware and software issues and handle warranty and non-warranty issues, which reduces support costs and turnaround time. Eric Tusch, Pascack Valley High’s Director of IT, explains that “[a]ll we do is give [the

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technicians] some space to work in. Our laptop hospital is essential to keeping every machine running.”

Instructional methods have changed as the high school now offers five all-digital classes, as well as a number of on-line and in-the-cloud resources, although “[i]t’s really the curriculum driving the laptops, not vice versa.”

A unique aspect to PVRHSD’s program is its Technology Steering Committee, which meets several times throughout the year, and comprises high school students, parents, faculty, and administrators, as well as district board members and administrators. The district attributes the 1:1 Laptop eLearning Initiative’s success to the input it receives from all stakeholders. PVRHSD also notes that the program is not linked to standardized test scores, which allows “teachers [to] really focus on innovation in the classroom.”

**Program Structure**

Although the average lease term is four years, administrators at PVRHSD chose a two-year term, which “keeps the traditional expenses related to repairs—replacement of batteries and keyboards—down.” Even still, the district has between 100 to 150 devices available as replacements or loaners. The repair rate has decreased over time as students have learned to properly treat and care for the computers.

Through the program, each student receives a laptop, charger, carrying case, curricula-required software, and online resources. Laptops are issued throughout the school year, but are returned for repairs and maintenance over the summer. Seniors’ laptops are re-commissioned for incoming freshman, while other students are reissued the same laptop. All students are expected to adhere to the district’s Digital Citizenship and Acceptable Use Policy, which states that the technology is intended for educational use only.

The district purchases an extended warranty to cover manufacturer defects and all repairs processed through the school. Families are responsible for a $60 annual fee per device, which provides insurance for accidental damage for the first accident during the entire length of enrollment. This excludes internal damage caused by power surges, intentional

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89 Tusch, E., As quoted by: Ibid.
90 Tusch, E., As quoted by: Ibid.
93 Ibid.
97 Hanover Research could not locate fees for students who qualify for free or reduced price lunch.
misuse, and lack of care (subsequent accidents are billed to the family). Covered accidents may include cracked LCD screens and housing, and damaged components.\(^98\) In the case of theft, PVRHSD has installed tracking software into each laptop. By cooperating with local authorities, the district is able to retrieve lost and stolen devices.\(^99\) The first loss or theft is covered through the annual insurance payment, but all claims must be made through the school. The district provides a loner laptop within 48-72 hours until the replacement is made.

As with the other districts profiled in this report, PVRHSD places great importance on providing its staff with ongoing professional development. In August 2004, a month before the program launched, 90 staff members received laptops and participated in a three-day training focused on how to effectively integrate technology and instruction.\(^100\) Over time, the district has continued its professional development offerings; however, development needs have changed and adapted as the program has matured.

Finally, when the program was first introduced in 2004, the district held annual informational meetings for parents to explain the program and how students would benefit. Today, however, that level of involvement is no longer needed, as most parents now prefer to receive their information from the district’s website.\(^101\)

**STUDENT AND DISTRICT OUTCOMES**

When the 1:1 Laptop eLearning Initiative was first being developed, “[a]dmirators could hardly have imagined the effect it would have on teaching and learning.”\(^102\) Even though PVRHSD made a conscious decision not to correlate standardized test scores with the one-to-one program, student scores on both the SAT and AP tests have improved. However, the district’s Director of Curriculum, Instruction, and Assessment does not directly link the program to improved scores:

> If you set your goals as things like student engagement, levels of inquiry, levels of understanding . . . and technology plays a building block in that process, you’ll set yourself up for a good program.

I don’t know if we can draw [a] direct correlation between the laptops and the increased scores. I think it has to do a lot with the fact that we’re just teaching

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better. Students are better prepared, and the district as a whole just embraces the idea of achievement.\textsuperscript{103}

Over the decade in which the program has been operating, the number of web-based resources has increased and teachers have offered a growing number of opportunities for students to “learn at their own pace [and] review skills in need of improvement outside of the classroom,” which has led to “greater student-to-student, and student-to-teacher collaboration.”\textsuperscript{104} Such changes have contributed in part to the following impacts on classroom instruction and student learning:\textsuperscript{105}

- Differentiated learning
- Project and problem based instruction
- Increased resources for students
- Better critical thinking skills
- Students take ownership of learning
- Teachable moments

