

# **Denville Township Board Education**

## **DISTRICT TECHNOLOGY PLAN**

### **1. MISSION**

Technology planning has become crucial to 21<sup>st</sup> Century learning. Planning for technology in the Denville Township School District is focused on the end users. It is designed to not only meet, but to exceed recommendations by the United States Department of Education Technology Plan. The plan meets the Common Core State Standards initiative with the goal of preparing Denville's students for the global economy of this century. Technology can enable students to become ready for their college life and professional careers.

#### 1.1 District Mission:

“The Denville School District’s mission is to engage, challenge, and empower life-long learners in an atmosphere of mutual respect and trust, where all students have the opportunity to become productive, knowledgeable, and responsible citizens in a global society. They will achieve these goals in accordance with the New Jersey Core Curriculum Content Standards” (“Denville Township Schools,” 2014).

1.2 The Technology Mission of the district will now include the three new schools. Each school should have the same user experience. The Mission is as follows:

The demands of a three-year plan are challenged with the notion that technology changes rapidly. Rather than list items to purchase and integrate, this document exists as a roadmap for the future; the three new schools must have equal technological resources as the current building. Staff professional development and training, student achievement, maintaining and upgrading technology, and budget outlays are each described in the following sections. When cutting edge products become available to the educational sector, this plan will be a resource to guide any thoughtful consideration of its implementation. The objective is to support student-centered learning with initiatives that includes technology-supported, project-based learning (PBL) in all grade levels.

### **2. GENERAL INTRODUCTION/BACKGROUND**

2.1 District Profile, as of the 2010 United States Census Bureau Report:

Denville Township is located in northwest Morris County, in suburban New Jersey. It celebrated its 100<sup>th</sup> anniversary in 2013. The town had approximately 16,000 residents prior to the addition of new housing developments in 2014. Approximately 89% of the town is white; the remaining 11% is Asian, Hispanic, and/or African America (“American FactFinder,” 2010). The median income is \$75,000 annually (“American FactFinder,” 2010). The town currently has two elementary schools—Lakeview and

Riverview—and one middle school, Valleyview. Morris Knolls Regional High School is the regional district, shared with neighboring Rockaway Township.

The population increase in 2014 led to the creation of three new educational institutions: two additional elementary schools, named Rockview and Skyview, and a second middle school, to be called Valleyview North. The preexisting Valleyview Middle School will be renamed Valleyview South.

## 2.2 Planning Process

The technology plan includes, but is not be limited to:

- Basing maintenance and purchases on the need to enable student achievement and promote teacher and staff effectiveness
- Continuation work with the community's Foundation of Denville, in which fundraisers are conducted and classroom grants are competitively awarded.
- Integration of education technology across the curriculum, including assistive technologies

## 3. NEEDS ASSESSMENT/GOALS

The district uses data-driven decision making to determine needs. Because there are already two existing elementary schools and a middle school, it was decided that the needs from those schools would serve as a baseline to estimate the requirements for the new schools. Student and teacher were also surveyed electronically (SurveyMonkey) to assess what is currently being used and what is not. For example, purchased Web cameras may not need to be purchased because iPads have built-in cameras.

The feedback questions will be written by a committee of stakeholders, including teachers, administrators, and parents. The needs assessment survey will focus on technology needs to support:

1. The project-based learning initiatives
2. 21<sup>st</sup> Century Technology Standards
3. Common Core State Standards
4. The need to be prepared to administer the PARCC (Partnership for Assessment of Readiness for College and Careers) test online
5. Needs for assistive technology and special education, which included built-in FM systems, mobile device management, and other adaptive systems were considered
6. Universal Design for Learning (UDL) Guidelines will direct the survey questions

## 4. FUNDING PLANS

The district will seek funds from federal, state, and local sources. Wireless integration will be used to support Chromebooks, iPads, and Apple TV. Therefore E-rate funds will be utilized to add Internet to the new buildings. Federal funds will also be utilized for the NFC-enabled badge electronic security system. The goal is to track each visitor to the schools, as well as to timestamp teachers' workdays. The newly assessed homes—which contributed to the need to build three new schools—will be a major source of local funds.

