TECHNOLOGY

(GRADES K-12)

2013

Technology Curriculum Guide

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Philosophy Statement

Morrison Academy is committed to equipping its students to influence an increasingly complex and information rich world for Christ. Morrison recognizes that technology is an integral tool in obtaining this objective and desires to provide students with an age-appropriate, relevant, authentic, and engaging educational experience in accomplishing the following:

1. Develop a spiritual discernment within our students to help them safely use technology to honor Christ
2. Develop technology skills to enable them to become independent life-long learners
3. Use technology to find appropriate ways to effectively communicate all truth (especially the gospel)
4. Use various tools of technology to critically and creatively evaluate information, analyze data, and determine the best response
5. Utilize technology to find or create avenues to help others and not to harm as moral and ethical citizens
6. To promote being a wise and responsible steward by using technology.

The Morrison Technology Curriculum Guide should be reviewed every three years to ensure the school is considering how technology supports learning.

Vision for Our Learners (VFOL)

Morrison Academy is committed to equipping its students to impact an increasingly complex and information rich world for Christ through technology. Since the technology benchmarks will be grade level specific and integrated into subject unit plans, there is not a specific statement of vision for technology.

Hallmarks

Alex Herring Instructional Grant

The Alex Herring Instructional Grant is an annual grant providing a resource for faculty and staff at Morrison Academy to foster and encourage innovative, interactive scholarship and instill in students the love of learning and exploration that characterized the life of Alex Herring.

http://www.mca.org.tw/general-academics/professional-learning/herring-instructional-grant.html

Parental Involvement

Over the past few decades, substantial research has indicated that parental involvement has been linked to higher academic achievement, better self-esteem and social behavior, increased motivation and higher rates of postsecondary education. Therefore, keeping parents informed as to how their child is doing and providing resources for them to use at home helps to optimize student success in the classroom no matter what grade level, socioeconomic status, ethnicity, or cultural background. The use of technology can assist in the transparency and communication between teacher and parent as they work together in helping each child/student become academically, socially, physically and emotionally successful.

"What Research Says About Parental Involvement in Children's Education", Michigan Department of Education, 2002, [Online] Available, http://www.michigan.gov/documents/Final_Parent_Involvement_Fact_Sheet_14732_7.pdf

"Reaching Out to Families and the Community", Issue Brief: April 2009, The Center for Comprehensive School Reform and Improvement, 2009, [Online] Available, http://www.centerforcsri.org/files/CenterIssueBriefApr09.pdf

Methods of Interacting with Technology

Morrison believes that technology is a powerful tool in education. The landscape of media and technology is constantly shifting, therefore it is important that teachers perceive these shifts and move to teach in a relevant manner. Technology trends are changing the way we consume media, store files, and interact with other people. Morrison encourages staff at Morrison to keep a keen eye on these shifts and trends and through training and collaboration they are adjusting their teaching styles to reflect these changes. [1]

[1] Reich, J. & Daccord, T. (2008) *Best Ideas for Teaching with Technology: A Practical Guide for Teachers, by Teachers*, New York; M.E.Sharpe.

Technology for Instruction and Learning
Morrison is committed to using technology as an invaluable tool to enhance instructional delivery and learning in the classroom. Current educational research clearly indicates a positive relationship between using technology to plan, prepare, and deliver instruction, as well as assess student learning[1] . Toward this end, Morrison invests considerable resources to ensure that our teachers have the appropriate technology tools for instruction and assessment. And although specific technology tools change will with time, teachers are provided with extensive technology resources to plan lessons and prepare instruction. Similarly, standard Morrison classrooms are equipped with audio and video systems that enable the teacher to provide multimedia rich instruction that is both engaging and interactive for student learning. Students are provided access to technology in both group and individual settings to both explore the topic of instruction and develop appropriate products from it to demonstrate their learning. Data from those products as well as on-line assessments provide the teacher with both formative and summative assessment of student learning.

