

Technology for the Business Manager January 23, 2024

KEVIN M. HUSTEK, CTO, DIRECTOR OF TECHNOLOGY, WARREN WOODS PUBLIC SCHOOLS NEIL R. CASSABON, CFO, DEPUTY SUPERINTENDENT, WARREN WOODS PUBLIC SCHOOLS

Introductions

Kevin M. Hustek, CTO, Director of Technology, Warren Woods Public Schools



Neil R. Cassabon, CFO, Deputy Superintendent, Warren Woods Public Schools



Download Materials

https://www.msbo.org/msbo-certification-class-materials/

Objectives

Technology for the Business Manager

- Technology is everywhere in K12
- Where to start Tech Assessments/Audits
- Technology purchasing/budgeting
- Leveraging Statewide Activities to Save Money
- Technology planning
- Technology financing
- Contracting/Shared Services
- Policy
- Security/Cyber Security
- Trends

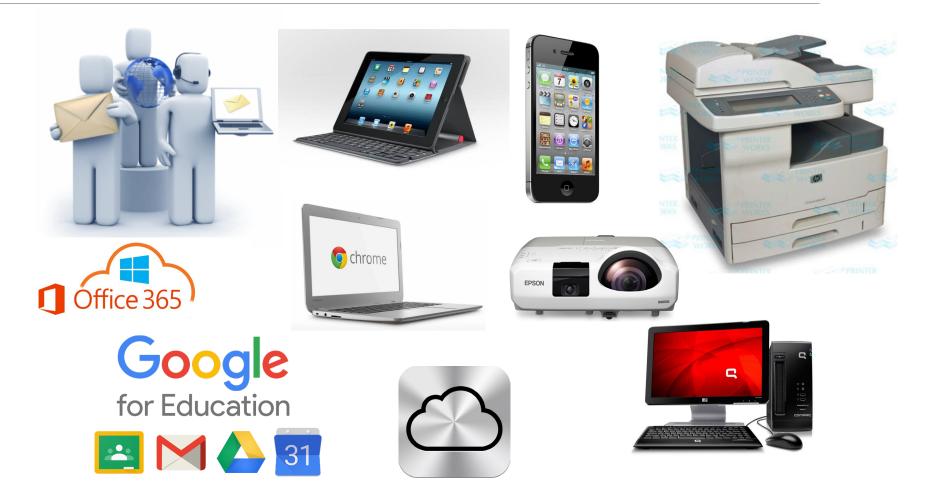


Why Talk About Tech?