As pursuant with state laws, local monies will be evenly distributed amongst all district schools.

Alternative funding will continue, including with the Foundation of Denville and the PTA Mini-Grant Program. Grants are competitively awarded and not promised to the district. Therefore, these additional funds should be applied to newer technologies that develop after this plan is implemented (e.g., grants for iPads would be needed if mobile devices were not planned in the 2009 plan; iPads did not exist until 2010). The Technology Committee will meet with Foundation of Denville to explore future grant opportunities. Local businesses that support technology will also be invited to meetings.

The goal is to triple the existing equipment, based on existing schools, as well as add technology for the new STEM labs. Once implemented, items could move within the district to alleviate any unplanned deficiency. For example, the middle school may need more Chromebooks than the elementary school. The funding plan includes, but is not be limited to, items in the Three-Year Educational Technology Plan Anticipated Funding Table below. The district's business administrator will be consulted to itemize funding sources.

| <b>Item</b>   | <b>Description of Item to be Purchased</b>   | <b>Federal Funding</b> | <b>State Funding</b> | <b>Local Funding</b> | <b>Misc. (e.g. Donations, Foundation of Denville Grants)</b> |
|---------------|--|------------------------|----------------------|----------------------|--|
| Curriculum    | <ul style="list-style-type: none"> <li>• E-books</li> <li>• Software subscription services</li> <li>• iPad applications</li> </ul> | %                      | %                    | %                    |  |
| Printed media | <ul style="list-style-type: none"> <li>• Board and district newsletters</li> </ul>   | %                      | %                    | %                    |  |
| Equipment     | <ul style="list-style-type: none"> <li>• Assistive technologies</li> <li>• iPads/Kindles</li> <li>• FM Systems</li> </ul>          | %                      | %                    | %                    |  |
| Network       | <ul style="list-style-type: none"> <li>• Networked printers and copiers</li> <li>• Wireless routers</li> </ul>                     | %                      | %                    | %                    |  |
| Internet      | <ul style="list-style-type: none"> <li>• High-speed Internet access</li> </ul>   | %                      | %                    | %                    |  |

|                  |   |   |   |   |  |
|------------------|---|---|---|---|--|
| Filtering        | <ul style="list-style-type: none"> <li>• CIPA-compliant equipment</li> </ul>  | % | % | % |  |
| Software         | <ul style="list-style-type: none"> <li>• Computer and iPad apps</li> </ul>  | % | % | % |  |
| Maintenance      | <ul style="list-style-type: none"> <li>• Warranties, maintenance plans (e.g., Apple Care), printer and copier ink/toners</li> <li>• 3D printer spools</li> <li>• SchoolDude cloud-based ticketing subscription</li> </ul> | % | % | % |  |
| Upgrades         | <ul style="list-style-type: none"> <li>• Updates to operating systems (Windows, Apple OS X, iPad iOS), pushed through the centralized management system</li> </ul>  | % | % | % |  |
| Policy and Plans | <ul style="list-style-type: none"> <li>• Professional development plans, as pursuant to ScIP</li> </ul>   | % | % | % |  |
| Other services   | <ul style="list-style-type: none"> <li>• Chromebook laptops</li> <li>• Wall/Ceiling mounted projectors</li> <li>• Apple TV</li> <li>• Installation of new wireless routers in three new schools</li> </ul>                | % | % | % |  |