Finally, in an interview with \textit{T.H.E. Journal}, PVRHSD’s Director of Curriculum, Instruction, and Assessment, Barry Bachenheimer shared the following advice for school district’s interested in implementing a one-to-one program of their own:

Just because the kids are typing away on a keyboard or the teachers are projecting a website doesn’t mean what they’re doing is effective or learning is taking place. If you set your goals as things like student engagement, levels of inquiry, levels of understanding—which research has shown lead back to student achievement—and technology plays a building block in that process, you’ll set yourself up for a good program.\textsuperscript{106}

\textbf{BLUFFTON-HARRISON METROPOLITAN SCHOOL DISTRICT, INDIANA}

\textbf{BACKGROUND}

In 2010, Bluffton-Harrison Metropolitan School District (BHMSD) began to develop its 1:1 \textit{Digital Learning Initiative}, which is now in its second year of implementation. The initiative was established to support the district’s mission to immerse all students “in a technology rich environment, which motivates, engages, and challenges [them] to learn 21\textsuperscript{st} century skills,” which are becoming “an integral part of virtually every aspect of daily life.”\textsuperscript{107} The impetus behind the district’s decision to enact a one-to-one initiative was to increase both student engagement and achievement. At the time, the district did not feel that it had the needed technology to support 21\textsuperscript{st} century learning, which was further compounded by the fact that many of its students did not have home access to technology.\textsuperscript{108}

\textsuperscript{108} Ibid.
The district formed a technology committee composed of administrators, teachers, and technology staff members from each school, grades K-12. The committee was tasked with researching best practices by speaking with other districts that had implemented similar programs. After learning from other districts and deciding to move forward with implementing the program, BHMSD chose to lease through Apple. The district felt that the iPad was the “most reliable and best option for education,” due to Apple’s technology innovation, available iBooks textbooks, and its experience implementing thousands of one-to-one programs across the U.S. Initially, the district purchased SMART Boards for every classroom. By 2011, it had updated its infrastructure to support the district-wide one-to-one initiative, and beginning in fall 2012, each student received their own 3G Apple iPad.

When the program first began, BHMSD did not mandate the use of technology in instruction, but rather encouraged teachers to make the switch. Some teachers immediately began to use the technology to write their own curriculum and “flip” their classrooms. To support teachers who were more hesitant about making the switch, BHMSD invested in comprehensive professional development, and will continue to do so throughout the program’s tenure. Currently, all teachers receive 30 minutes of professional development every Wednesday and are allotted up to four days to spend with their respective department to develop curriculum and troubleshoot technology problems.

**Program Structure**

BHMSD chose to lease the devices in large part because of the rate by which technology is advancing. Scott Ribich, the district’s Director of Technology, explains that:

> It hasn’t even been four years since the original iPad came out, so who knows what will be out there five years from now? We are on the second year of a four-year lease, so we will be using these iPads for at least two more years after this one.

Each of BHMSD’s 1,482 students, grades K-12, has received a third generation iPad. Students in grades K-4 leave their 16GB iPads in the classroom, while students in grades 5-12 are able to take their 32GB iPads home in the evening. Further, all teachers and administrators have been issued an iPad and a MacBook Pro. Before iPads were distributed, the student (or parent) was required to either purchase a discounted protective case from the district, or have a case pre-approved by the district. Without the case, students are not able to bring their devices home.

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109 Ibid.
111 Ribich, S., As cited by: Ibid.
112 Ribich, S., As quoted in: Ibid.
113 Ribich, S., As quoted in: Ibid.
The district is able to fund the lease by combining textbook and technology fees for students, in addition to applying capital projects funds. Fees for the iPad are included in the annual textbook/technology fee:

- In grades K-4, students will have a yearly textbook fee of $120. Students who qualify for financial aid will have this fee waived.
- In grades 5-12, students will have a yearly textbook fee of $165. Students who qualify for financial aid will have this fee waived.

The district must receive all fees by the end of September. However, the district offers a payment plan for families who qualify, and encourages all families to apply for financial aid (Figure 2.2).

### Figure 2.2: Bluffton-Harrison Metropolitan School District’s Textbook/Technology Payment Plan

<table>
<thead>
<tr>
<th></th>
<th>September 17</th>
<th>October 22</th>
<th>November 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment Amount (K-4)</td>
<td>$40</td>
<td>$40</td>
<td>$40</td>
</tr>
<tr>
<td>Payment Amount (5-12)</td>
<td>$55</td>
<td>$55</td>
<td>$55</td>
</tr>
</tbody>
</table>

Source: Bluffton-Harrison Metropolitan School District

Students continue to use their iPads for a period of four years, which correlates to the length of lease, or when they enter grade 5 and switch to the 32GB iPad. Similar to the other profiled districts, students are required to return the iPads over summer break to be upgraded with new apps, cleaned, and repaired, as needed.