Technology is Everywhere in K12





Technology is Everywhere in K12



















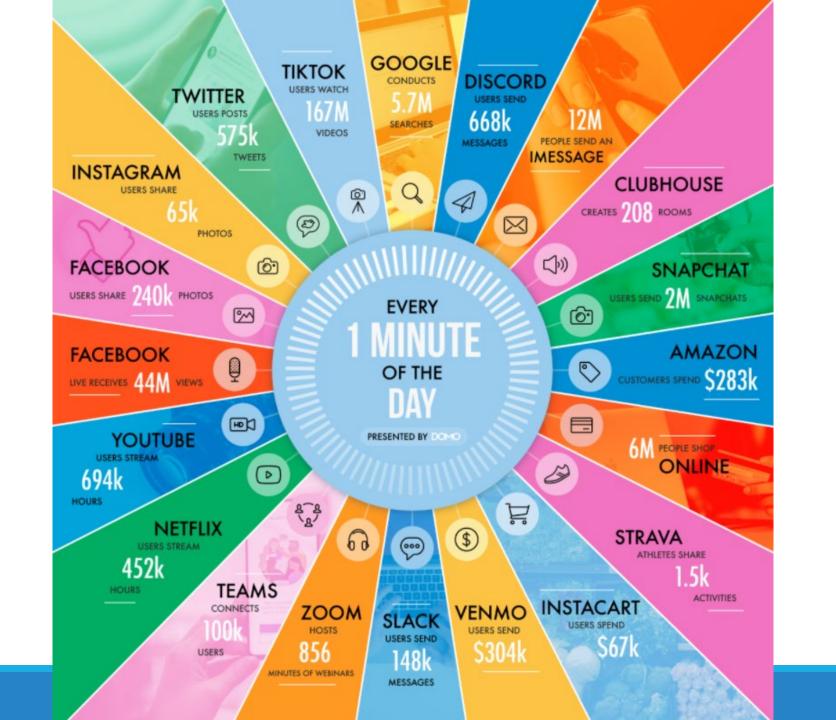




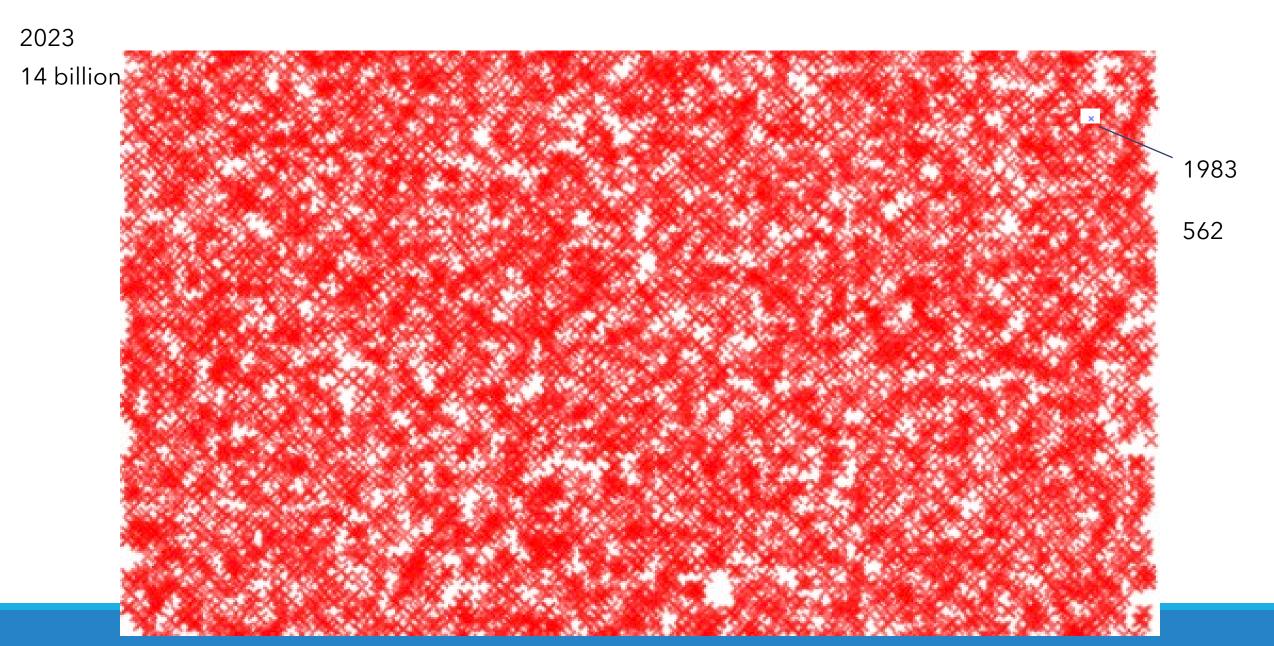






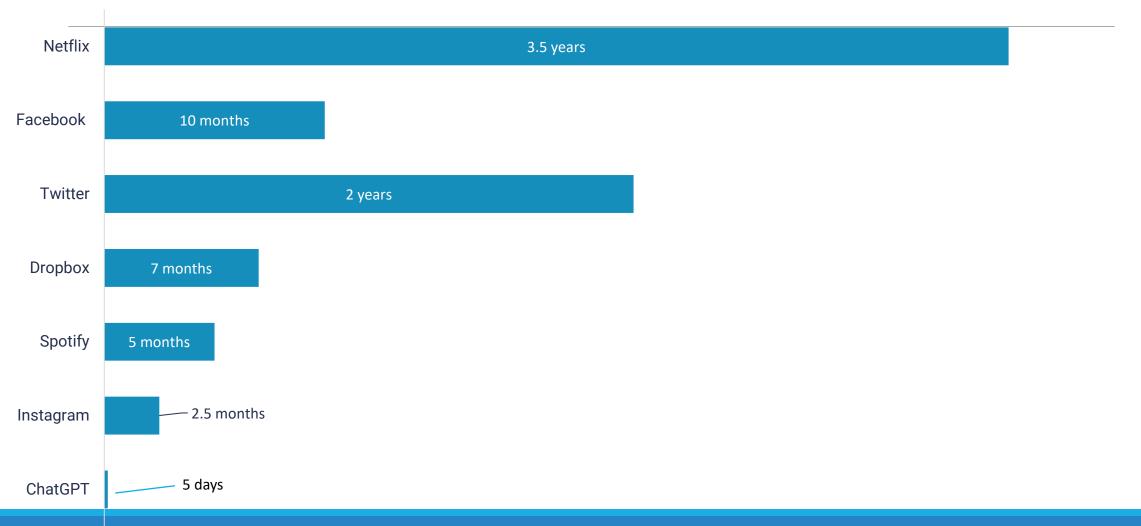


Global Indicators - Digital Acceleration



Global Indicators - Digital Acceleration

Time to reach one million users from launch



Source: Statista - ChatGPT Sprints to One Million Users

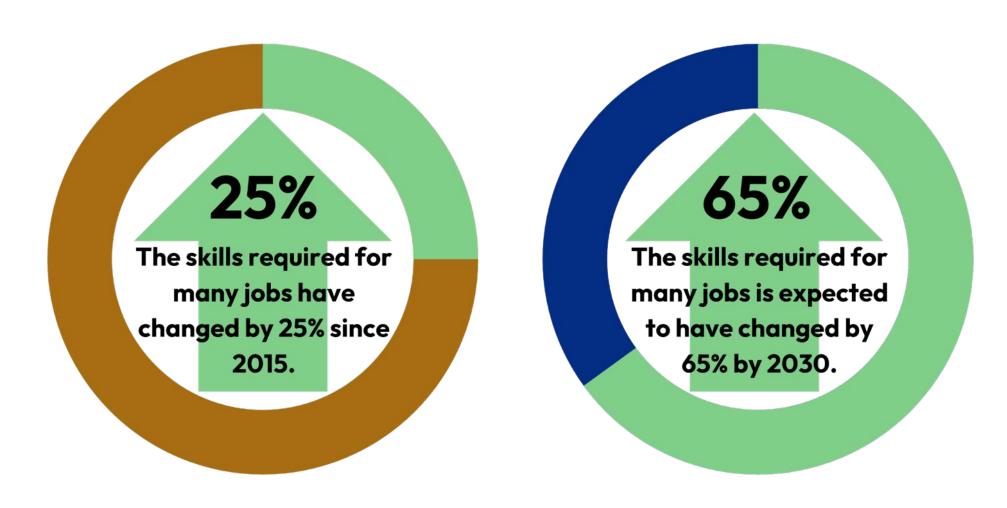








Global Indicators - Skills Required for Job Success are Changing



Global Indicators - Skills Required for Job Success are Changing



Analytical Thinking

Creative Thinking

Resilience, flexibility, and agility

Motivation and self-awareness

Curiosity and lifelong learning

Technological literacy

Dependability and attention to detail

Empathy and active learning

Leadership and social influence

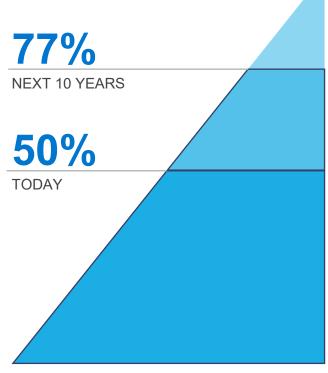
Quality Control

Preparing Students for Post-Secondary

The Job Landscape is also Increasingly Digital



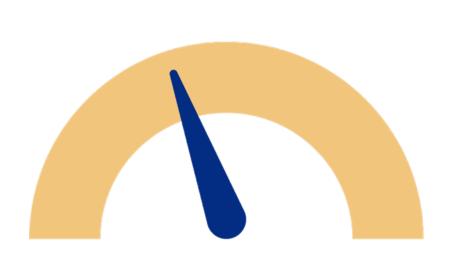
More than **50% of today's jobs** require some degree of technology skills, and experts say that percentage will **increase to 77%** in the next decade.



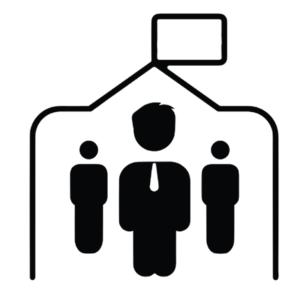
Source: US Bureau of Labor Statistics



Al and Machine Learning Jobs are Growing



Al or machine learning jobs will grow by 40%.



Over 1 million new jobs are expected by 2027.



Employers are Looking for AI Experience



Globally, English-language job postings mentioning GPT or ChatGPT increased **21x** since November 2022.

Technology Audits

•Why do them?

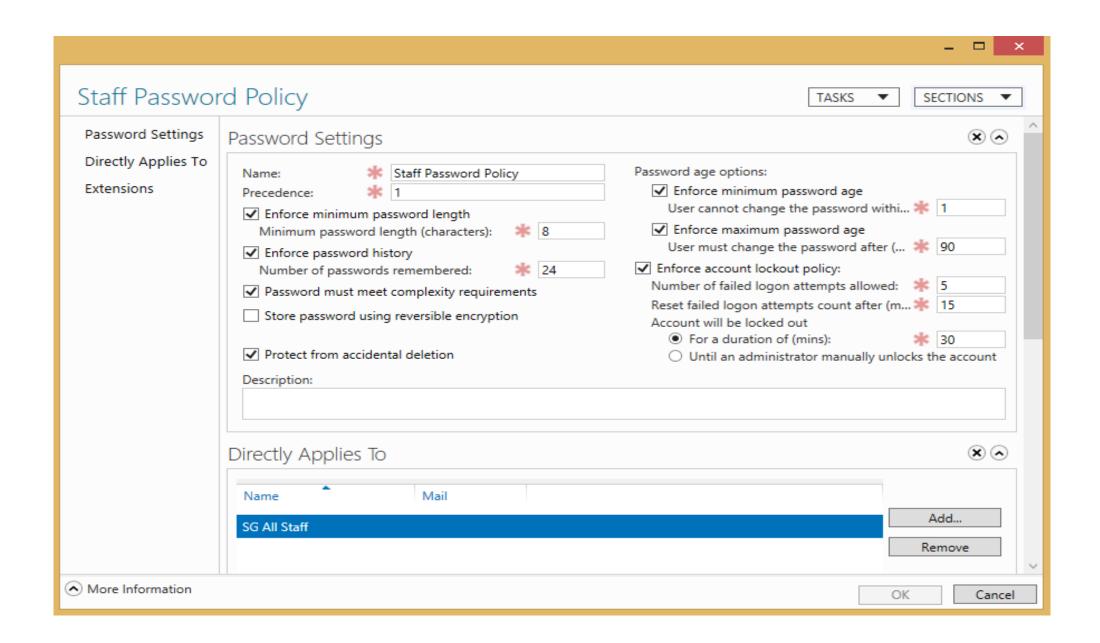
Plante Moran Audit (internal controls)

