

Assignment One

Dwayne Davis, Meredith Moore and James Murduca

New Jersey City University

1. Mission and Vision

The mission of the Wake County Public School System (WCPSS) is to create an environment where students and teachers will feel supported with 21st Century tools, training, and leadership. WCPSS has the confidence that the integration of a technology module will strengthen and diversify the delivery of instruction in meeting curriculum requirements. The acquisition of the indispensable skills in technology promotes lifelong learning and abilities that are transferrable to college and career readiness. WCPSS is dedicated to delivering the technological practices and concepts that are necessary for meeting the challenges of a technologically progressive society.

The vision for the three schools is to create learning environments at school and home that are enriched with 21st century technology. These environments will promote collaboration and communication among administrators, teachers, students and parents enabling students to reach their maximum potential socially and academically. The implementation of this technology plan will enable all constituents to (WCPSS, Technology Plan, 2016):

- a) Augment pedagogy to meet the needs and learning modalities of the students.
- b) Engage in synchronous and asynchronous learning in multiple environments.
- c) Use 21st century problem solving skills.
- d) Encourage creativity and powerful ideas (Bers, 2015).
- e) Attain various means of expression in student learning and creativity.
- f) Attain international access to educators and learners around the globe.
- g) Continue to use state of the art software and technology as it emerges.
- h) Understand and remain cognizant of college and career readiness skills.

2. General Introduction/Background

Technology is an integral part of our everyday living experiences. The proliferation of the various types of technology serving the human race are found everywhere such as the workplace, shopping, travel and commuting, and many other essential facets that influence our daily lifestyle. The use of technology has become second nature to our young generation and their fearless use and

adaptation affects many forms of socialization, searching for information, and entertainment. With technology being embraced in our natural environment, transitioning this tool into the educational environment will serve as a mechanism to enhance and differentiate instruction of the curriculum. The teaching staff is highly qualified for this technology initiative having 46.9% of the staff earning advanced degrees in Masters and Doctorate programs (WCPSS, District Facts, 2016). Wake County Public School System is experiencing a substantial growth in population and will need to provide educational services to an additional 1,700 students (WCPSS, District Facts, 2016). This number correlates the construction of three new schools. The three new schools will be The James Murduca Early Elementary School K-6, Dwayne Davis Early Elementary School K-6, and Meredith Moore Middle School 7-8. The two elementary schools will serve 500 students in kindergarten through sixth grade while the middle school will serve 700 students in grade seven through eighth. Ethnicities among each school are similar in proportion. The breakdown of the ethnicity is less than 1% American Indian, 3% Asian, 28% African American, 15% Hispanic, 5% Other, and 49% White for the entire district. Less than 30% of our students receive free or reduced priced meals which translates to the majority of the funding coming from local sources and less from state sources. It is forecasted that WCPSS will served a relatively small number of students with disabilities that require accommodations which will require limited number of technology with assistive capabilities. The table (Table 1) below shows the demographic breakdown of each school (WCPSS, District Facts, 2016).

Table 1
Demographic Breakdown Chart

| Schools/Ethnicity | Elementary 1 | Elementary 2 | Middle 1 | WCPSS |
|-------------------|--------------|--------------|----------|-------|
| American Indian | 1 | 0 | 1 | 0.12% |
| Asian | 15 | 16 | 20 | 3% |

| | | | | |
|------------------|------------|------------|------------|-------------|
| African American | 143 | 140 | 195 | 28% |
| Hispanic | 74 | 76 | 105 | 15% |
| Other | 25 | 20 | 36 | 5% |
| White | 242 | 248 | 343 | 49% |
| Total | 500 | 500 | 700 | 100% |

The three schools will employ a staff count of 183. One hundred and thirteen employees will be teachers, and the remaining seventy employees will be a mix of administrative, support staff, and operations staff. According to the District Facts found on the Wake County Public School System site, 46.9% of all teachers hold advance degrees; additionally, 15% of all teachers hold a National Board Certification. Table 2 below summarizes the forecasted faculty for the additional three schools in WCPSS.

Table 2
WCPSS Staff Breakdown for the Three Additional Schools

| | |
|-----------------------------------|------------|
| Total Number of Employees | 183 |
| Total Number of Teachers | 113 |
| Teachers with Advanced Degrees | 62 (46.9%) |
| National Board Certified Teachers | 17 (15%) |

Note: Percentage are drawn from the Wake County School database

3. Needs Assessment/Goals

WCPSS Technology Use Evaluation and Remaining Needs

To effectively design this strategic technology plan, it is important to evaluate and understand the current state of WCPSS’s schools with the aim to achieve an academic environment of the 21st century. An evaluation of the current state will lay the foundation for the remaining needs WCPSS should account for and prioritize to reach each intend goal. Figure 1

evaluates nine key areas of focus and describes the needs and their priority within the scope of this strategic plan. All areas are critical components to reach the goals of this strategic plan.