Aside from a one year product warranty, insurance for the tablets is not provided. However, BHMSD offers an extended warranty to students, which covers normal maintenance and repairs. Students are responsible for all repair charges for damage caused by not following the BHMSD Responsible Use Policy (Figure 2.3). If an iPad has been lost or stolen outside of school, students are responsible for notifying the police and school principal, and must pay replacement costs, at its current value.

### Figure 2.3: Repair Costs for Accidental and Intentional Damage

<table>
<thead>
<tr>
<th></th>
<th>Broken Screen</th>
<th>Headphone Jack Replacement</th>
<th>Power Adaptor Lost/Damage</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidental</td>
<td>$50</td>
<td>$50</td>
<td>$30</td>
<td>Repair cost or $50, whichever is less</td>
</tr>
<tr>
<td>Intentional</td>
<td>$325</td>
<td>$200</td>
<td>$30</td>
<td>Repair Cost</td>
</tr>
</tbody>
</table>

*Any issue covered by the standard warranty of the iPad will result in no charge to the student.*

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117 Ibid.
Similar to Kershaw County School District, students in grades 5-12 may use the iPad for personal use, as long as the activities are legal and they comply with the BHMSD Responsible Use Policy. The district does not allow students to use their own personal iPad in school “due to the difficulty in distributing applications for more than 1,500 devices within the school district.”

The greatest challenge faced by BHMSD has been transitioning from 700 desktop computers to 1,650 iPads and 120 laptops. Despite hiring new IT professionals, the district has encountered technical challenges throughout the transition. In particular, transitioning:

- iPads from a consumer device to an institutional device, and having students manage their own iTunes accounts has been more difficult than we expected. We aren’t used to students having accounts we can’t control, and we have no control over iTunes accounts.

**STUDENT AND DISTRICT OUTCOMES**

Across the district, the positive impacts of the technology are visible: teachers who were not comfortable using a computer are now developing their own digital curriculum, students who were below average are now on the honor roll, and district-wide test scores have improved. Ribich recently remarked that “[w]e know that technology isn’t the reason for this, but we feel the increased student engagement has led to better scores.”

Today, BHMSD is a technology leader throughout the State of Indiana. Its middle school is the only SMART Showcase school in the state, while the district has hosted more than 40 other districts from across the state that are interested in its one-to-one program. Recently, the district was named an Apple Distinguished School District and was awarded the Imagining and Creating Grant from the Indiana Department of Education. Further, BHMSD’s Director of Technology was named the 2013 Technology Coordinator of the Year at the Hoosier Educational Computer Coordinators conference.

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119 Ibid.
120 Ibid., p. 5.
122 Ribich, S., As quoted in: Ibid.
123 Ribich, S., As cited by: Ibid.
QUAKERTOWN COMMUNITY SCHOOL DISTRICT, PENNSYLVANIA

BACKGROUND

Launched in 2009, Quakertown Community School District (QCSD) undertook an initiative “to ensure that learning doesn’t stop when the school bell rings.” The district of six elementary schools, two middle schools, and one comprehensive high school places high importance on providing its students with innovative learning programs, both to ensure that they are college- and career-ready, and to support its broader mission.

Today, one component of QCSD’s 21st Century Learning Initiative is its Cyber Learning program, which pairs students with a mobile learning device. Students and their parents have the option to BYOD, or to receive an HP ProBook Notebook with AMD accelerated processing. When the program initially began, the district opted for a less expensive notebook. However, that option failed to provide teachers and students with the quality and reliability they needed. Once the technology switch had been made, the district found that students’ perceptions of the program changed and they began to treat the new notebooks with greater respect.

PROGRAM STRUCTURE

Quakertown Community School District’s Cyber Learning program was designed to provide students with optimal versatility through blended learning. Students can choose between “traditional brick-and-mortar in-class learning and online courses to meet their specific schedule, style preference and social interaction needs.” To that end, the district offers regular classes, and utilizes a learning management system software package to offer cyber and hybrid classes. Through its program, students are able to mix and match between online and face-to-face classes, according to what each student needs.