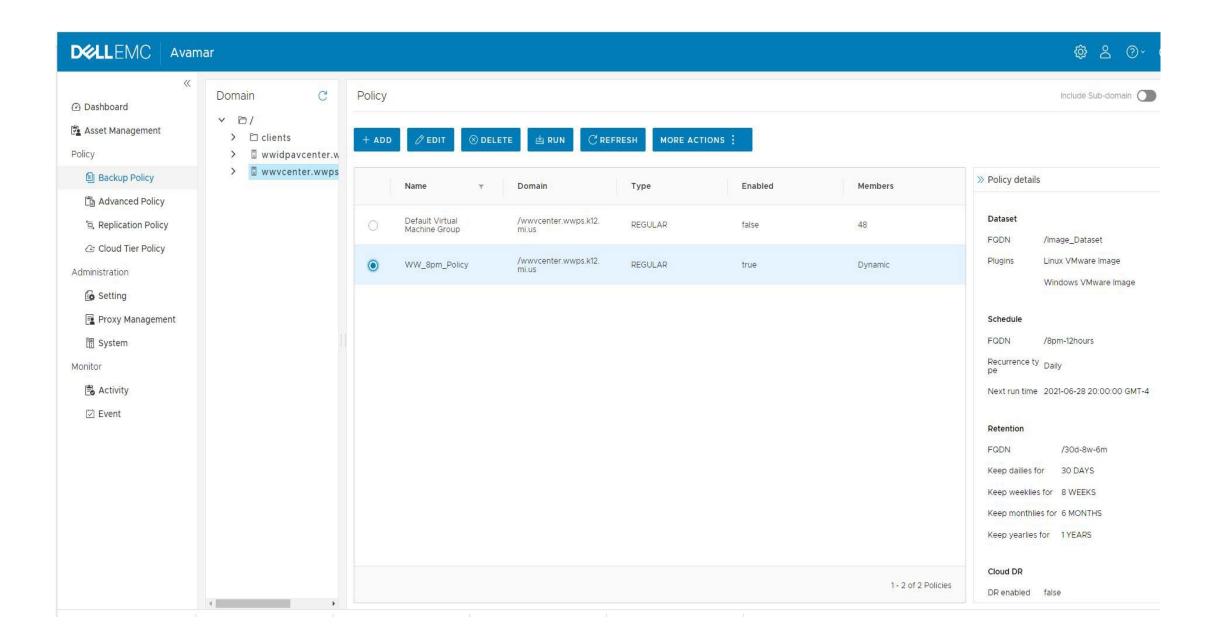


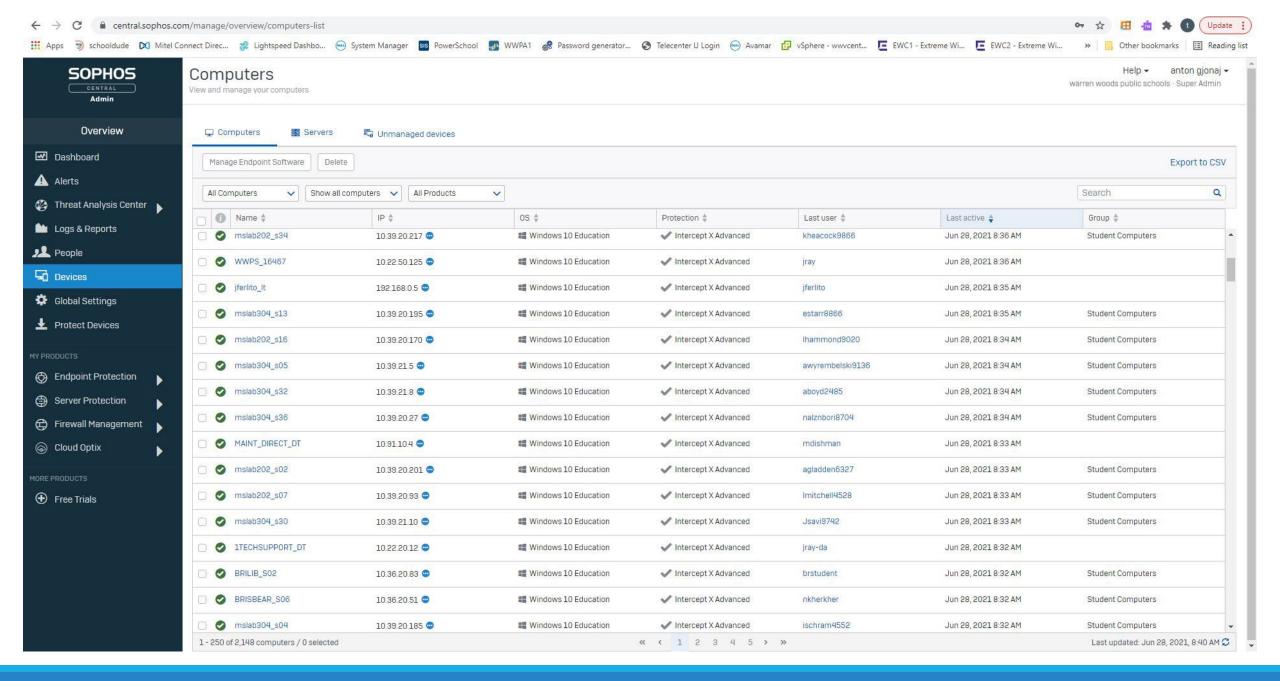
Warren Woods Public Schools Information Technology General Controls and General Ledger Controls Self-Assessment Questionnaire 06/30/2020

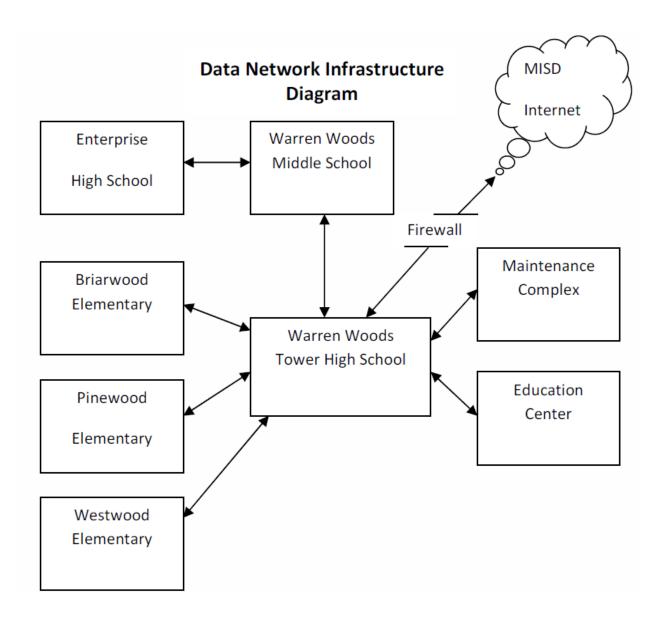
Please complete the questionnaire below by indicating which of the listed controls are in place at your organization. For each control that is in place (as indicated with a check next to "Yes"), please describe the procedures and controls in sufficient detail so that the reviewer has a clear understanding of how the procedures and controls work in your environment. Please also attach the requested documents that relate to those procedures and controls.

What Could Go Wrong - E-1 Transaction information in the IT system could be inappropriately created, modified or manipulated			
		Supporting Documentation Requests	
Logical Access Controls: Controls over granting, changing and removing access to network, core financial applications and related data restrict users to authorize functions and applications and prevent assignment of incompatible duties			
New User Access – Does the organization have procedures and controls in place for granting access to the network and core financial applications? Yes No			
Describe how IT is notified of new hires by HR or supervisor.	IT receives a work order through the online ticket system School Dude	Provide a completed new user	
Describe how HR or supervisor initiates and documents new user name, department, access required (network and applications), hire date, etc.	The Deputy Superintendent receives a copy of the Add/Drop form from HR and creates a work order for IT to process	access form or workflow printout from the period under audit	
Describe how HR or supervisor approves access requested	By attaching the Add/Drop form to a new work order and including a description	Provide a list of employees and vendors with system access privileges to add, modify or delete General	
Describe how IT administers access as described in user access forms or workflows and documents the access granted.	One of the fields within the Add/Drop form stipulate the access needed (i.e. Teacher, Office Staff, etc)	Ledger accounts in the financial reporting system(s)	
Describe how the documentation for new user access is retained by either the IT or HR department.	Work orders that contain the Add/Drop forms are retained in the School Dude system		
Access Termination – Does the organization have procedures and controls in place to remove access rights for terminated employees? X Yes No			
Describe how is IT notified of terminations by HR or supervisor and how soon after termination IT is notified.	Same process as new user access		
Describe how the company documents the terminated user's name and termination date.	In the Add/Drop form which is attached to the work order	Provide a completed user termination form or	









Technology Planning

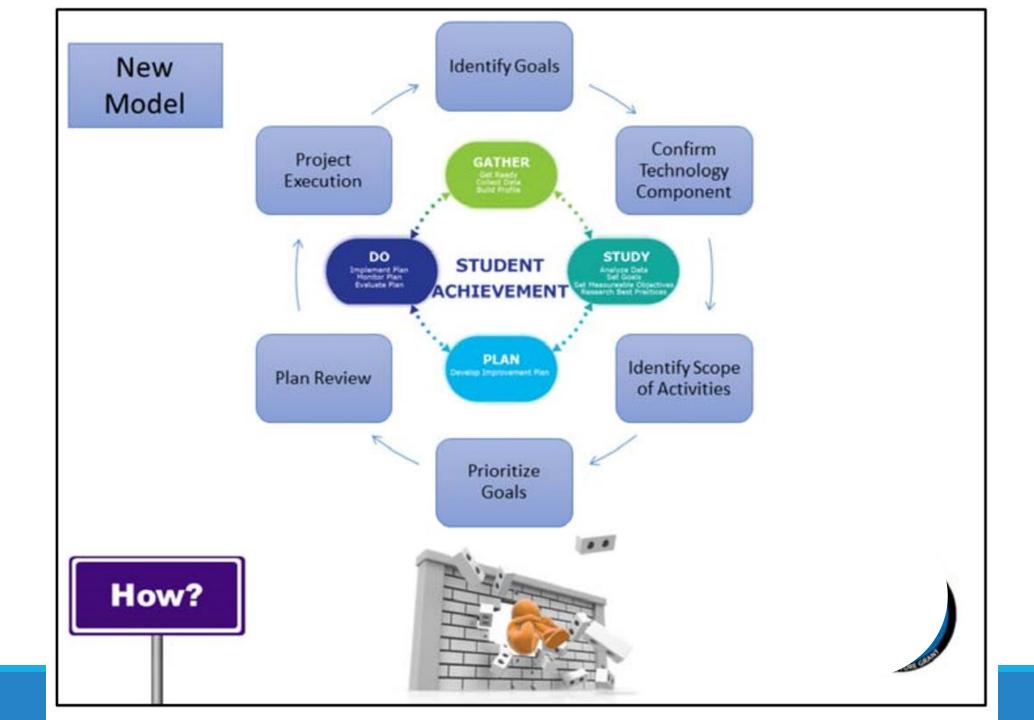
New – Tech Planning is now Integrated with the School/District Improvement Plan (SIP/DIP)