Figure 2 and 3 lists the goals and objectives of the technology plan and their alignment to the needs assessment.

Figure 1
Needs Assessment

| Area | Evaluation | Remaining Needs | Priority |
|---|---|---|----------|
| Network Capacity (A-1) | Given that WCPSS will construct three new buildings, network capacity does not currently exist. | With focus on 21 st century learning, high use of digital devices, and a BYOD initiative, WCPSS has high needs for increased bandwidth. | High |
| Network Infrastructure (A-2) | Currently network infrastructure does not exist because three new buildings will be built to accommodate the three schools. | BYOD, 1:1 Chromebooks, and online testing will require WCPSS to ensure robust network wiring and ample Internet ready devices. | High |
| Network Safety (A-3) | With three new schools, network appliances and safety systems do not currently exist. | WCPSS will need implement effective network firewalls, proxies, and content filters to ensure network safety for all users. These items will prevent unknown applications and web content from penetrating the network as students and faculty access the Internet. | High |
| Network Maintenance and IT Asset Management (A-4) | WCPSS current educational and net plan aims to improve the use of technology in the class in all three schools. Currently, only plans exist with no implementation. | WCPSS will hire one instructional designer and one instructional technologist to maintain the network maintenance and hardware. | High |
| Disaster Recovery (A-5) | There is currently no disaster system in place at the time. WCPSS looks to utilize cloud technology to | The use of cloud technology to deliver content reduces the need for traditional onsite servers. | Medium |

| | | | |
|--------------------------------------|---|---|--------|
| | manage instruction and lesson delivery. | However, systems such as firewalls, caching servers, tablets, laptops, and other in-house devices will require backup devices and software. | |
| Technology to Support Students (A-6) | Similar to other schools in Wake County, students that will attend WCPSS are eager to learn more about computer applications. Given the affluent background of the students at WCPSS, access and exposure to technology are high. | WCPSS will need to provide a robust curriculum and modern devices to students to improve students understanding and use of technology both in and outside of the school environment. A 1:1 Chromebook setting with anytime-anywhere access is a high priority. | High |
| Technology to Support Faculty (A-7) | Teachers at WCPSS are all certified. More than 50% of the teachers hold advanced certification and degrees. | Implementation of cloud services can improve access to data, professional development content and increase educators' productivity. Additionally, building connection with nearby colleges and universities will allow future professional develop for teachers with the ability to turn-key new information to others teachers | Medium |
| Technology for Curriculum (A-8) | The curriculum will follow the Information and Technology Common Core. | When the 1:1 Chromebooks and BYOD initiative are implemented, the federal #GoOpen initiative will also be implemented. Open educational resources can increase equality and content will be relevant. | High |
| Assistive Technology (A-9) | Due the WCPSS's relatively small size there is a small population of students with disabilities that require assistive devices outside of standard | The number of students with disabilities may increase with higher student enrollment. Additional headphones and computers will be needed with | Low |

| | | | |
|--|--|---|--|
| | magnification and audio features available on the tablets and laptops. | Assistive Technology features to help these students succeed. | |
|--|--|---|--|

Figure 2
WCPSS Technology Goals Aligned to Needs Assessment

| Goals | Needs Assessment | Description of goal |
|-------|------------------|---|
| 1 | A-6, 7, 9 | Provide innovative, reliable, and scalable technology devices and systems that ensure attainment of educational objectives |
| 2 | A-1, 2, 3 | Ensure a robust, safe, and accessible network that supports operational and academic use of technology |
| 3 | A-8 | Develop an environment that encourage student-centered learning, where students take responsibility for independent and collaborative acquisition of information and learning complex concepts while developing skills to become lifelong learners. |
| 4 | A-7 | Provide training, workshops, classes, etc. throughout the school-year for faculty and staff to continue higher education opportunities through partnerships with the ten Wake County higher education universities. |
| 5 | A-2, 4, 5 | Provide ongoing support to all end-users and management of all devices, in the pursuit of maintaining a systematic and successful implementation of the technology, while ensuring reliability. (Frazier, 2012, p 57) |

