



Preparing His lambs.....sharing His grace

## **Good Shepherd Lutheran School**

### **Technology Plan**

**2019-2022**

## **Table of Contents**

- I. Introduction
- II. Vision and Mission
- III. Over view of the Technology planning process for 21<sup>st</sup> Century Learners
- IV. Current snapshot
  - A. Hardware Inventory
  - B. Software Inventory
  - C. Maintenance and Support
  - D. Current Instructional Computing activities
- V. Assessment of current technology program
- VI. Process and Timeline for Ongoing, Long-term Planning
  - A. The Technology Adoption Model (TAM)
  - B. Software Procurement
- VII. Technology Goals
  - A. Future Academic Activities
  - B. Technology skill goals for graduating students of Good Shepherd
  - C. Cost and Funding
  - D. Professional Development
  - E. Maintenance, Upgrades
- VIII. Assessment

Appendix A: Technology Hardware Inventory – November 2019

## **Introduction**

An information and instructional technology plan is a continuous work in progress. Though it includes a list of wiring, hardware, and software, it must be a thoughtful, structured plan that identifies past successes and stumbling blocks while it encourages future growth and student achievement. This plan is focused on improving student learning through the strategic use of a.) Media and information resources, b.) Appropriate technology access and use, and c.) Specific learning strategies that have been well documented and time-tested.

In addition to providing computers for all our faculty and administrators, this plan highlights a journey, begun in 2010, that is putting technology into the hands of all grade K3-8 students and Smartboards in every K-8 classroom. Our K-8 vision of the information technology program is to ensure that all students and staff develop 21st Century Skills in technology literacy that are necessary to prepare them for a future in a rapidly changing world.

This document represents a living plan that is updated continually, but focuses on learning, not technology. Information and technology are paramount tools in achieving our educational goals. The focus must always be on the learning and not the tool; on getting the right information, and not just more information.

## **Vision**

To be successful in a technology rich, information-based society, it is essential to develop a collaborative learning community that will develop competencies in the use, application and employment of technology as well as acquiring, processing, and communicating information from a variety of sources.

To that end, the school will empower every student, teacher, support staff, and administrator by:

- Sharing the Vision for instructional technology use based on the latest research in the areas of educational psychology and best practices.
- Providing access to appropriate technology beginning with the most willing and radiating out until all realize the vision.
- Designing an integrated professional development program to encourage the use of technology and a robust information program in instructional practice.
- Continually review the process to make improvements as new information comes to light.

## **Mission**

It is the mission of Good Shepherd Lutheran School to prepare students for their futures by effectively utilizing information and instructional technology to address key elements in information and technology use.

Good Shepherd will provide educational individualization and equity by fully utilizing technology and information resources by providing opportunities for teachers and students to participate in a learning community whose goal is to develop workforce readiness by preparing students to handle a diverse set

of challenges in a variety of formats, settings, and subject matter by embedding information and technology learning opportunities into everyday learning opportunities that are student centered, authentic, relevant, and complex. Finally, this will be accomplished while intentionally accommodating a variety of student intelligences and learning styles.

## **Overview of the Technology Planning Process for 21<sup>st</sup> Century Learners**

Although technology is an obvious focus of this ***Technology Plan***, its primary purpose is to support the goals of the curriculum. Ultimately this will enhance student achievement by improving the design and implementation of the existing curriculum. This is an ongoing process that includes aligning curriculum with state and federal academic standards. This requires that the technology plan undergoes continual review and revision in order to meet current instructional and administrative goals. In meeting these goals, this plan will serve as a planning and procurement guide for the three year period from 2016 to 2018.

Good Shepherd Lutheran School recognizes that the process of technology planning involves far more than merely outlining technology needs, priorities, and purchasing schedules. This plan is designed as a document that will provide a framework for sound decision-making, wise expenditure of resources, and a demonstration of effective teaching and learning.

The development of this technology plan reflects the following realizations:

- The roles of teachers and students must change in an educational environment where technology becomes an essential part of teaching and learning. It **MUST** be integral to the curriculum; not an added layer. It **MUST** be student centered, not teacher disseminated. It **MUST** promote the use of authentic and challenging projects, problems and inquiries (PPI) that lead students to improved problem solving, critical thinking, communication, creative thinking, and collaborative skills (ISTE NETS).
- The importance of regular communication with parents is important to secure support for the implementation of technology in education.
- Educators must understand both the benefits and limitations of teaching with technology even more so than they needed to understand the benefits and limitations of more traditional methods (e.g. lectures, discussions, essays, etc.)
- Student achievement must be measured by more than standardized tests. The skills that constitute academic accomplishments must include the critical thinking, communication, collaboration, and problem solving skills that technology supports as demonstrated by student-created projects.
- Training is an inescapable part of effective technology use by educators. This training is only effective and enduring if it is immersive, authentic, ongoing and embedded into day-to-day practice with children, and with support from a collaborative team of learners/teachers.
- We must strive to provide ongoing support for technology use through adequate funding, access to technology resources, professional development, personnel support, and maintenance.