Technology Director/Coordinator should join SIP/DIP team

Must tag technology related items in SIP/DIP

MICIP - MDE - Michigan Integrated Continuous Improvement Process (MICIP)





Our Technology Planning Process

Weekly touch point between Curriculum and Technology

Quarterly meeting with Instructional Technology Team

Short and long term planning process with Business Manager (Superintendent)

Goal Setting

2020-2021 State of the Technology Department

Managed Devices (total increase of 1232 devices since FY1920):

833 Laptops (Increase of 100 CTE Laptops-5 carts, Increase of 18-new science cart)

1045 COVID-19 Student Laptops (234 Lenovo, 811 HP)

1200 Desktops

227 iOS Devices-iPad, iPod Touch, Apple TV (increase of 20 iPads)

63 Bluetooth Wireless Headsets (Apple AirPods and Blue Parrot)

200 Projectors

123 Interactive Boards/Projectors

125 Document Cameras (increase of 1)

304 Wireless Access Points

455 Surveillance Cameras (increase of 3)

59 Network Printers-excludes copiers

65 FrontRow Audio Enhancement Systems

Potential additional device purchases:

Additional WWT Science Laptop Cart (18)

WWT will need a Read 180 laptop cart and possible cart(s) at WWMS depending on desire to switch to Read 180 and number of classes. Would need Device CALs.

Budget Detail:

21/22 SchoolDude Helpdesk (\$3,305) and Insight Renewal (\$6,915) prepay (\$10,216 total)

21/22 One Year of SMART Learning Suite (WWT/HS/EC Only) qty-40 @ \$31.49 each (\$1,259.60)

21/22 Sophos (three year @ \$9,902.00/yr or two year @ \$11,275.00/yr

21/22 Renewal of Microsoft EES using new required licensing model \$23,989.50

21/22 Renewal of Lightspeed filter subscription qty-1400 @ co-term rate (\$9,500.00)

21/22 Renew Adobe Creative Cloud (convert to user) \$2,380.00 (CTE funded)

21/22 GoDaddy SSL Certificate \$500 (Hybrid Exchange 21/22, Firewall 22/23)

21/22 KnowBe4 Year 2 \$7,800

21/22 Palo Alto \$32,646.00 (for three years, prepay year 2&3)

21/22 Migrate Surpass to Cloud (Current 5 @ \$530 each to 5 @ \$900 each - \$1,850 increase overall)

21/22 Cyber Assessment Program for 12-months (\$14,000)

Goal Setting

ADMINISTRATIVE GOAL SETTING

Administrator and evaluator will jointly develop at least two (2) goals related to their job duties for self-improvement. Upon approval of goals the administrator will develop strategies and time-lines to successfully accomplish these goals an submit copy to evaluator.

Administrator:	Kevin Hustek
Evaluator(s):	Neil Cassabon
	1. 2.

ADMINISTRATIVE GOAL SETTING Kevin Hustek Goal #1

Administrator and evaluator will jointly develop at least two (2) goals related to their job duties for self-improvement. Upon approval of goals the administrator will develop strategies and time-lines to successfully accomplish these goals and submit copy to evaluator.

Goal:

Relevance:

Steps/Strategies:

Time Frame for each Step:

Documentation for each Step:

Goal Example

Show example of Director of Technology Goals

Show example of Technology Technician Goals

Technology Purchasing

Technology Planning

Total Cost of Ownership

Technology Budgeting

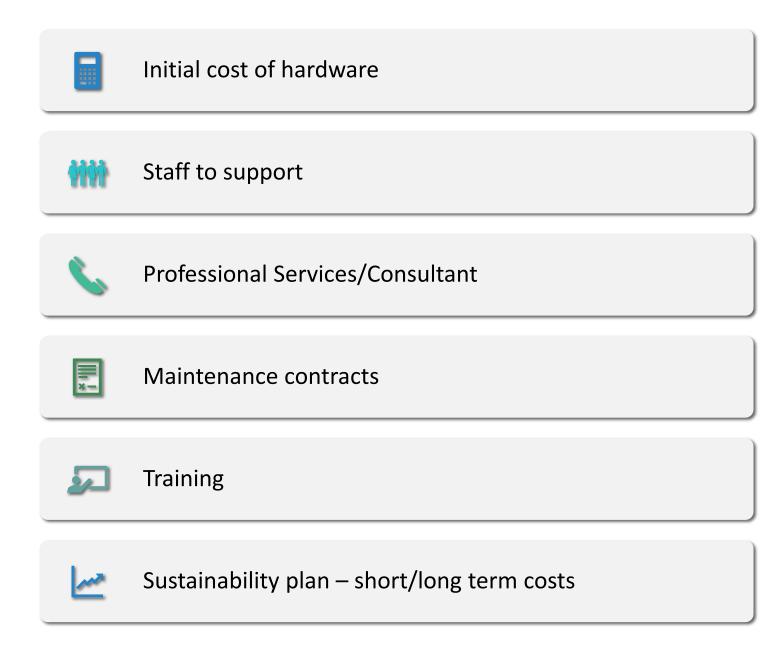
Total Cost of Ownership

Consider what tech needs to be in place to simply check email on a

computer



Budget Planning with your Tech Director



Year 1 Cost – 1 Grade Level Example

200 Students

iPad \$599

Case \$30

MDM \$14

Apps/Books \$20

Ed Tech - 2 days per week \$28,000

\$160,600



Year 1 Cost – 1 Grade Level Example

200 Students

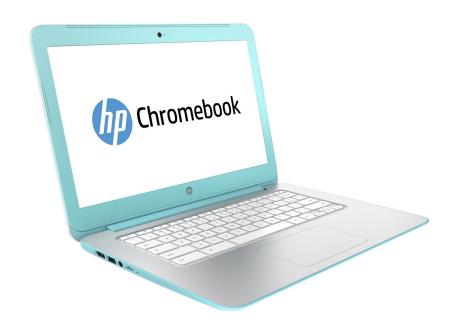
Chromebook \$260

Case \$30

Apps/Books \$20

Ed Tech - 2 days per week \$28,000

\$90,000





TCO/Sustainability Concerns

Additional technology support staffing

Additional instructional tech staffing

Applications

Additional wireless

Additional insurance

Additional bandwidth costs

Budgeting – Factors Increasing Costs

Increasing use/dependence on technology

- Business Office (paperless, workflows)
- Classroom (1:1, AV, Online Assessments)
- SAS Subscription Model for Software
- 0% Technology staff unemployment rate
- Cyber Security Costs (SIEM Solutions, AV, UTP Firewalls, Encrypted eMail)

Need for better connectivity

- WAN
- Internet Bandwidth
- Wireless Density



Budgeting - Low Risk Cost Reduction

- Leveraging the cloud
- BYOD
- Standardization (Hardware, software, etc.)
- Moving to SIP trunks for VOIP (phones)
- Quality used network equipment
- E-rate
- Local/Regional Collaborations: Shared services
- Statewide Collaborations SPOT, REMC Bid, Open eBooks, EduPaths, SEN (470), MiSuite
- Automation User accounts, imaging, MiDataHub integrations



Budgeting - High Risk Cost Reduction

Non-renewal of maintenance contracts

Reduce staffing levels

Off brand network hardware/software

No Business Continuity Plan (Disaster Recovery)



Statewide Activities Can Save \$\$\$





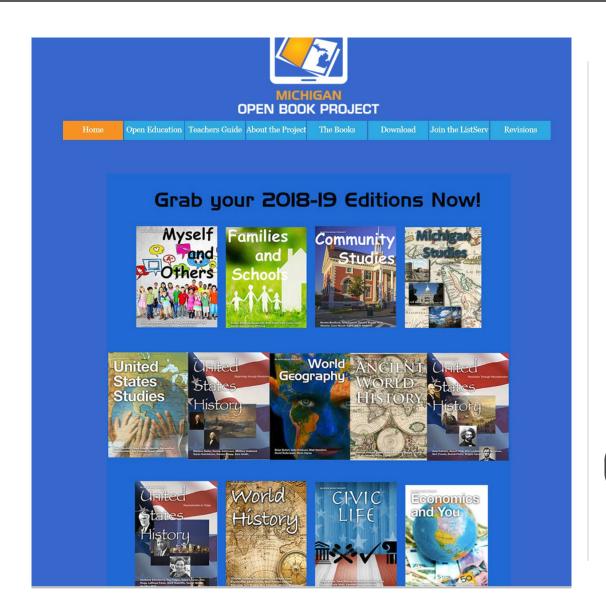














MICHIGAN OPEN BOOK PROJECT







REMC Association



What can it do for your district?