Today, QCSD is in the fourth year of its Cyber Learning program. As with other districts, grade 9 students receive their laptops in the beginning of the school year and are expected to return them for the summer for regular maintenance and repairs. In the beginning of each school year, students receive the laptops they had been using the previous year, while incoming freshman receive new devices.

Unlike the districts profiled above, QCSD’s Cyber Learning program is a one-to-one/BYOD hybrid. Students in grades 9-12 have the option to use their own personal computer (laptop or netbook), or to borrow a computer from the district (Figure 2.4). After four years of paying the $35 annual usage fee, which is waived for families who receive free or reduced-

125 Murray, T., As cited by: Ibid.
126 Ibid.
price lunch, the student is able to keep the laptop. Meaning, “for $140 over four years, a child has a good starting device to bring to college.”

Figure 2.4: Quakertown Community School District’s 21st Century Learning Initiative Technology Options

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students may purchase a netbook or laptop computer independent of the school district for use during and after school hours. Students who select this option:</td>
<td>Students may borrow a district-owned netbook computer for use during and after school hours. Students who select this option:</td>
<td>Students receiving free or reduced lunch services may borrow a district-owned netbook computer for use during and after school hours. Students who qualify for this option:</td>
</tr>
<tr>
<td>▪ May use the device for personal use after school hours.</td>
<td>▪ Must pay a $35 insurance fee* each year to cover accidental damages that may occur in the possession of the student.</td>
<td>▪ Are exempt from paying the annual insurance fee.</td>
</tr>
<tr>
<td>▪ May install personally-owned software on the device.</td>
<td>▪ Any damages that occur to district-owned equipment due to the student’s negligence may result in financial accountability on the part of the student.**</td>
<td>▪ Any damages that occur to district-owned equipment due to the students negligence may result in financial accountability on the part of the student.**</td>
</tr>
<tr>
<td>▪ Assume responsibility for all technical support, repairs and general maintenance of the device.</td>
<td>▪ Lost or stolen equipment may result in prorated financial accountability.</td>
<td>▪ Lost or stolen equipment may result in prorated financial accountability.</td>
</tr>
<tr>
<td>▪ Must adhere to the QCSD Acceptable Use Policy</td>
<td>▪ Must return the device to the district prior to leaving for summer break for routine maintenance and software updates. Students may pick up the device after reimaging is complete.</td>
<td>▪ Must return the device to the district prior to leaving for summer break for routine maintenance and software updates. Students may pick up the device after reimaging is complete.</td>
</tr>
<tr>
<td>▪ May assume ownership of the device at the end of the student’s senior year with the following conditions:</td>
<td>▪ May assume ownership of the device at the end of the student’s senior year with the following condition:</td>
<td>▪ May assume ownership of the device at the end of the student’s senior year with the following condition:</td>
</tr>
<tr>
<td>▪ 1GB Memory (2GB recommended)</td>
<td>o Student has paid the annual insurance fee for a total of four years ($140), or</td>
<td>o Student has paid the annual insurance fee for a total of four years ($140).</td>
</tr>
<tr>
<td>▪ 1024 x 600 screen resolution</td>
<td>o Student has paid the equivalent value of four years of insurance fees ($140).</td>
<td>o Student has paid the equivalent value of four years of insurance fees ($140).</td>
</tr>
<tr>
<td>▪ 60GB hard drive</td>
<td>▪ May not install personally-owned software on the device.</td>
<td>▪ May not install personally-owned software on the device.</td>
</tr>
<tr>
<td>▪ Wireless network card</td>
<td>▪ May not use the device for personal use.</td>
<td>▪ May not use the device for personal use.</td>
</tr>
<tr>
<td>▪ USB port</td>
<td>▪ Must adhere to the QCSD Acceptable Use Policy.</td>
<td>▪ Must adhere to the QCSD Acceptable Use Policy.</td>
</tr>
</tbody>
</table>