Finally, because technology is such an integral component for the success of 21<sup>st</sup> century learners, leadership teams must include the participation of teachers, administrators and school board members from Good Shepherd Lutheran School.

## Current Snapshot of Resources

### Hardware Inventory

Good Shepherd Lutheran School has implemented a number of technology resources designed to support teaching, learning, and management functions as well as a robust and extensive Information and research system. Annual Inventory updates are performed and attached to this document. The following is a summary of such resources throughout the building.

1. **Macintosh Workstations (desktops and laptops)** –The pastor has a Mac laptop for his personal use.
2. **Windows Workstations** – approximately 17 machines are distributed throughout the building at teacher, secretary and administration workstations.  
The principal has a Windows laptop for personal use.
3. **Student Workstations** - approximately 9 machines are distributed throughout the classrooms and daycare.
4. **Smartboards** – Classrooms K4- 8 and the Spanish classroom have Smartboards installed. Each classroom has a document camera.
5. **Tablets** – All full time teachers have school owned iPads. At this time there are 65 iPads for student use in K-4th grade classrooms. 11 NABI Jr.'s are utilized by K4 and K classes.
6. **Chromebooks**- Beginning with the 2020-2021 school year, the purchase of Chromebooks through the school was made available for all students in grades 5-8. This will be mandatory for the 2021-2022 school year and going forward.
7. **Apple TV's** – All K4-8 and the Spanish classrooms have an Apple TV that is used in conjunction with iPad's.
8. **Peripheral Devices** – A number of peripheral devices such as photo copiers, printers in all classrooms and offices, digital cameras, video cameras, video editing equipment, TVs, DVD players, digital projectors, etc. are found in the school building.
9. **3D Printers**- The school currently owns and operates three 3D printers.

### Software Inventory

Good Shepherd Lutheran School purchases the following titles on a K-8 basis for use in the classrooms and offices. A number of other titles specific to grade levels or subject areas are purchased, installed

and maintained through specific program areas. Software purchases are approved by the Board of Day School Education or Board of Trustees and licensing is monitored through the designated computer support technician.

**Microsoft Office 365** – Provided on all teacher workstations, administrative workstations, and all student computers & laptops. This is the core productivity suite for staff.

**Internet Explorer** – Default browser that is installed on all systems.

**Accelerated Reader** – reading literacy and comprehension building software.

**Simple Church** - Church's software (church tracking and finances)

### **Maintenance and System support**

Maintenance and support is currently provided by an outside IT consultant. This is NOT a paid staff position but rather services are requested on an as needed basis.

### **Current Instructional computing activities**

The following is a concise report of the activities that are currently performed in the classrooms:

#### **K3 –**

- Students utilize CD player and video books on the computer.

#### **K4 -**

- Students perform activities on tablets using touch screen technology
- Students utilize CD player, DVD player and audio books
- Students begin exploration of SmartBoard functions including touch and move games/activities and using SmartBoard pens.

#### **Kindergarten –**

- Students will be introduced to basic computer skills through games.
- Students will learn how to navigate two different devices throughout the school year, NABI Juniors and IPADS.

- Students will develop online test taking skills through the MAP Growth program and the use of iPADS.

**First Grade -**

- Students will use classroom iPads to practice math facts and enhance math skills.
- Students will use classroom iPads to practice and learn comprehension and other reading skills.
- Students will use classroom iPads to practice spelling words.
- Students will learn the placement of the keys on the keyboard.
- Students will use classroom iPads to enhance learning about God and hearing Bible stories.
- Classroom iPads will be used to review and practice for tests.

**Second Grade-**

- Students are able to take Accelerated Reader tests on tablets.
- Students utilize [www.typingclub.com](http://www.typingclub.com) to practice typing skills.
- Students publish writing using GoogleDocs
- Students will listen to books on iPads
- Students will complete math and reading enrichment using apps
- Students will research and learn how to navigate the internet using kids search engines
- Students will record and present their writing projects using apps
- Students will learn how to code using apps
- They learn how to navigate the internet safely.