[1]Preparing Tomorrow's Techers to Use Technology, "Technology & Learning" http://www.pt3.org/technology/tech_learning.html

Technology Literate Staff
Research shows that technology is a powerful tool in education, especially when it is in the hands of staff who understand its uses and application across their curricular spectrum. We know that it empowers students by placing them in the middle of the learning process, giving them new methods to manipulate data, share documents, solve problems, and do research. Morrison works hard to maintain a high level of technology literacy to guide students with these digital tools. Staff have many opportunities at school and district level to learn new skills and how to apply them in their classrooms. Staff are also encouraged to attend conferences that offer sessions on digital teaching tools. [1]

Engaged Instructional Time Requirements

Through integration of technology with other subjects, the effectiveness of technology instruction is maximized. At the elementary and middle school levels, teachers must include teaching the technology they want students to apply when completing assignments, projects, and/or other activities as part of their instructions.

All engaged instructional time requirements can be found in procedure 295.

Middle School Exploratory Course

Purpose: Help ensure students can meet Morrison required 6th grade technology skills.

Content:

Students are taught and assessed on specific skills referred to in Appendix A – Middle School E- Course Curriculum by Grade. All campuses should use the predetermined Morrison Academy Computer Literacy Assessments found at \\ad.mca.org.tw\dfs\staff\Tech Literacy Assessment.

A passing score is 75% or higher for each subject.

Schedule:

6th grade students are required to take the MS Computer Technology Exploratory Course.

New 7th and 8th grade students need to take the class or else pass the literacy assessment test.

Roles: Educational Technology Coordinator (ETC) on each campus will teach the class.

Kindergarten Technology Benchmarks

1. I can produce original ideas and stories using developmentally appropriate digital tools with teacher assistance. (1, 2)

2. I can engage in learning activities through e-mail and other electronic communication tools with teacher assistance. (2, 6)

3. I can communicate about technology using developmentally appropriate and accurate terminology. (6)

4. I can demonstrate the safe and cooperative use of technology. (5)

5. I can demonstrate the ability to navigate in virtual environments. (6)

Examples

1. Students together create a picture book on the projector with the teacher assistance.

2. Students share learning experience with a class on another campus. Emails and video conferencing can be done as a group on the projector with teacher assistance.

3. Students should be familiar with terms such as *keyboard*, *mouse*, and *monitor*.

4. Students follow lab rules.

5. Students can navigate on a website, knowing how to click or double-click to open links or programs.

First Grade Technology Benchmarks

1. I can produce original ideas and stories using developmentally appropriate digital tools with teacher assistance. (1, 2)

2. I can engage in learning activities through e-mail and other electronic communication tools with teacher assistance. (2, 6)

3. I can communicate about technology using developmentally appropriate and accurate terminology. (6)

4. I can demonstrate the safe and cooperative use of technology. (5)

5. I can demonstrate the ability to navigate in virtual environments. (6)

Examples

1. Students together create a picture book on the projector with the teacher assistance.

2. Students share learning experience with a class on another campus. Emails and video conferencing can be done as a group on the projector with teacher assistance.

3. Students should be familiar with terms such as *keyboard*, *mouse*, and *monitor*.

4. Students follows lab rules.

5. Students can navigate on a website, knowing how to click or double-click to open links or programs.

Second Grade Technology Benchmarks

1. I can produce original ideas and stories using developmentally appropriate digital tools with teacher assistance. (1, 2)

2. I can research, collect, and evaluate data using digital resources with teacher assistance. (1, 3, 4)

3. I can engage in learning activities through e-mail and other electronic communication tools with teacher assistance. (2, 6)

4. I can communicate about technology using developmentally appropriate and accurate terminology. (6)

5. I can demonstrate the safe and cooperative use of technology. (5)

6. I can demonstrate the ability to navigate in virtual environments. (6)

Examples

1. Teacher helps students type the stories they have written. Students then create picture books or slideshows by adding photos, digital drawings, or clipart.

2. Teacher surveys the class using Google Form. Students create bar graphs or pie charts with the data.

3. Students share learning experience with a class on another campus. Emails and video conferencing can be done as a group on the projector with teacher assistance.