Minimum System Requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ 1GB Memory (2GB recommended)</td>
<td>▪ 1GB Memory (2GB recommended)</td>
<td>▪ 1GB Memory (2GB recommended)</td>
<td>▪ 1GB Memory (2GB recommended)</td>
</tr>
<tr>
<td>▪ 1024 x 600 screen resolution</td>
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<tr>
<td>▪ Wireless network card</td>
<td>▪ Wireless network card</td>
<td>▪ Wireless network card</td>
<td>▪ Wireless network card</td>
</tr>
<tr>
<td>▪ USB port</td>
<td>▪ USB port</td>
<td>▪ USB port</td>
<td>▪ USB port</td>
</tr>
<tr>
<td>▪ Operating system:</td>
<td>▪ Operating system:</td>
<td>▪ Operating system:</td>
<td>▪ Operating system:</td>
</tr>
<tr>
<td>▪ o Windows XP/Vista/7</td>
<td>▪ o Windows XP/Vista/7</td>
<td>▪ o Windows XP/Vista/7</td>
<td>▪ o Windows XP/Vista/7</td>
</tr>
<tr>
<td>▪ o Mac OSX</td>
<td>▪ o Mac OSX</td>
<td>▪ o Mac OSX</td>
<td>▪ o Mac OSX</td>
</tr>
</tbody>
</table>

Source: Quakertown Community School District.

*Annual insurance fees are non-refundable.

**See Appendix A for a sample list of incidents that will be covered by the insurance fee.

STUDENT AND DISTRICT OUTCOMES

To ensure that students and teachers were comfortable using the technology, QCSD slowly introduced the program one grade level at a time. Ongoing professional development plays a key role in QCSD’s 21st Century Learning Initiative:

We can put a lot of resources in classrooms, and put tens of thousands of dollars of computer equipment in the hands of teachers, but if they don’t know how to use it well it ultimately is a waste of money. Our goal here in Quakertown is really ‘anytime, anywhere learning.’ Technology really allows for that differentiation for students.129

Through its commitment to professional development, “[s]tudent interest levels are now peaked, student engagement levels are absolutely peaked, and students have a say in their education, which is ultimately what we want.”130 In fact, student achievement, graduation rates, the number of students taking AP courses, and both ACT and SAT scores have all increased.131

Furthermore, QCSD’s program is nationally recognized. Its high school was one of three schools in the nation to have its online learning initiatives highlighted on Digital Learning Day 2013. Further, the district won the Innovative Program Award for iNACOL for cyber/blended learning and it is a Project Red Signature District.132

The biggest challenge QCSD has faced is “[t]he instructional and paradigm shift from top to bottom—something that not every teacher has mastered,” says Director of Technology and Cyber Education, Tom Murray. Helping teachers understand that one-to-one programs are not as simple as giving a child a device has been difficult for some teachers, which is why the district places such high importance on ongoing professional development.

Finally, QCSD’s Cyber Learning program has become self-sustaining over the few years it has been in operation. Currently, the district loses part of its budget for each student that leaves. Since the program’s inception, however, the district has brought back $200,000-$250,000 in revenues as students returned to the district, a comparable amount to the district’s one-to-one expenditures. Further, expenditures on textbooks and traditional materials have decreased and will continue to do so. Murray recently reported that “in three years we’ve increased the capacity of machines by 250 percent and our budget has decreased. [The] goal is five years of a flat budget while increasing opportunities and learning experiences for our students.”133

130 Murray, T., As quoted in: Ibid.
131 Ibid.
133 Murray, T., As quoted by: Ibid.
# Appendix A: Quakertown Community School District

## Appendix A: Incidents Covered and Not-Covered by QCSD Fees

<table>
<thead>
<tr>
<th>COVERED UNDER THE USAGE FEE</th>
<th>NOT-COVERED UNDER THE INSURANCE FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Hardware failures that may occur during normal use of the laptop, for example:</td>
<td>- Damage caused as a result of horseplay in the vicinity of the laptop</td>
</tr>
<tr>
<td>o Hard drive crash</td>
<td>- Damage caused by the spilling of liquid on the laptop</td>
</tr>
<tr>
<td>o Keys coming off keyboard</td>
<td>- Damage caused by closing the LCD monitor on an object (e.g., pen, pencil, calculator, paper clip, etc.)</td>
</tr>
<tr>
<td>o Power supply failures</td>
<td>- Damage caused by storing items in the carrying case other than an AC adapter and USB memory stick (e.g., pen, pencil, calculator, paper clip, etc.)</td>
</tr>
<tr>
<td>- Theft of the laptop even when adequate security measures have been taken</td>
<td>- Damage caused by excessive heat (laptop must be stored in a climate controlled environment)</td>
</tr>
<tr>
<td>o Theft claim must be supported by an official police report</td>
<td>- Theft of the laptop resulting from inadequate security precautions</td>
</tr>
<tr>
<td>o False claims are subject to insurance fraud charges</td>
<td>- Missing or lost laptop</td>
</tr>
</tbody>
</table>

Source: Quakertown Community School District

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