**Third Grade-**

- Third graders are able to take Accelerated Reader tests on tablets.
- Students utilize [www.typing.com](http://www.typing.com) to practice typing skills.
- Students publish at least 2 pieces of writing using a word processing program (GoogleDocs).
- They create a simple slideshow and are able to find and create illustrations that are appropriate for a slideshow. (Google Slides)
- Students use audio and video recording to create multimedia presentations.
- Students practice math skills using various apps and websites such as Xtra Math.
- Students explore social studies and science topics using apps and selected websites.
- Students learn to give credit to internet sources at a minimal level at this point.

- They learn how to navigate the internet safely.

#### **Fourth Grade**

- Fourth graders prepare daily assignments in Microsoft Word.
- They perform art projects, student collaborative projects using I Pad apps such as I Movie, Buddy Draw, and Google educator apps.
- Students utilize [www.typing.com](http://www.typing.com) to practice typing skills.
- Students use Google Drive to prepare homework assignments and collaboratively work with other students
- Students create avatars using an online program
- Students review math facts daily using apps and programs
- Students create advertisements, letterhead and envelopes, travel brochures, etc. using various computer programs
- They create PowerPoint/ Google Slides presentations for projects and assignments.

#### **Fifth Grade**

- Fifth graders prepare daily assignments in Microsoft Word.
- They perform art projects, student collaborative projects using I Pad apps such as I Movie, Buddy Draw, and Google educator apps.
- Students utilize [www.typingweb.com](http://www.typingweb.com) to practice typing skills.
- They review math facts daily using XtraMath.com .
- Students create advertisements, letterhead and envelopes, travel brochures, etc. using Microsoft Publisher.
- They create PowerPoint presentations for projects and assignments.

#### **Sixth Grade-**

- Students prepare daily assignments in Microsoft Word.
- They utilize [www.typingweb.com](http://www.typingweb.com) to practice typing skills.
- Students create PowerPoint presentations for projects throughout the year.
- Students are required to do projects using Publisher.
- Students use the internet as a constant resource for information to enhance learning.
- Classroom iPads are for student use in video projects, daily assignments, and skills practice.
- Beginning instruction is given to use Google Drive, Docs, and Sheets .

**Seventh Grade -**

- Students prepare assignments in Google Drive, Google Docs, and Google Slides
- They utilize [typing.com](http://typing.com) to work on typing skills.
- Students use the internet as a constant resource for information to enhance learning.
- Students are proficient in saving assignments to an iPad and mirroring the finished assignment to the SmartBoard.
- Students prepare a subject lesson on the SmartBoard (via Google Slides and Smart Notebook) to present to a class.

**Eighth Grade-**

- Students prepare assignments in Google Drive, Google Docs, and Google Slides
- They utilize [typing.com](http://typing.com) to work on typing skills.
- Students use the internet as a constant resource for information to enhance learning.
- Students are proficient in saving assignments to an iPad and mirroring the finished assignment to the SmartBoard.
- Students prepare a subject lesson on the SmartBoard (via Google Slides and Smart Notebook) to present to a class.

## **Assessment of Current Technology Program**

The current variety of technology resources at Good Shepherd Lutheran School is very robust. Each K4-8 classroom has a Smartboard to enhance the curriculum. Students have access to iPads in each classroom that are available to move from classroom to classroom.

Emphasis in the past has been on obtaining the technology resources through fundraising. The Parent Teacher League (PTL) has funded the majority of the past purchases. To maintain our technology resources and purchase additional software and hardware, the PTL's funding will be essential.

Core technology skills are taught throughout K-8, however our goals for the future will be established in this technology plan so that each student obtains the skills necessary to effectively function in a society that grows more technologically complex daily.

## **Process and Timeline for Ongoing, Long-term Planning**

The Technology Adoption Model (TAM) developed by Morehouse and Stockdill in 1992 provides a guide for understanding and implementation of technology. Using the Technology Adoption Model,

technology innovation is seen as having a life cycle of being initiated, tested, modified, and then adopted or abandoned by the organization.

There are four major components of the TAM planning program:

1. Front-End Analysis
2. Site Testing And Evaluation
3. Small-Scale Implementation
4. Change, Modification, and Adoption

Good Shepherd Lutheran School plans to follow an adapted version of the Technology Adoption Model.