Figure 3
WCPSS Objectives for All 3 Schools Aligned to Goals

| Objective | School | Description of objectives | Completion Date |
|-----------|---------------|--|-----------------|
| 1 | All 3 Schools | Design and complete networks in all three buildings | By Opening |
| 2 | All 3 Schools | Approve working network use and technology policies for staff and students by the WCPSS Board of Education | Year 1 |

| | | | |
|----|-------------------------|---|----------|
| 3 | Middle School | Implement bring your own device initiative at the middle school to enrich student learning. | Year 1 |
| 4 | All 3 Schools | Wireless connectivity will be available in all offices and classrooms | Year 1 |
| 5 | All 3 Schools | Provide all teachers with at least five hours of preservice technology professional development to ensure understanding and use of teacher and student devices. ie: teacher computers | Year 1 |
| 6 | All 3 Schools | Purchase and install one digital board in each elementary classroom and two televisions in each middle school classroom | Year 1-2 |
| 7 | Middle School | Implement the federal #GoOpen to provide high-quality learning materials to all middle school students | Year 2 |
| 8 | Both Elementary Schools | Provide 1:1 Chromebooks or iPads to all students, faculty and administrators to foster collaboration, real world 21 st century project based learning, and anytime anywhere access | Year 2-3 |
| 9 | Middle School | Provide emerging technologies to enhance students | Year 2-3 |
| 10 | All 3 Schools | Provide administrators and teachers with professional development training (Frazier, 2012, p 52) and the support needed to maintain a continuous and successful integration of technology in the schools. | Year 3 |

4. Inventory: WCPSS Technology Inventory and 3-Year Needs

Given that WCPSS will open with three new schools, technology inventory does not currently exist. Table 3 summaries the category of devices, services, and software WCPSS will require to operate and achieve its educational objectives over the next three years, as part of this strategic technology plan. The table summarizes the needs for each school and provides a total column for the district. The technology inventory is comprised of four major categories that

include, classroom devices and software, office devices and software, network devices, and eRate services and equipment. The forecasted inventory is calculated based on technology objectives, student enrollment, number of teachers, number of staff, and number of rooms. The WCPSS inventory plays an important role in funding and technology acquisition over the term of this strategic plan.

Table 3
WCPSS Inventory Plan

| Area | ES #1 | ES #1 | MS #3 | Total |
|------------------------------|-------|-------|-------|-------|
| # Classrooms | 31 | 31 | 35 | 98 |
| # Students | 500 | 500 | 700 | 1700 |
| # of Teachers | 34 | 34 | 45 | 113 |
| # of Support and Admin Staff | 20 | 20 | 30 | 70 |

| Class Devices & Software | ES #1 | ES #1 | MS #3 | Total |
|----------------------------|-------|-------|-------|-------|
| Desktops | 0 | 0 | 60 | 60 |
| Chromebooks Staff | 60 | 60 | 80 | 200 |
| Chromebooks Students | 969 | 969 | 805 | 2743 |
| Laptop Carts | 27 | 27 | 2 | 56 |
| Tablets | 30 | 30 | 0 | 60 |
| Interactive Boards | 31 | 31 | 0 | 63 |
| Television | 2 | 2 | 70 | 74 |
| Document Cameras | 31 | 31 | 35 | 98 |
| Antivirus Software | 1029 | 1029 | 885 | 2943 |
| Google Management Software | 1029 | 1029 | 885 | 2943 |
| Monitoring software | 1 | 1 | 1 | 3 |
| Assistive computer | 2 | 2 | 2 | 6 |
| 10 PD Hours Per/Person | 540 | 540 | 750 | 1830 |
| Sub Total | | | | |

| Office Devices & Software | ES #1 | ES #1 | MS #3 | Total |
|---------------------------|-------|-------|-------|-------|
| Copiers | 3 | 3 | 5 | 11 |

| | | | | |
|-----------------|-----|-----|-----|------|
| Printers | 4 | 4 | 6 | 14 |
| Video Cameras | 5 | 5 | 30 | 40 |
| 3D Printer | 1 | 1 | 2 | 4 |
| Canvas LMS | 0 | 0 | 700 | 700 |
| PowerSchool SIS | 500 | 500 | 500 | 1500 |