Integrate data systems — SIS, Food Services, Emergency Notification, etc.

Improving access to educational data/dashboards – MiLearn, MiRead, EWS

Free to Michigan LEA's and PSA's!!!

Home (midatahub.org

MiDataHub Participation

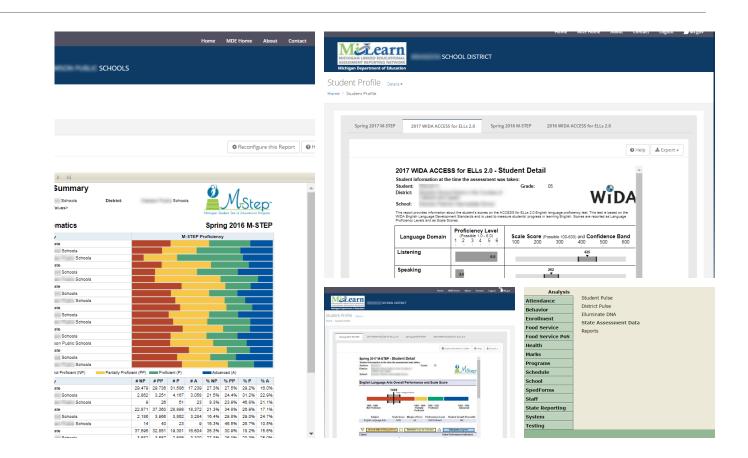
June 5, 2023

		<u> </u>	
	Live	In-Process	Total
ISD/LEAs	571	19	590
PSAs	283	8	291
Total Districts	854	27	881
Total District %	96%	3%	99%
Headcount	1,537,754	n/a	n/a
ISD/LEA FTE	1,256,313	75,384	1,331,697
PSA FTE	148,181	1,866	150,047
Total FTE	1,404,494	77,250	1,481,744
Total FTE %	92%	5%	97%

ISD and District Status Update

MiLearn

Direct access to state assessment results online for students, parents, and educators



DataHub Dashboards and Early Warning Signs

Leveraging National work on EWS

Included as official process for State of Michigan Early Warning and Intervention Monitoring System (EWIMS)

Integrated into Michigan's Safe and Healthy Schools and MTSS initiatives

Michigan Manual on Early Warning Intervention and Monitoring System Implementation Guide (right)

http://mi.gov/mde-ewims

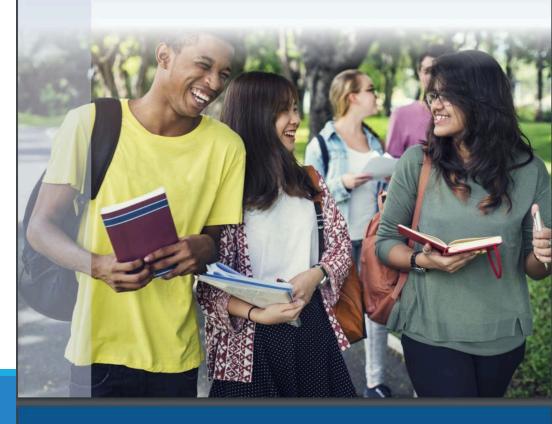


adapted 2017

Early Warning Intervention and Monitoring System Implementation Guide

For use with the Michigan Data Hubs Early Warning System Tool

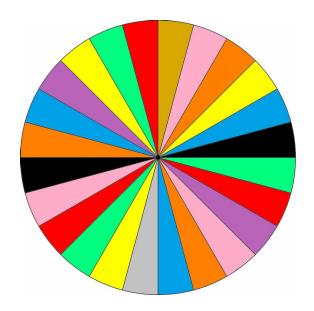
by Susan Bowles Therriault, Mindee O'Cummings, Jessica Heppen, Laura Yerhot, and Jenny Scala Adapted for Michigan by Bersheril Bailey, Don Dailey, Mara Schanfield, and Tara Zuber



BREAK



When we return, we'll spin the wheel for a gift card prize!



Setting Priorities

Cabling/Fiber

Switching

Firewall

Content Filter

Wireless



TECHNOLOGY BUDGETING — Long Term Planning

Replacement Cycles

Fiber30 to 60 years

Network Cabling
 15 to 20 years

Switches8-10 years

Wireless8-10 years

Servers/SAN/Content Filters 5-10 years

Desktops5 years

Laptops5 years

Smart phones2 years

Cloud Based Infrastructure - IaaS

Capital Expenditures v. Operational Expenditures

Why Go laaS?

- Costs are lower (if you purchase reserve instances)
- More reliable 99.999% uptime
- Better backup and disaster recovery (DR)
- Less need for staff with server hardware skills





How to Fund Tech?

Bond Funds

Sinking Funds

Installment Purchase Agreements

Operational Funds



Sinking Funds

- New legislation passed
 November 2016 to allow
 sinking funds to
 purchase/upgrade technology
- Not retroactive for existing sinking funds
- Only for new sinking funds passed March 2017 or later
 - Voter approved



Installment Purchase Agreements

- Work with your attorney
- Solicit bids from banks
- Favorable loan terms



Be Careful – Lease Purchase Agreements

- Not a true lease district takes possession of equipment
- Usually contains many unfavorable, and sometimes illegal, provisions
- Does require proper board authorization for tax-exempt financing
- Installment purchase agreement recommended



Bids

REMC SAVE

What is a SPOT bid

<u>MiDeal</u>



Outsourcing/Shared Services

- In-House vs. Collaboration
- Collaborations in Michigan
- Benefits and Challenges
 - Shared resources
 - Enterprise Model
 - Hybrid model challenges
 - Expertise availability

Contracts/IGA's

What to look for in a <u>Shared Service</u> <u>Agreement</u> (SLA)

CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT

This Con	ifidentia.	lity and I	Non-L)1sclosu	re Agree	ement (the	"Agre	ement")	is ente	ered into by	/ and
between	WARR	EN WO	ODS	PUBI	IC SCI	HOOLS, a	Mic	higan C	eneral	Powers So	chool
District,	whose	address	is	12900	Frazho,	Warren,	MI	48089	(the	"District")	and
					a			7	vhose	address	is
								("V	endor") and con	firms
the terms	under v	which the	Distr	ict has	disclosed	l or may he	reafte	r disclos	se to the	e Vendor co	ertain

Confidential Information in conjunction with services provided by Vendor to School District.

For valid consideration, the receipt and adequacy of which are hereby acknowledged:

1. Vendor acknowledges that in the performance of its services for the District, it may gain knowledge of Confidential Information and/or may have access to Confidential Information. Vendor acknowledges that the maintenance and disclosure of this Confidential Information is governed by various state and federal laws, rules and regulations and agrees that it shall each keep all Confidential Information in confidence and will not, without the District's prior written consent, divulge, disclose, communicate, copy or make accessible any Confidential Information to any person or entity. Each

Technology Policy – AUP's

Acceptable Use Policy - NEOLA

Staff and students must sign an AUP



Warren Woods Public Schools 12900 Frazho - Warren, MI 48089-1300 586-439-4457 - <u>www.warrenwoods.misd.net</u> - Fax 586-353-0544

Acceptable Use Agreement for Computers and Other Technology

Computers and other technology are to be used in a responsible, efficient, ethical, and legal manner. Technology includes, but is not limited to, computers, disk drives, printers, scanners, networks, software, video and audio recorders, cameras, photocopiers, telephones, and other related electronic resources. Networks include, but are not limited to, all voice and data systems. Users include anyone who is accessing or using district technology.

District technology can be used to access the Internet, a global information and communication network that provides significant educational opportunities to our students. The Board has adopted policies for Student Network and Internet Acceptable Use and Safety, and Staff Network and Internet Acceptable Use and Safety.

By signing this form, I agree to the following terms for use of district technology, including the Internet:

- I understand that the use of district technology is a privilege and not a right. My use of technology may be
 monitored by district staff, and is not to be considered confidential or private. Warren Woods reserves
 the right to access, review, or delete any information on the district network.
- My use of district technology is for educational purposes only, as determined by the district's mission statement and curriculum.
- I will not use the school district network for commercial use, for inappropriate or illegal purposes of any kind, nor for activities that could be dangerous to myself or to others. Warren Woods will not be held responsible if I participate in such activities.
- 4. I will not use the school district network to send or receive threatening, obscene, or harassing materials. Warren Woods will not be held responsible if I participate in such activities.
- I will not interfere with, disrupt, or cause damage to district technology equipment, networks, and services.
- 6. I will respect copyright laws and fair use practices.
- 7. I will not use multi-user talk sites (chat rooms), games, or blogs, except those designated as permissible.
- I am responsible for any misuse that results from sharing my password. Therefore, I will not share my password.
- 9. I will accept the responsibility of any student Internet access from my classroom/office.