## **Front-End Analysis**

We will address our need beginning with three basic questions:

- What is the need driving the use of this technology?
- Is this need still prevalent?
- Is the technology still effectively meeting the identified need?

If the technology fails to meet the reviewers' expectations, then emerging technologies meeting the need will be identified.

## **Site Testing and Evaluation**

In this stage, the technology is subject to further site review. Three additional questions are now addressed:

- Can modifications be made to make the technology workable?
- What are the determining factors of the technology effectiveness?
- What is the overall impact of this technology in relation to what is the desired achievement?

At this point, a decision is made to abandon the current technology, modify it, or move forward to pilot or preview a change.

## **Small-Scale Implementation**

In this stage, the technology is subject to four review questions:

- What modifications need to be made to make the technology more workable?
- What kinds of infrastructure, hardware, and software are needed for further implementation?
- What information is needed to determine effectiveness?
- What impact is this technology having on the learner, teacher, administrator, or other staff members?

Again, a decision is made to abandon the technology, change it, modify it, or move forward to school adoption.

## **Change, Modification, and Adoption**

In this stage, the technology is subjected to four additional questions:

- Does the review process support school, modification?
- How much time, money, space, etc. will the change require?
- Is there commitment between and among the primary users and sponsors impacted by the change?
- Is the technology change abandoned or implemented?

Once these questions are answered, all approval, planning and budget adjustments are made. The long range plan is adjusted accordingly.

## **Software Procurement**

In identifying and acquiring appropriate software for educational use, it is the practice of Good Shepherd Lutheran School to identify a standard program for use when similar functions are needed. For example, where productivity software is concerned (e.g. Word Processing, Spreadsheet, Presentation suites) the school has shifted to primarily using Google for student systems while Microsoft 365 remains as the default for employees. This has ensured compatibility across all classrooms and offices.

This software will be evaluated by subcommittees based on curricular needs. Decisions will be made with the following in mind:

1. The ability to meet curricular objectives
2. Licensing issues
3. Ease of Use
4. Training requirements and opportunities
5. Industry standards
6. Accompanying support from the publisher

The school has identified a list of “standard software” for school use that will be installed as part of default installations.

Every effort should be made to keep the number of operating systems (OS’s) in use to a minimum at any given time for simplicity. However, as appropriate, the operating systems should be updated within 18-24 months of the release of a new operating system in order to remain up-to-date, unless a good reason can be identified to stay with an older system.

## **Technology Goals**

The ability to use computers, telecommunications, and other technologies to collect and synthesize essential information, improve teaching, enhance learning, and improve productivity is as important today as being highly proficient in the more traditional basic skills of reading, writing, and arithmetic.

Our understanding and acceptance of the challenge to create a technologically literate generation is the first step in preparing all children to tap the benefits of technology and to take personal responsibility for

their learning pathways in order to develop life-long learners. As a school, we must create conditions where students and staff utilize technology and information literacy to enhance and expand education by supporting the ways students learn. The keys to student success include access to information, the ability to process that information in meaningful and creative ways using problem solving and critical thinking skills, working effectively in collaborative teams, utilizing powerful and effective strategies that build students' abilities for employing creative and innovative solutions, and mastering effective communications involved throughout the process. Our goals are as follows:

- Improving student achievement and enhancing curriculum and instructional practices through access to information, improved communications, and utilization of 21<sup>st</sup> century skills.
- Advancing opportunities for student learning through appropriate use of technology that emphasizes the higher order thinking skills of problem solving, critical thinking, communication, creativity and innovation, and collaboration.
- Providing substantial professional development opportunities that will ensure that all faculty members have opportunities to prepare to teach students how to critically think, work collaboratively, communicate ideas, and employ creative and innovative strategies to solve problems by engaging students in problems, projects, and inquiries as well as other appropriate learning opportunities.
- Providing the resources for students and faculty to utilize technology to its full potential in teaching and learning. I.e. lower computer: student ratio.

## Future Academic Activities

The following goals, specific to skill-sets, have been established for each grade for the three year term of this technology plan:

- **K3 and K4 goals-** Recognize letters on the keyboard, understand basic tablet functions
- **Kindergarten goals-** Smartboard functions, understand icons and what they can open. Able to navigate on tablets to open & close programs, and keyboard functions.
- **First Grade goals-** Smartboard functions, keyboarding is taught through typingweb.com, word processing skills are introduced. Focus is on accuracy and technique only; NO Word Per Minute (WPM) expectations, Accelerated Reader tests are completed on iPads. Introduction to what the internet is and internet safety.
- **Second / Third grade goals-** Students are fluent with keyboarding 'home row' principles & word processing skills. Word art skills are introduced. Smartboard functionality. Third graders are introduced to 'Slideshow' programming. Able to save documents, etc. to travel drive. Able to type 10-12 WPM. Understand what the internet is and can navigate to internet websites, Internet safety.