## 5. TECHNOLOGY ACQUISITION PLAN

Mirroring the needs of the district's existing schools, the district will purchase the following:

| <b>Technology Acquired</b>  | <b>Instructional Goals</b>   |
|---|--|
| Internet-connected Chromebooks <ul style="list-style-type: none"> <li>• 200 new per elementary school</li> <li>• 300 for the new middle school</li> </ul>   | Support online testing (PARCC), blended and digital learning, and PBL initiative   |
| Seven new iPad carts, each housing 30 iPads. They will be distributed as follows: <ul style="list-style-type: none"> <li>• Two carts will be in each elementary school</li> <li>• Three will be in the middle school</li> </ul> | Create and maintain a simple, cloud-based, file sharing system. This will enable students to create PBLs that meet CCSS and ISTE standards   |
| Student Google accounts, with the email functionality disabled. Only the Calendar and Document features will be enabled.  | <ul style="list-style-type: none"> <li>• Meet CIPA laws, while securing student work in a network.</li> <li>• Because most of the students are under the age of 13, the district will monitor the accounts</li> <li>• The district will assign the accounts</li> </ul> |

Including the three new schools, as well as the preexisting schools, the Committee recommends the following Three-Year Implementation and Strategies Table:

| <b>District Goal and Objective</b>   | <b>Timeline</b> | <b>Person(s) Responsible</b>                     | <b>Documentation</b>  |
|--|-----------------|--|---|
| Prepare to deploy PARCC examinations   | Ongoing         | Tech Dept., Administration, Teachers             | Teacher SGPs (where applicable), <a href="http://www.parcconline.org/implementation">www.parcconline.org/implementation</a> |
| Deploy adaptive testing as pursuin to teacher SGOs (e.g., Renaissance Learning: Star Reading and Math)   | Ongoing         | Tech Dept., Administration, Teachers             | Student Assessment Scores, Teacher SGOs, and Use  |
| Upgrade Safety Technology (e.g., Lobby Guard)  | 2014-2017       | Administration, Tech Dept.                       | Lobby Guard digital records (timesheet, visitors to buildings)  |
| Educational technology to support project-based learning (PBL) curriculum (e.g., students use iMovie on iPads to author and publish digital stories) | 2014-2017       | Director of Curriculum, Administration, Teachers | Curriculum plans, teacher lesson plans  |

|   |           |                                      |                                    |
|---|-----------|--------------------------------------|------------------------------------|
| Support of mobile devices   | Ongoing   | Tech Dept.,<br>Teachers,<br>Students | SchoolDude records                 |
| Upgrade Internet Bandwidth  | 2014-2015 | Tech Dept.                           | Lightspeed Internet Speed Test     |
| Create and maintain STEM labs in each school—including the purchase and maintenance of 3D printers and spools, AutoCAD software | 2014-2015 | Tech Dept,<br>STEM teachers          | Budget                             |
| Yearly, convene meeting of Technology Committee to discuss CIPA filtering system  | 2014-2017 | Tech Committee                       | Minutes of Internet safety meeting |

## 6. ACCESS

The goal is to have seamless integration of technology. To attain that objective, simplicity of access should be used in present and future decision-making. For example, general education and self-contained teachers should have access to assistive technologies, like FM systems. All teachers need access to the cloud-based tools, like the IEP tracking system, Google Apps, OnCourse lesson planning, and the Genesis Student Information System, and other Internet-based applications. The students also need access to devices so that learning goals can be effectively met. Steps have been taken to create an agnostic platform and device system. By using logins, staff and students should be able to access the network and retrieve information stored in cloud-based drives. As a result, the plan requires the following interventions:

- The network has a single login per user. The goal is to create a unified experience for every device in every building.
- Students and teachers have different access. For example, teachers can install applications on laptops, while students cannot.
- Building will be accessible only by NFC-enabled electronic badges. The goal is to create a safe environment for all. All visitors will be photographed in each building's office using the badge system's terminal, known as Lobby Guard.
- Computers are imaged and updated automatically by the Technology Department.
- School-issued computers will ask students and staff to reset passwords every 30 day. The goal is to maintain a secure system.
- AirWatch is the mobile device management system for iPads. Free applications will be housed in a shared folder; paid apps must be requested to the Director of Curriculum.
- Teachers and staff may bring their own devices. A password will be distributed to enable staff to join the network. Compliance to the acceptable use policy will be enforced.