4. Students should be familiar with terms such as *files*, *folders*, *storage device*, and *memory*.

5. Students follow lab rules.

6. Students can navigate on a website, knowing how to click or double-click to open links or programs.

Third Grade Technology Benchmarks

1. I can produce non-fictional stories and presentations using developmentally appropriate digital tools and media-rich resources with teacher assistance. (1, 2, 3, 4)

2. I can select and apply digital tools to collect, organize, and analyze data on a topic with teacher assistance. (3, 4, 6)

3. I can use technology collaboratively for group learning. (4, 6)

4. I understand the effect of technology on individuals, society, and the global community. (5, 6)

5. I can apply previous knowledge of technology operations to troubleshooting independently. (4, 6)

6. I can type the home row on the keyboard accurately using the appropriate figures. (6)

Examples

1. Students present research data or current events by creating slideshows, brochures, or videos with teacher assistance.

2. Teacher surveys the class using Google Form. Students create bar graphs or pie charts and analyze the data.

3. Students utilize tools such as emails, chats, and Google doc to collaborate on a group project.

4. Students are familiar with digital citizenship and learn about ways to protect their privacy online.

5. Students check printer name before printing to avoid sending jobs to the wrong printer. Students knows how caps lock and num lock affect the keyboard.

6. (See Language Arts curriculum guide for appropriate keyboarding speed and accuracy at each grade-level.)

Fourth Grade Technology Benchmarks

1. I can produce presentations using developmentally appropriate digital tools and media-rich resources with teacher assistance. (1, 2, 3, 4)

2. I can select and apply technology tools to research, collect, organize, and analyze data on a topic with teacher assistance. (3, 4, 6)

3. I can use technology collaboratively for group learning. (4, 6)

4. I can discuss the effect of technology on individuals, society, and the global community. (5, 6)

5. I can use some basic technology skills to avoid or work through hardware and software problems. (4, 6)

6. I can type 10 words per minute with ninety percent accuracy. (6)

Examples

1. Students present research data or current events by creating slideshows, brochures, or videos with teacher assistance.

2. Teacher surveys the class using Google Form. Students create bar graphs or pie charts and analyze the data.

3. Students utilize tools such as emails, chats, and Google doc to collaborate on a group project.

4. Students are familiar with digital citizenship and learn about ways to protect their privacy online.

5. Students check printer name before printing to avoid sending jobs to the wrong printer. Students knows how caps lock and num lock affect the keyboard.

6. (See Language Arts curriculum guide for appropriate keyboarding speed and accuracy at each grade-level.)

Fifth Grade Technology Benchmarks

1. I can produce non-fictional stories and presentations using developmentally appropriate digital tools and media-rich resources with limited teacher assistance. (1, 2, 3, 4)

2. I can select and apply technology tools to research, collect, organize, and analyze data on a topic with limited teacher assistance. (3, 4, 6)

3. I can use technology collaboratively for group learning. (4, 6)

4. I can debate the effect of existing and emerging technology on individuals, society, and the global community. (5, 6)

5. I can apply previous knowledge of technology operations to troubleshooting independently. (4, 6)

6. I can type 25 words per minute with ninety percent accuracy. (6)

Examples

1. Students present research data or current events by creating slideshows, brochures, or videos.

2. Students survey one another using Google Form. Then they create bar graphs or pie charts and analyze the data.

3. Students utilize tools such as emails, chats, and Google doc to collaborate on a group project.

4. Teacher facilitates a class discussion on how advancement in mobile technology helps or harms people's relationship to one another in the community.

5. Students check printer name before printing to avoid sending jobs to the wrong printer. Students knows how caps lock and num lock affect the keyboard.

6. (See Language Arts curriculum guide for appropriate keyboarding speed and accuracy at each grade-level.)

Middle School Technology Benchmarks

1. I can use software to describe and/or illustrate concepts or processes using a model, simulation, or brainstorm/mind map. (1, 2)

2. I can create original animations or videos. (1, 2, 6)

3. I can use technology to participate in a cooperative learning project (2)

4. I can use data-collection technology to gather, view, analyze, and report results (3, 4, 6)

5. I can integrate technology to create and illustrate a document or presentation. (1, 6)

6. I can use some basic technology skills to avoid or work through hardware and software problems. (4, 6)

7. I can type 35 words per minute with ninety percent accuracy.

High School Technology Benchmarks

1. **Creativity and Innovation**
    a. I can create media-rich presentations.