| Network Devices | ES #1 | ES #1 | MS #3 | Total |
|-----------------------|-------|-------|-------|-------|
| Firewall | 1 | 1 | 1 | 3 |
| Routers | 1 | 1 | 1 | 3 |
| Switches 48 ports | 5 | 5 | 5 | 15 |
| Access Points | 13 | 13 | 15 | 41 |
| Wireless Managers | 1 | 1 | 1 | 3 |
| Servers | 2 | 2 | 2 | 6 |
| Backup Device | 1 | 1 | 1 | 3 |
| Phone Systems Manager | 1 | 1 | 1 | 3 |
| Phones | 44 | 44 | 49 | 137 |

| ERate Services & Equipment | ES #1 | ES #1 | MS #3 | Total |
|----------------------------|-------|-------|-------|-------|
| Wiring (Cat 6e Cables) | 234 | 234 | 263 | 731 |
| Fiber Line | 1 | 1 | 1 | 3 |
| Phone Service (VOIP) | 1 | 1 | 1 | 3 |
| Internet Service (100MBPS) | 1 | 1 | 1 | 3 |
| Basic Maintenance | 1 | 1 | 1 | 3 |

Note: Figures we derived from assumed enrollment, class size, needs and average market prices.

5. Technology Acquisition Plan

Technology acquisition is a critical component to successful executing WCPSS’s strategic technology plan. Given that the three schools will be new opened during the first year of this plan with new implementations, systems, and networking, a tiered approach to technology acquisition will be used to prioritize projects and manage the technology budget. The Table 4 timeline for technology acquisition is detailed for all four major technology areas and item lines.

Over the course of this three-year plan, various items will be procured, installed, implemented, and/or carried out in whole or part. The acquisition and implementation of each item lines are notated by a percentage for each year. The major priorities for year one will be networking devices, eRate services and equipment, staff machine, and student's machine. These items are listed at 100% for year one because they are critical to a functioning school at the start of the school-year. All other technologies are acquired in part over the course of the three-years to ensure feasible acquisition and meet educational needs. For example, student Chromebooks will be gradual purchase with a gradual integration over three-year for all three schools.

Table 4
Technology Acquisition

| Class Devices & Software | Total | % Acquired Year 1 | % Acquired Year 2 | % Acquired Year 3 | Estimate 3-Year \$\$ |
|-------------------------------------|--------------|--------------------------|--------------------------|--------------------------|-----------------------------|
| Desktops | 60 | 50.00% | 50.00% | 0.00% | \$30,000.00 |
| Chromebooks Staff | 200 | 100.00% | 0.00% | 0.00% | \$35,000.00 |
| Chromebooks Students | 2743 | 50.00% | 25.00% | 25.00% | \$411,375.00 |
| Laptop Carts | 56 | 50.00% | 25.00% | 25.00% | \$44,655.56 |
| Tablets | 60 | 0.00% | 100.00% | 0.00% | \$11,940.00 |
| Interactive Boards | 63 | 33.33% | 33.33% | 33.34% | \$93,750.00 |
| Television | 74 | 25.00% | 75.00% | 0.00% | \$29,600.00 |
| Document Cameras | 98 | 100.00% | 0.00% | 0.00% | \$9,750.00 |
| Antivirus Software | 2943 | 75.00% | 25.00% | 0.00% | \$14,712.50 |
| Google Mgmt Software | 2943 | 75.00% | 25.00% | 0.00% | \$14,712.50 |
| Monitoring software | 3 | 100.00% | 0.00% | 0.00% | \$600.00 |
| Assistive computer | 6 | 0.00% | 50.00% | 50.00% | \$6,000.00 |
| Prof Development 10hrs Per | 1830 | 50.00% | 25.00% | 25.00% | \$91,500.00 |
| Sub Total | | | | | \$793,595.56 |

| Office Devices & | Total | % | % | % | Estimate |
|-----------------------------|--------------|----------|----------|----------|-----------------|
|-----------------------------|--------------|----------|----------|----------|-----------------|

| Software | | Acquired Year 1 | Acquired Year 2 | Acquired Year 3 | 3-Year \$\$ |
|------------------|------|-----------------|-----------------|-----------------|---------------------|
| Copiers | 11 | 50.00% | 50.00% | 0.00% | \$85,800.00 |
| Printers | 14 | 75.00% | 25.00% | 0.00% | \$5,600.00 |
| Video Cameras | 40 | 0.00% | 25.00% | 75.00% | \$12,000.00 |
| 3D Printer | 4 | 0.00% | 50.00% | 50.00% | \$6,000.00 |
| Canvas LMS | 700 | 50.00% | 50.00% | 0.00% | \$6,300.00 |
| PowerSchool SIS | 1500 | 50.00% | 50.00% | 0.00% | \$4,500.00 |
| Sub Total | | | | | \$120,200.00 |