I understand that if I do not follow the above guidelines, I may face disciplinary action, loss of technology privileges and network access, and/or legal action. Penalties will be determined by the School District.

lease read carefully and the	n PRINT your name on th	e line below:	
(Please Print)	, have read	the guidelines stated abo	ve and agree to follow them.
lease sign and date below:			
TAFF SIGNATURE		Date:	
	(Please Sign)		(Please date)

Tech Policy - CIPA

Child Internet Protection Act (CIPA)

- Must block or filter Internet access to pictures that are: (a) obscene; (b) child pornography; or (c) harmful to minors (for computers that are accessed by minors). Before adopting this Internet safety policy, schools and libraries must provide reasonable notice and hold at least one public hearing or meeting to address the proposal.
- Internet safety policies must include monitoring the online activities of minors.
- As required by the Protecting Children in the 21st Century Act, they must provide for educating minors about appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms, and cyberbullying awareness and response.



Tech Policy – Records Retention

Michigan Record Retention Policies

 http://www.michigan.gov/documents/hal_mhc rms local gs2 171482 7.pdf

You are responsible for employee training



PERM = Permanent

ACT = Active

EXP = Expiration

SUP = Superseded

EVT = Event

CR = Creation Date

FY = Fiscal Year

School districts need to identify the "office of record," duplicates are "nonrecords" that do not need to be retained.

Page 9

General Retention Schedule #2 Michigan Public Schools

Item		Total
Number	Series Title and Description	Retention

may include the Invitation to Bid, the bid documents that are submitted, the reviewer documentation, etc. **ACT = until a bid is awarded.**

304 Contracts (supersedes item #D9)

EXP+6

These contracts may cover a variety of services including construction, custodial work, copiers, facility rental, Internet providers, maintenance, wiring, telephone services, employment, land, etc. These files may

Tech Policy on eMail Archiving

1 year most common (longer creates risks)

Consider liability

Legal holds



FOIA – Freedom of Information Act

What is FOIA?

Email Retention - <u>Decision Tree</u>

http://www.michigan.gov/documents/hal_mh c rms email faq 161101 7.pdf



Do I need to retain this e-mail message?









The message is an official record.
Identify the retention period and where it should be filed.

NO:
It contains
personal
information,
professional
development
information,
or information
that is not
related to my
job duties.

NO: It contains information I don't have to act upon. NO: Someone else is responsible.

Delete or move to a nongovernment recordkeeping system.

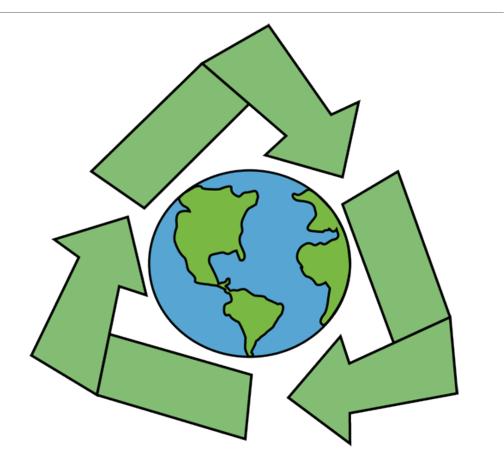
Delete when it no longer has reference value.

Delete when it no longer has reference value.

Tech Policy - Disposal

Technology Disposal

- 1. Sell to staff and community
- 2. Sell to other schools
- 4. Send out to Recycler's



Business Continuity Planning

Backup

- Offsite
- Disk based
- Cloud based cold storage

Replication

Disaster Recovery (DR)

Hot Site



Security

HIPPA – FERPA - Family Educational Rights and Privacy Act

Cloud (Office 365 and Google)

Firewall log

Password rules – i.e. 8+ char passwords

Multifactor Authentication (MFA or 2FA)

Plante Moran Audit (internal controls)



Email Security















Cyber Awareness – KnowBe4

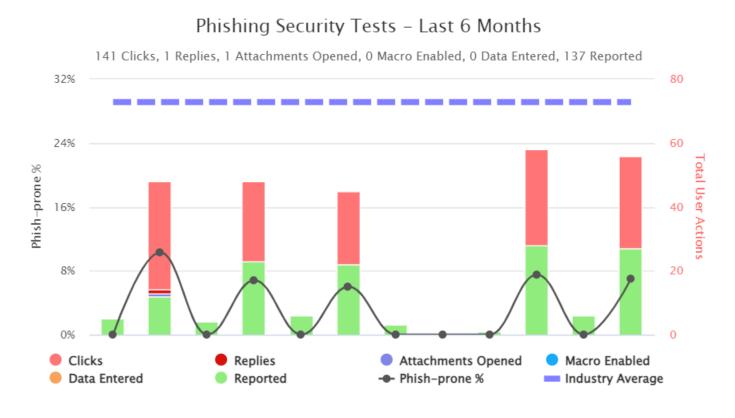
Training

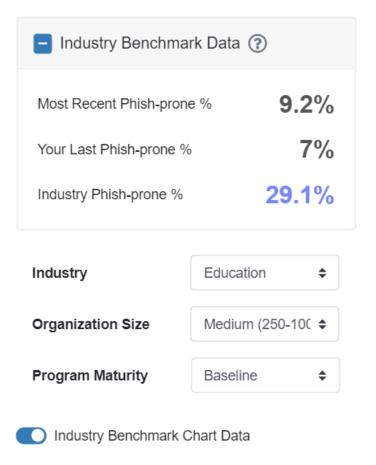
Phish Simulation

Phish Reporting

Follow up training for "clickers"

Phishing





Jump into the tool to show some of the metrics and data available

Trends

What have you seen change in last 3-5 years?

- One-to-one
- Alexa/Google Assistant
- Mobility/Wearable Tech

What will the next 3-5 years look like?

Artificial Intelligence (ChatGPT)



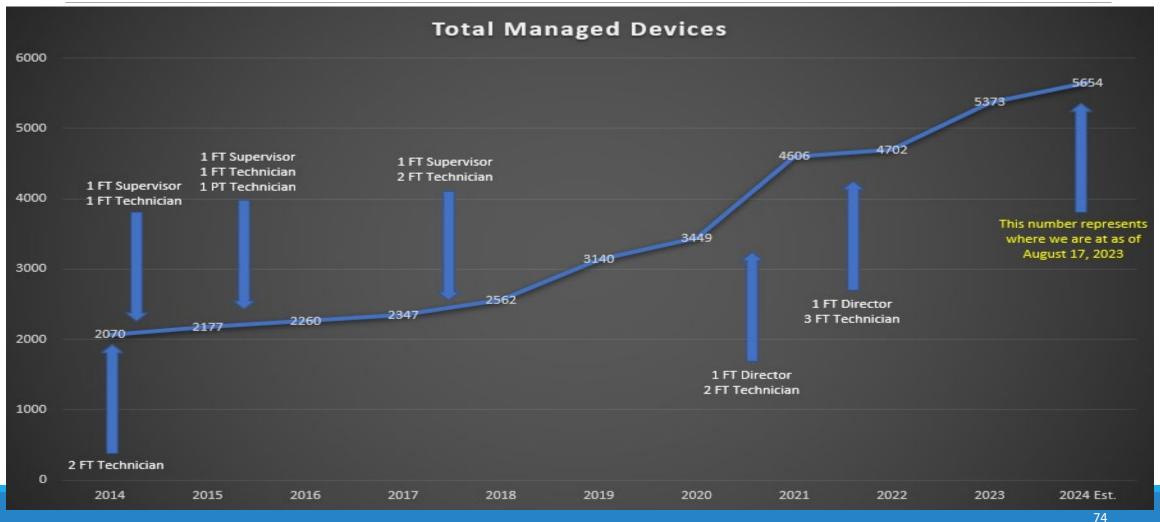
What Has Changed Since COVID-19?