2. **Communication and Collaboration**
    a. I can use technology to collaborate, publish, and interact with teachers, peers, experts, and other audiences.

3. **Research and Information Fluency**
    a. I can model legal and ethical behaviors when using information and technology by properly selecting, acquiring and citing resources.
    b. I can use technology to locate, evaluate, and collect information from a variety of sources.

4. **Critical Thinking, Problem Solving, and Decision Making**
    a. I can use technology tools or resources for authentic tasks.
    b. I can employ curriculum-specific simulations that integrate different forms of technology.

5. **Digital Citizenship**
    a. I can use technology resources to address personal, social, lifelong learning, and career needs.

6. **Technology Operations and Concepts**
    a. I can use technology resources for solving problems and making informed decisions.

Appendix A – Middle School E- Course Curriculum for Sixth Grade

Word Skills Word Processing Application
• Opening and editing an existing document • Working with headers • Formatting paragraphs so that they have different margins, fonts, sizes styles, and borders • Indenting paragraphs using tabs • Adjusting spacing • Finding, saving, inserting, positioning, and resizing images into a document Controlling page margins • Justifying text • Selecting and moving text across a document (drag and drop) • Correcting spelling mistakes • Using grammar check • Printing a document • Creating and formatting tables and columns
Spreadsheet Software
• Opening an existing spreadsheet • Adding a header to a spreadsheet • Modifying font, size and style of text • Inserting rows and merging cells in a spreadsheet • Auto-sizing cells to make text fit • Sorting data numerically and alphabetically • Using the auto-sum tool to calculate totals • Adding a formula to calculate averages • Formatting cells for decimal points • Choosing the best graph to represent your data visually • Giving a graph a title, appropriate x- and y- axis labels, and background color • Saving a graph as an object or onto a new worksheet • Using Print Preview function to make sure spreadsheet prints on one page • Printing out multiple worksheets of a workbook • Creating and formatting tables and column
Multimedia
• Creating a new slide show and saving it into a network folder • Choosing slide types and creating slides • Adding text to slides in the appropriate places • Modifying font, size, and style of selected text • Finding on-line images, inserting it onto a slide, and resizing it to make it fit • Applying a background style to all slides in a slide show • Controlling timing, transition and animation effects for a slide show • Using bullets and numbering • Cropping images to focus on a specific subject • Resizing images to properly fit the display area • Adjusting brightness and contrast of images • Modifying video to suit length and subject needs • Inserting video into presentations • Editing sound files • Embedding sounds into presentations or websites

Appendix B – Explanation of Technology Strands

The numbers in the parentheses after each item identify the standards (1–6) most closely linked to the activity described. Each activity may relate to one indicator, to multiple indicators, or to the overall standards referenced.
http://nets-implementation.iste.wikispaces.net/home

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving, and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts

Appendix C – Technology Strategic Plan

Philosophy

- Develop a spiritual discernment within our students to help them safely use technology to honor Christ
- Develop technology skills to enable them to become independent life-long learners
- Use technology to find appropriate ways to effectively communicate all truth (especially the gospel)
- Use various tools of technology to rationally and critically evaluate information, analyze data, and determine the best response
- Utilize technology to find or create avenues to help others and not to harm as moral and ethical citizens
- To promote stewardship of the quality of life by promoting a healthy balance of technology use.

Rationale

1. Increase sound educational practice with teachers using technology
2. Increase student skills-functioning in a digital world responsibly
3. Enhance learning experiences with 4C's: communication, collaboration, critical thinking, and creativity

Goal

Morrison Academy will implement age appropriate personal technology (*laptop, tablet, hand-held*) to enhance the student learning experience.

Timeline and Roadmap

Year 0: 2013-14

Who does what?