## 8. PROFESSIONAL DEVELOPMENT PLAN

Professional Development remains important, especially as technology changes quickly. Technology should not be the main focus of instruction. However, it should be taught in the context of the discipline, and our teachers and students have to master technology skills required by CCSS and ISTE standards. The STEM lab's 3D printer is a tool to encourage student creativity. The class is not there to simply to learn how to thread the machine. Teachers and administration should also be trained in Teachscape's Charlotte Danielson Model, which assesses teacher effectiveness. To support the integration of the varying uses of educational technology requires professional development. As per state mandates, the School Improvement Panel (ScIP) will oversee professional development. When applicable, teachers will train other staff. The Technology Coordinator will post webinars and how-to videos on existing and added applications. 30-minute classes will be offered before and after school, to answer questions and guide teacher use of technology as a tool for learning. Professional development hours will be awarded, as applicable. The Technology Staff will create a shared calendar for individualized appointments. Finally, a weekly newsletter will be shared, via email, offering hints and tips about maximizing technology tools.

## 9. PROGRAM EVALUATION

The new schools will have integrated Apple TVs, mounted projectors, and mobile Internet-connected devices. This matches the technology in the existing schools. Hardwired systems will be utilized for the networked copiers and printers. Many of the school's subscription services, like the library's NoodleTools and EBSCO Host, as well as cloud-based student management and online lesson planning, will persist. The same evaluation system will continue, as described in the table below:

|  |   |
|--|---|
| <p>Telecommunication services, hardware, software and other services are improving education</p> | <ul style="list-style-type: none"> <li>• LoTi for online technology assessment and training systems to evaluate and improve effectiveness of teachers' technology skills</li> <li>• Daily use of attendance system (Genesis) and level of learning at district and school level</li> <li>• technology training with feedback forms</li> <li>• Administrator review of cloud-based teacher lesson plans (OnCourse), which should detail educational technology utilized to deliver instruction</li> <li>• Administrative observations of technology integration in the classroom</li> <li>• Responses of SurveyMonkey questions to assess needs (including professional development)</li> <li>• Monitor use of district-provided technology integration resources such as Discovery Streaming, BrainPOP, Camtasia, and webinar tutorials</li> <li>• Lightspeed Speed Test, to check upload and download bandwidth</li> </ul> |
|--|---|

|   |   |
|---|---|
| Effective integration of technology is enabling students to meet challenging state academic standards | <ul style="list-style-type: none"> <li>• Assess student technology skills using LoTi annually</li> <li>• Reports provided by student use of Study Island, BrainPOP, and Discovery Streaming</li> <li>• Check student use of online e-textbooks</li> <li>• Student academic performance using computers for PARCC testing</li> <li>• PBL artifacts from teachers and students</li> </ul>   |
| Meeting the identified goals in the educational technology plan                                       | <ul style="list-style-type: none"> <li>• Assess effectiveness of technology-based research skills taught in the district’s library media centers</li> <li>• Assess effectiveness of district computer technology curriculum in providing technology skills that will meet students’ needs beyond the classroom</li> <li>• Evaluate online views of webinar videos and “quick start” documents housed on district website</li> <li>• Evaluate feedback from in-district technology-related professional development</li> <li>• Evaluate requests for out-of-district professional development hours</li> </ul> |

## 10. E-RATE PLANNING CRITERIA

“Local school districts participating in the E-Rate program are encouraged to complete a formal E-Rate Technology Plan Addendum and Certification for documenting minor amendments to their submitted technology plans” (*District Technology Plans: Essential Components and E-rate Criteria*, n.d.).

## 11. STAKEHOLDERS

| Title/Position                   | Name | Signature |
|----------------------------------|------|-----------|
| <b>Superintendent</b>            |      |           |
| <b>Technology Coordinator</b>    |      |           |
| <b>Director of Curriculum</b>    |      |           |
| <b>Teacher</b>                   |      |           |
| <b>Special Education Teacher</b> |      |           |
| <b>Library Media Specialist</b>  |      |           |
| <b>Parent</b>                    |      |           |
| <b>Student</b>                   |      |           |
| <b>School Board Member</b>       |      |           |

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