Number of devices

Cyber Security Threats

Heavy reliance on technology (more than ever before)

Our Device Trends



SETSEG Cyber Risk Assessment

Purpose

Cyber Security Claims

Increase in deductible for cyber claims from 10K to 250K

SETSEG CRA Continued

Show example of our SETSEG CRA

Discuss what we've been doing

Artificial Intelligence

ChatGPT

Microsoft Copilot

Google Bard

Pew Research Center surveyed more than **1,400 U.S. teenagers, aged 13 to 17**, about their knowledge, use and views of ChatGPT

About **72 percent of white teens** said they had heard about the chatbot compared with about **56 percent of Black teens**, Pew said

About 75 percent of teens in households with annual incomes of \$75,000 or more said they had heard about ChatGPT, Pew found, compared to just 41 percent of teens in households with annual incomes of less than \$30,000

Source:

https://www.nytimes.com/2023/12/13/technology/chatbot-cheating-schools-students.htm

Many Teens Have Never Heard of ChatGPT

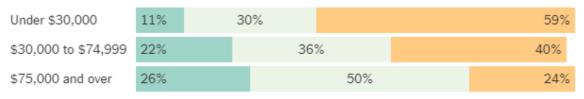
How much, if anything, have you heard about ChatGPT, an artificial intelligence (A.I.) program used to create text?



By race/ethnicity

White	22%	50%	27%
Black	21%	35%	44%
Hispanic	21%	42%	37%

By income



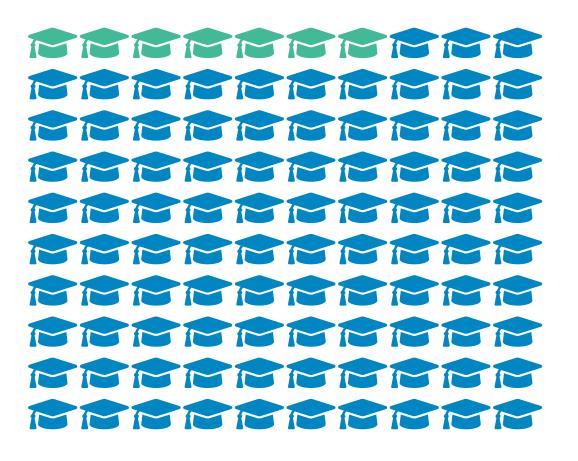
Notes: Chart does not include respondents who did not respond. Respondents of other races are omitted because of low sample sizes. • Source: Pew Research Center survey of U.S. teens conducted Sept. 26 to Oct. 23, 2023 • By The New York Times





Education Systems Worldwide Lack Guidance on Al

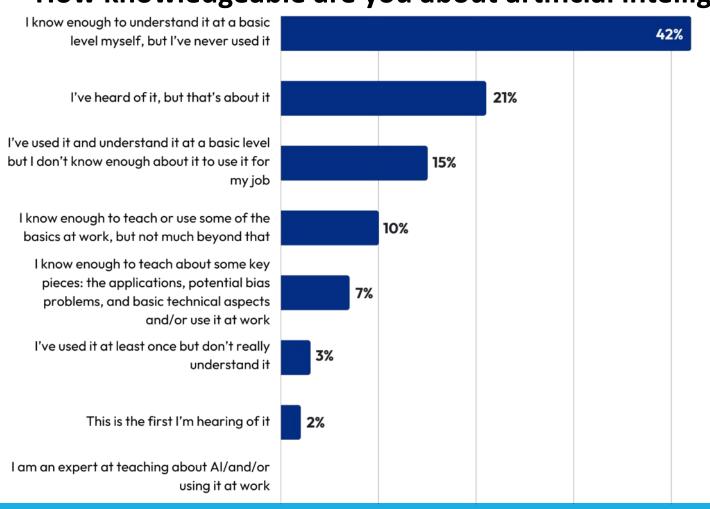
Only 7% of education systems provide guidance about the use of generative AI.





Educators Need More AI Knowledge and Experience

How knowledgeable are you about artificial intelligence?



10

20

Percent (%)

30

40

0

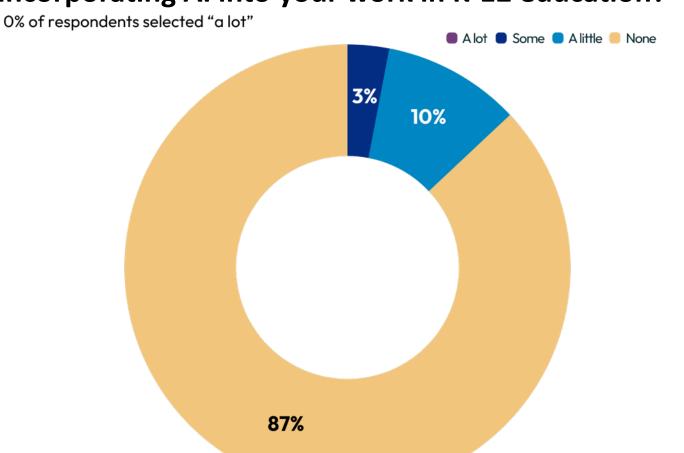
75% have never used AI.

7% use it at work and can teach about applications, bias, and basic technical aspects.



Educators Lack Professional Development on Al

How much professional development have you received about incorporating AI into your work in K-12 education?



87% have never received any PD about AI.



Educational Officials are Seeing Increased Interest in Al Guidance

Yes

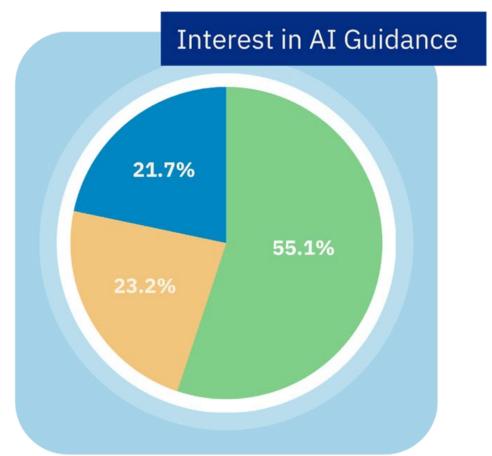
55.1% of officials said they are seeing increased interest in guidance or policy around the use of AI in the classroom compared to last year.

No

23.2% of officials have not seen an increase in interest.

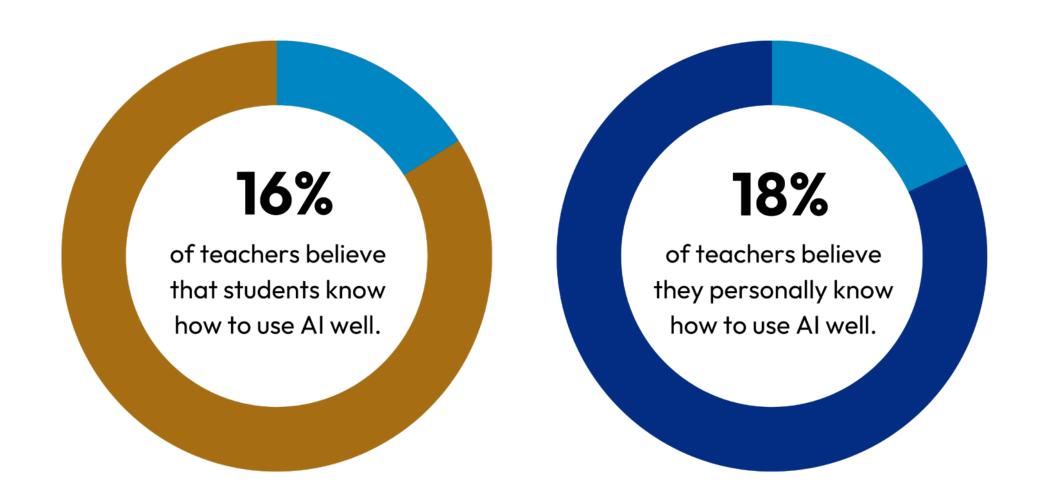
I'm not Sure

21.7% of officials are unsure if the interest has increased.





Educators and Students Don't Know How to Use Al

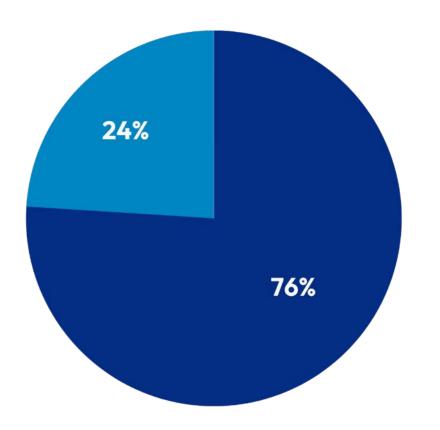




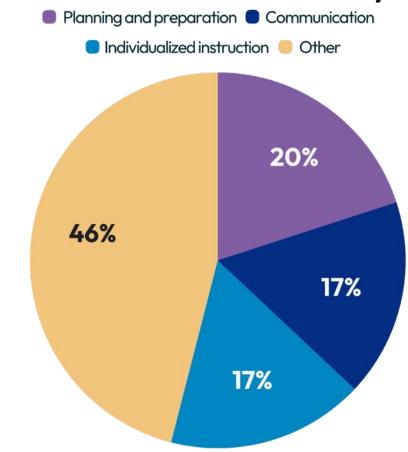
Teachers AI Use for Work

Do teachers use AI for work?