- **Fourth / Fifth grade goals-** Students are proficient in word processing and Smartboard functions. Slideshow skills are built upon. Graphing and Publisher programs are introduced. Numerous Web-tools & Web-sites on the internet are regularly utilized. Participation in classroom web-site content and minimal design. Able to type 14-17 WPM. Able to navigate to internet websites independently, Internet safety.
- **Sixth / Seventh grade goals-** Spreadsheets and databases are introduced, Boolean principles are introduced, Media based projects are introduced, Basic web-site design via available free software is introduced. Tablet navigation & illustration programs are introduced. Able to type 20-25 WPM. Internet safety.
- **Eighth grade goals-** Proficient in spreadsheets, data bases, word processing, slideshows and Boolean principles. Able to navigate on a tablet efficiently, view teacher-prepared lessons on web-based lesson sites and submit assignments electronically. Able to type 35 WPM. Internet safety.

#### **Resources needed to reach grade specific goals:**

- As funding is available, Purchase additional hardware, i.e. tablets, desktop, etc. so that each grade K-8 classroom has a **minimum 1:2 hardware-student ratio.**
- Maintain current technology inventory
- Fisher-price digital camera for pre-school

#### **Technology goals for graduating students of Good Shepherd**

Upon graduation from Good Shepherd it is intended that a student should be able to perform the following technology skills:

- Produce & present effective slideshows
- Type 35 Words Per Minute (WPM) accurately and use word processing software proficiently
- Create and use databases appropriately
- Create spreadsheets with functions and graphs
- Create movies
- Create illustrations
- Cite sources properly
- Determine the most effective means of presenting information and use that means
- Navigate the internet effectively & safely
- Use electronic communication (blogs, text, email, chat) safely, courteously, and effectively

- Create simple blogs and web pages
- Effectively utilize web-tools

## Cost and funding

Funding will come in part from the school budget, in part from the Parent-Teacher League, and in part through available grant endeavors for which Good Shepherd Lutheran School qualifies.

Sharing information with our school community is essential. Plans for sharing the vision, communicating the details, and generally 'getting the information out there' has been infused throughout this document, but in summary, the following methods are used to disseminate the contents of the plan:

1. **Newsletters:** The school will include the Technology Plan in the weekly newsletter when the plan is adopted and annually at the beginning of each school year.
2. **Staff Meetings:** Through regularly scheduled staff meetings, much of the plan is dissected and shared.
3. **Board of Day School Education Meetings:** Through regularly scheduled monthly meetings, much of the plan is dissected and shared.
4. **Parent Teacher League meetings:** Through regularly scheduled quarterly meetings, much of the plan is dissected and shared.

## Professional Development

The key to the success of the Good Shepherd Lutheran School's Technology Plan is to make sure that staff members are competent in using computers and other related technologies, and are prepared to support the vision for the use of technology. Therefore, it is crucial to provide faculty and staff with the necessary training to utilize technology to its fullest potential for teaching, learning, and productivity.

Professional preparation will consist of *two major elements*:

1. Training – Learning to use the generic hardware and software tools necessary to support student use of technology, as well as using technology for their own professional tasks.
2. Professional development - Addressing the effective use of technology tools in teaching and learning. By providing opportunities in which teachers learn together, and share what they have learned with each other, they will develop personal confidence in new technologies and encourage each other to explore and experiment with new instructional techniques made possible through technology.

## **Maintenance, Upgrades**

Maintaining existing systems and infrastructure is important to ensure that we get the most for our investment. Similarly, upgrading software and hardware with current stable technology ensures that students are provided with relevant tools with which to learn. Especially on a difficult financial landscape, Good Shepherd Lutheran School must continue to allocate a significant portion of its efforts to the upkeep of existing systems.

## **Assessment**

Keeping an eye on the progress of the actualization of the technology plan is an ongoing process and essential to success. Several vehicles will be used to help monitor and evaluate the progress of the plan. These range from formal surveys and observations to informal evidence. By continually looking at our progress, and measuring it against our goals, we will be assured of staying on track and proactively heading off problems before they occur.