| Network Devices | Total | % Acquired Year 1 | % Acquired Year 2 | % Acquired Year 3 | Estimate 3-Year \$\$ |
|-----------------------|-------|-------------------|-------------------|-------------------|----------------------|
| Firewall | 3 | 100.00% | 0.00% | 0.00% | \$6,000.00 |
| Routers | 3 | 100.00% | 0.00% | 0.00% | \$3,000.00 |
| Switches 48 ports | 15 | 100.00% | 0.00% | 0.00% | \$18,281.25 |
| Access Points | 41 | 100.00% | 0.00% | 0.00% | \$20,312.50 |
| Wireless Managers | 3 | 100.00% | 0.00% | 0.00% | \$6,000.00 |
| Servers | 6 | 100.00% | 0.00% | 0.00% | \$18,000.00 |
| Backup Device | 3 | 100.00% | 0.00% | 0.00% | \$3,000.00 |
| Phone Systems Manager | 3 | 100.00% | 0.00% | 0.00% | \$9,000.00 |
| Phones | 136.5 | 100.00% | 0.00% | 0.00% | \$16,380.00 |
| Sub Total | | | | | \$99,973.75 |

| ERate Services & Equipment | Total | % Acquired Year 1 | % Acquired Year 2 | % Acquired Year 3 | Estimate 3-Year \$\$ |
|----------------------------|-------|-------------------|-------------------|-------------------|----------------------|
| Wiring (Cat 6e Cables) | 731 | 100.00% | 0.00% | 0.00% | \$182,812.50 |
| Fiber Line | 3 | 100.00% | 0.00% | 0.00% | \$0.00 |
| Phone Service (VOIP) | 3 | 33.33% | 33.33% | 33.33% | \$14,400.00 |
| Internet Service (100MBPS) | 3 | 33.33% | 33.33% | 33.33% | \$650.00 |
| Basic Maintenance | 3 | 33.33% | 33.33% | 33.33% | \$45,000.00 |
| E-Rate Consultant | 1 | 33.33% | 33.33% | 33.33% | \$9,000.00 |
| Sub Total | | | | | \$251,862.50 |

| | | | | | |
|----------------------------|--|--|--|--|-----------------------|
| Total 3-Year Budget | | | | | \$1,265,631.81 |
|----------------------------|--|--|--|--|-----------------------|

6. Funding Plan

To fully execute WCPSS’s strategic technology plan, an estimated totally budget of \$1,265,631.81 will be needed. It is anticipated that this plan will be funded through revenue received from Federal, State, Local, and Grants sources. Given WCPSS’s low proportion of economically disadvantaged students, as noted by the district’s low percentage of students that received free or reduced priced, lunch, local funding from taxpayers will serve as a dominant revenue source. As shown in Figure 4 and Table 5 below, WCPSS is forecasted to spend \$760,165.00 in year one, \$303,342.43 in year two, and \$203,155.56 in year three.