Administration(A)/Committee(C)	Director of IT	PL
1.(A)Visit other schools: ASB, TAS, SAS, other 2.(C)RESEARCH Tech best practice and student learning in the classroom for PL (by April) 3.(C)Personal Technology PLC survey students to see what devices they are using. Begin to develop #4. 4. (C) Decide on the minimum requirements for our devices- (March) 5. (C) Research 1 to 2 devices for K-5-Annual Fund?	1. Infrastructure Cost Evaluation: Evaluate what additional costs would be added to (See ***) technology budget. 2. See #4 from A/C. Research best device recommendations – (April) 3. Evaluate Mac book option for staff (Sep. SAC meeting) 4. Explore and pilot "Teacher Dashboard" from Hapara.com. We expect to provide this to all teachers during year 1, if the pilot demonstrates success.	1. Begin discussing with all staff (in staff meetings) S2 2014, what our students need to be prepared as 21st Century learners for buy-in and for mental preparation of this road map. 2. SAMR 3. Cloud based app training-Teacher BYOD – Teachers helping teachers train on apps being used in the classroom, i.e. videoNot.es, blogs, educannon, "Speed Geeking." 4. Managing technology in the classroom • Classroom Management plans • feedback/assessment • Maximize enhancement - Minimize distraction

Increase Internet connection speeds (Upgrade current connection or add additional fiber connections)
Increase in Firewall connections (Upgrade Juniper firewall hardware)
Increase in Web Filtering load (Upgrade Barracuda or switch to websense?)
Increase in LAN traffic (Upgrade lan switches, this is already planned)
Upgrade DNS and DHCP server (this is already planned)
AP's needed for increased wireless coverage
Implement IDP and NID system for increased security

Develop plan for student printing

Early Adoption

Optional BYOD for Secondary (HS) Summer rollout preparation-handouts for students, scheduling training, etc. Student training in teams-(week one) ○ Netiquette/Internet safety ○ How to use devices in the classroom

Year 1: 2014-15

Who does what?

Administration(A)/Committee(C)	Director of IT	PL
1. (A) Discuss / Implement / Revise discipline plan (Summer 2014) 2. (A) Update school tech procedure regarding BYOD (Summer 2014) 3. (C) Develop list of online resources for collaborative student uses in different classes (August PL) 4. (C) Research and report on 1 to1 vs. BYOD-Pros and Cons, status quo or adoption for next year? 5. (A) SAC makes decision regarding 1 to 1 or BYOD for MS only	1. Lead ETC PLC - do we have enough manpower for tech support and PL? (See recommendations) 2. Discuss plan for replacement devices when students forget or have broken devices (how many devices need to be available on the shelf? How long do students have access to those devices? 3. Use replaced computers as loaners for students. These will be housed in the library and checked out by students or teachers upon request.	1. PL for HS/MS teachers • NETS • Possible Boot camp for teachers • Teacher expectations-Allowing student use of technology • How to use devices in the classroom to instruct • Online collaboration for creative uses of technology • SAMR 2. Follow-up with teachers - how do they use the devices in their classrooms? Where are they finding success? What is causing problems? (October PL) 3. Speed Geeking recommended for more exposure to apps in classroom learning.

Year 2: 2015-16

Administration(A)	Director of I.T.: Larry	PL
1. (A) Update school tech procedure regarding BYOD (Summer 2015) 2. (A) Consider collecting data on level of technology usage by teachers (suggest using SAMR model)	1. Taichung HS Computer Lab becomes a classroom.	1. *Professional development plan* for new teachers to Morrison. • Could be video, written, tech teaching partner to come along side.

Integration…

○ BYOD Required for HS ○ Decide on required BYOD or 1 to 1 for MS

Year 3: 2016-17

Administration(A)	Director of I.T.: Larry	PL
1.Continued research and development on technology use in the classroom	1. Evaluate and update existing infrastructure. 2. Evaluate software use by students and teachers and re-evaluate minimum hardware/software requirements for electronic devices.	1. Ongoing and reflective of innovative and creative methods of learning. 2. Continue research and development (R&D) on classroom best practice instruction using technology as a tool.