Figure 4
WCPSS 3-Year Spending Plan

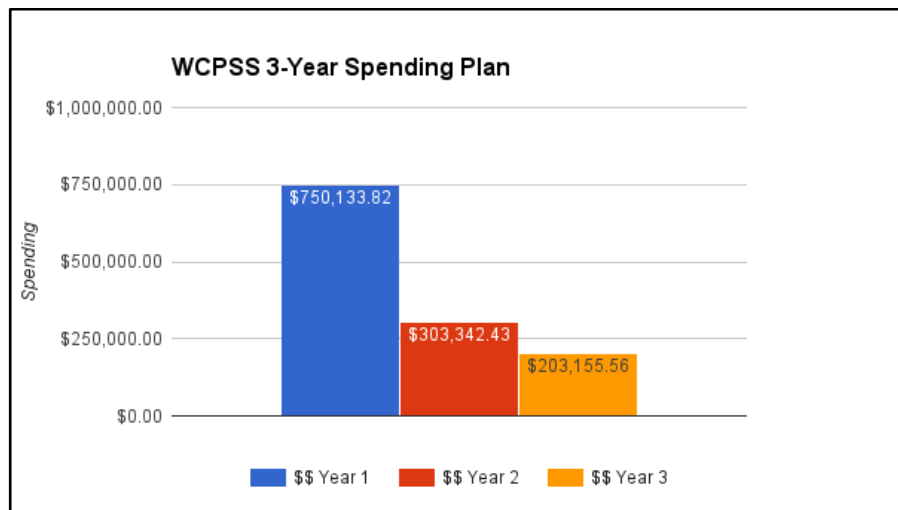


Table 5
WCPSS Anticipated Funding Table 2017-2019

| Total Funding Plan | Year 1 | Year 2 | Year 3 | 3-Year Total |
|---------------------------|---------------|---------------|---------------|---------------------|
| Federal Funding | \$37,506.69 | \$15,167.12 | \$10,157.78 | \$62,831.59 |
| State Funding | \$112,520.07 | \$45,501.36 | \$30,473.33 | \$188,494.77 |
| Local Funding | \$525,093.67 | \$212,339.70 | \$142,208.89 | \$879,642.26 |

| | | | | |
|---------------------|---------------------|---------------------|---------------------|-----------------------|
| Grants Funding | \$75,013.38 | \$30,334.24 | \$20,315.56 | \$125,663.18 |
| Yearly Total | \$750,133.82 | \$303,342.43 | \$203,155.56 | \$1,256,631.81 |

Note: see Appendix I for a breakdown of each year

7. Access

The purpose of providing this communication technology is to support the district’s commitment for access to global information for all staff and students. The Board of Trustees of WCPSS (Board) cannot guarantee the accuracy or appropriateness of materials accessed on the Internet. To protect the district from liability, the Board is not responsible for personal or financial damages suffered through the unauthorized attainment of unregulated information from the Internet.

WCPSS will provide both students and staff with devices to ensure instruction and education. The technology provided by WCPSS is property of the school system. Therefore, WCPSS reserves the right to monitor all activities and devices used within the network. All adult users are responsible for their own accounts and must take all precautions to protect them. All students are required to maintain safe guard of devices and user accounts are described in student network user policies and conduct agreement. To deny a child’s access, the parent/guardian must notify the principal in writing.

Students in grades 7-8 will be granted access to individual e-mail accounts and Internet access to WCPSS’s network and digital resources. WCPSS reserves the right to limit access to various network resources based on user roles. A network user agreement for both students and staff will be developed and is required to be signed by students, guardians, and staff. At the request of teachers, students in grades 4-6 may have their own filtered and restricted-use e-mail account with the consent of parent/guardians.

District policies and procedures are in place to ensure staff and students have equitable and effective access to telecommunication and technologies through:

- the equitable distribution of resources
- supporting WCPSS students for achievement in college and career readiness
- providing access for best practices
- accommodating students with special needs with assistive technology
- providing access from external resources including libraries, home schooling, remote teacher sites, and other services.

Acceptable Use Policy (AUP)

The acceptable use policy (AUP) is the overall governing system for all staff and students including teacher and student misuse. Students and staff need to be aware of the prohibited activities and language and students practice involving personal contact information and meeting individual online. Student misuse is governed by the regulations of policy 5131 Conduct/Discipline. Employee misuse may result in appropriate discipline in accord with the collective bargaining agreement and applicable laws and regulations.

8. User Support Plan

The instructional designer and the instructional technologist will be shared between the two elementary schools and the middle school. Both positions will be housed at the middle school. A help desk will be established in the library at each school. The instructional designer and instructional technologist will provide support to administration, teachers, staff, and students. The designer will handle resetting passwords, developing content, creating assessments, how-to-use Canvas, etc.. The technologist will handle Canvas administration,

emerging technology, multimedia, etc.. The help desk will be opened from Monday through Friday, 8:00 am to 4:00 pm. Administration, teachers, staff and students can access the help desk through the Help Desk phone number, email address or the assigned Help Desk hours at each school. If a hardware ticket is submitted, the instructional designer or instructional technologist will forward the ticket to the information technology department to be handled.

9. Staff Training Plan

The technology professional development plan depicted in Figure 5 is for the two elementary schools and the middle school. Figure 6 summarizes the internal resources WCPSS offers teachers, administration and staff. Figure 7 depicts the external resources available to teachers, administration and staff in Wake County. The goal is to ensure that 183 staff member obtain at least ten hours of technology training each year at an estimate per staff rate of \$10.00 an hour.

Figure 5
Professional Development Plan

| Objective | School | Year One | Year Two | Year Three | Evaluation Method |
|---|---------------|--|----------|------------|--|
| Three (BYOD) | Middle School | Canvas will be used to provide PD via technology being used. | | | Student and Teacher Surveys, and Observations of Class Interactions |
| Five (Preservice Technology Professional Development) | All 3 Schools | Face-to-face training will be provided a week before school begins. Teachers will be given a | | | Teachers will be given a post-test of skills. Additional trainings will be held if post-test |

| | | | | | |
|--|--------------------|--|--|--|--|
| | | pretest of skills. | | | skills are not sufficient. |
| Seven (#GoOpen) | Middle School | OER trainings will be provided via Canvas and face-to-face. | OER trainings will be provided via Canvas and face-to-face. | | Survey students and teachers, observations of classroom interactions and individual interviews |
| Eight (1:1) | Elementary Schools | PD workshops will be provided via Canvas and face-to-face. | PD workshops will be provided via Canvas and face-to-face. | PD workshops will be provided via Canvas and face-to-face. | Survey students, parents, and teachers and evaluate final exams before and after 1:1. |
| Nine (Emerging Technology) | Middle School | PD workshops will be provided via Canvas and face-to-face. | PD workshops will be provided via Canvas and face-to-face. | PD workshops will be provided via Canvas and face-to-face. | Evaluate technologies, and learner engagement through focus groups |
| Ten (Continuous Professional Development Training) | All 3 Schools | Canvas will be used to provide PD via technology being used. | Canvas will be used to provide PD via technology being used. | Canvas will be used to provide PD via technology being used. | Survey Teachers, classroom observations and evaluate lesson plans |

Figure 6

Below are internal training opportunities/informational videos:

| Wake County Public School System | |
|---|--|
| District Wide Professional Development Days | CEU Workshops |
| Monthly Meetings at each School | Individual Instruction by Instructional Designer or Instructional Technologist |

| | |
|-----------------|--|
| Online Webinars | Teacher Resource Canvas Class which houses How-to Videos, etc. |
|-----------------|--|

Figure 7

Below are external training/learning opportunities:

| North Carolina Department of Public Instruction | |
|---|--|
| Online Professional Development Modules | Statewide System of Support Wikispaces |
| System Conference | NCEES Wiki |
| Professional Development Workshops | |

| Higher Education Institutions | |
|---|------------------------------------|
| Wake Technical Community College | Duke University |
| North Carolina State University | Durham Technical Community College |
| North Carolina Central University | Shaw University |
| Meredith College | William Peace University |
| University of North Carolina at Chapel Hill | Saint Augustine’s University |

10. Program Evaluation

As part of the annual needs assessment and planning process, Wake County Public School System will conduct an annual evaluation of the schools’ technology plan. This evaluation will consist of:

1. A detailed inventory of equipment, services, and capabilities actually implemented at the school;
2. A comparison between actual implementation and the preceding Objectives and Strategies;
3. A detailed review of student achievement results and teacher performance evaluations;
4. A detailed review of family surveys, student surveys, and staff surveys related to technology;

5. A detailed review of constituent feedback from other forums including quarterly Parent Teacher Organizations (PTO) from each school, community partnerships, etc..
6. A review of surveys conducted on other similar schools and their technology programs; and
7. A detailed review of projected expenses versus actual expenses

The team responsible for conducting this annual evaluation, gathering the data, and generating a report will consist of the: Chief Information Technology Officer, Technology Coordinator, Instructional Designer, Instructional Technologist, Media Specialist, select teachers, and any relevant external consultants. Based on this evaluation, the Technology Team will adjust its Technology Plan accordingly. If an issue occurs mid-course, the Technology Team will develop a strategy to correct any unforeseen occurrences that might arise. The Technology Team will assure that the schools' objectives are achieved.

11. E-rate Program Planning Criteria (E-rate Plan Addendum)

To carry out this strategic technology plan, federal program such as The Universal Service Schools and Libraries Program will be important revenue sources used. The Universal Service Schools and Libraries Program is commonly known as the E-rate Program. E-rate helps schools and libraries obtain high-speed Internet access and telecommunications by providing funding. (USAC.org, 2016) To maximize funding through the E-rate program, an outside consultant will be used to ensure that WCPSS technology and financial staff take the necessary steps, complete the correct forms, and meet mandated deadlines to receive maximum funding. WCPSS will apply for fund each of three years. The items that will funded through the E-rate program will be procurement of high speed fiber optics, voice of IP phone service, and basic maintenance of networking appliances. According to the Universal Service Administrative Company (USAC) website, these service are categorized as priority one or two services and are

eligible for funding. (USAC.org, 2016). This plan forecast 25% (\$62,965.63) to 35% (\$88,151.88) or the E-rate services and equipment budget will be funded through the E-rate program.

References

- Bers, M. U. (2008). *Blocks to Robots: Learning with Technology in the Early Childhood Classroom*. New York, NY: Teachers College Press.
- Boston University School of Public Health. (n. d.). *Using technology to Support your Educational Goals*. Retrieved from <https://www.bu.edu/sph/faculty-staff/teaching-and-advising/effective-teaching-strategies/using-technology-to-support-your-educational-goals/>
- Frazier, M. (2012). *The Technology Coordinator's Handbook* (2nd ed.). Washington, D.C.: International Society for Technology in Education (ISTE).
- Universal Service Administrative Company (USAC). (2016). Retrieved from <http://www.usac.org/sl/about/getting-started/default.aspx>
- Wake County Public School System (WCPSS). (2016). District Facts. *Wake County Public School System*. Retrieved from <http://www.wcpss.net/domain/100>
- Wake County Public School System (WCPSS). (2016). Technology Plan. *Wake County Public School System*. Retrieved from <http://www.wcpss.net/cms/lib/NC01911451/Centricity/Domain/3791/Technology%20Plan.pdf>
- [f](#)

Appendix A

Table Appendix I: 3-Year Budget

| | | | | |
|---------------------------------------|---------------------|---------------------|---------------------|-----------------------|
| Class Devices & Software | Year 1 | Year 2 | Year 3 | 3-Year Total |
| Federal Funding | \$19,741.55 | \$11,381.29 | \$8,556.94 | \$39,679.78 |
| State Funding | \$59,224.64 | \$34,143.86 | \$25,670.83 | \$119,039.33 |
| Local Funding | \$276,381.63 | \$159,338.03 | \$119,797.22 | \$555,516.89 |
| Grants Funding | \$39,483.09 | \$22,762.58 | \$17,113.89 | \$79,359.56 |
| Yearly Total | \$394,830.90 | \$227,625.76 | \$171,138.89 | \$793,595.56 |
| | | | | |
| Office Devices & Software | Year 1 | Year 2 | Year 3 | 3-Year Total |
| Federal Funding | \$2,625.00 | \$2,785.00 | \$600.00 | \$6,010.00 |
| State Funding | \$7,875.00 | \$8,355.00 | \$1,800.00 | \$18,030.00 |
| Local Funding | \$36,750.00 | \$38,990.00 | \$8,400.00 | \$84,140.00 |
| Grants Funding | \$5,250.00 | \$5,570.00 | \$1,200.00 | \$12,020.00 |
| Yearly Total | \$52,500.00 | \$55,700.00 | \$12,000.00 | \$120,200.00 |
| | | | | |
| Network Devices | Year 1 | Year 2 | Year 3 | 3-Year Total |
| Federal Funding | \$4,998.69 | \$0.00 | \$0.00 | \$4,998.69 |
| State Funding | \$14,996.06 | \$0.00 | \$0.00 | \$14,996.06 |
| Local Funding | \$69,981.63 | \$0.00 | \$0.00 | \$69,981.63 |
| Grants Funding | \$9,997.38 | \$0.00 | \$0.00 | \$9,997.38 |
| Yearly Total | \$99,973.75 | \$0.00 | \$0.00 | \$99,973.75 |
| | | | | |
| ERate Services & Equipment | Year 1 | Year 2 | Year 3 | 3-Year Total |
| Federal Funding | \$10,141.46 | \$1,000.83 | \$1,000.83 | \$12,143.12 |
| State Funding | \$30,424.37 | \$3,002.50 | \$3,002.50 | \$36,429.37 |
| Local Funding | \$141,980.42 | \$14,011.67 | \$14,011.67 | \$170,003.75 |
| Grants Funding | \$20,282.92 | \$2,001.67 | \$2,001.67 | \$24,286.25 |
| Yearly Total | \$202,829.17 | \$20,016.67 | \$20,016.67 | \$242,862.50 |
| | | | | |
| Total Funding Plan | Year 1 | Year 2 | Year 3 | 3-Year Total |
| Federal Funding | \$37,506.69 | \$15,167.12 | \$10,157.78 | \$62,831.59 |
| State Funding | \$112,520.07 | \$45,501.36 | \$30,473.33 | \$188,494.77 |
| Local Funding | \$525,093.67 | \$212,339.70 | \$142,208.89 | \$879,642.26 |
| Grants Funding | \$75,013.38 | \$30,334.24 | \$20,315.56 | \$125,663.18 |
| Yearly Total | \$750,133.82 | \$303,342.43 | \$203,155.56 | \$1,256,631.81 |