Some use of Al for work
Never use Al for work



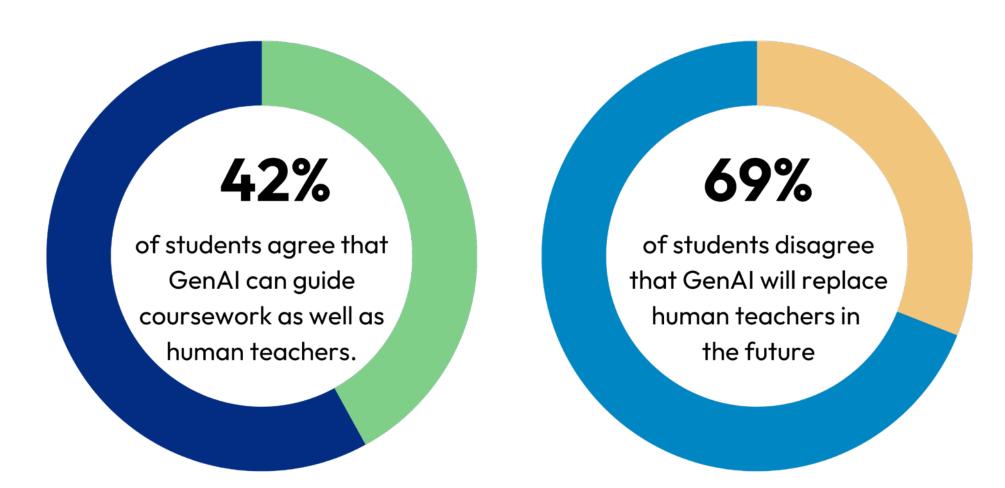
If teachers use AI what do they use it for?



Source: Hart Research



Student Expectations for AI in the Classroom



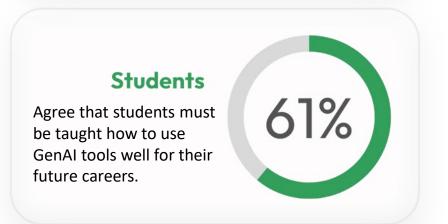


Post-Secondary Expectations for Future Careers



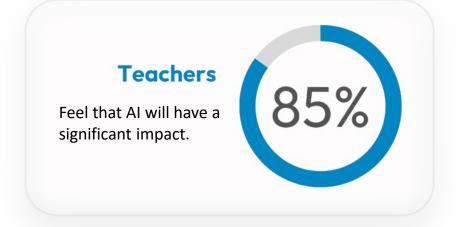


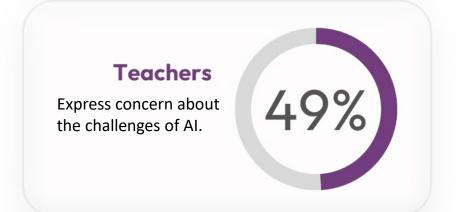


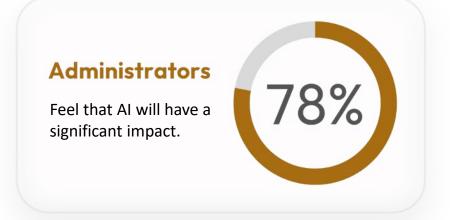


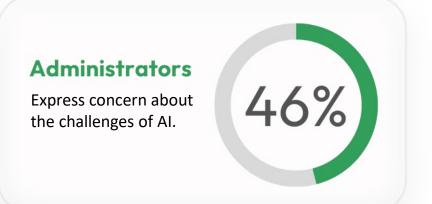


Educators Agree that AI Will Impact the Classroom











Al Usage Has Led to Negative Consequences and Distrust.

Negative Consequence

Half of teachers report a student has had negative consequences for improper use of Al



Distrust

62% of teachers feel that AI has made them more distrustful of student's work



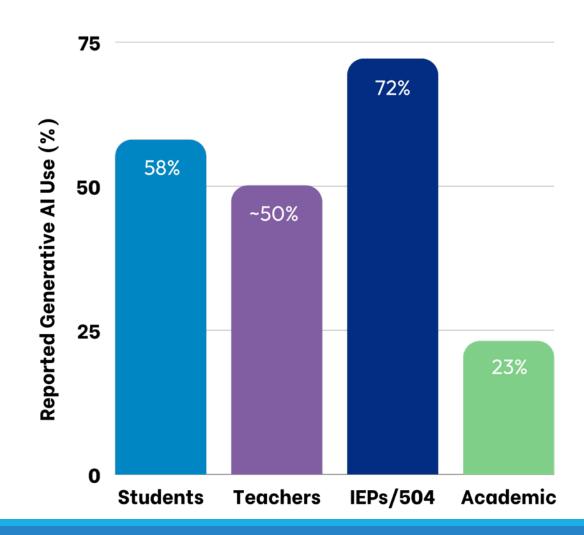


Al Usage in Education

Al usage among teachers and students is high.

Students with IEPs and/or 504 plans report the highest use of generative AI tools.

However, use for academic purposes remains low at 23%.





Teen

Students

have

Different

Motivations

for Using Al

TOOL

62% of teens use AI because they view it as another tool for school work.

DISCONTENT

24% of teens use AI because they are unhappy with the school work.

KNOWLEGE

22% of teens use AI because they believe it eliminates the need to acquire specific knowledge.

PEER PRESSURE

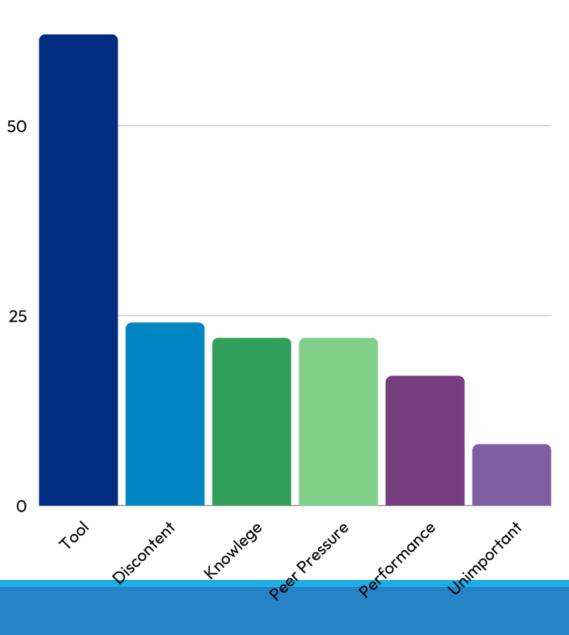
22% of teens use AI because of peer pressure from other students.

PERFORMANCE

17% of teens use AI because they fear poor performance without AI.

UNIMPORTANT

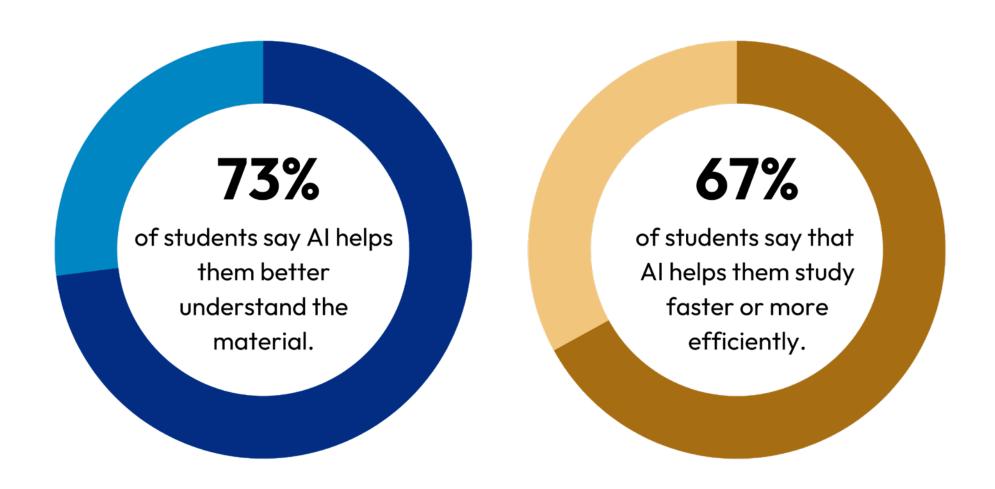
8% of teens use AI because they deem the subject knowledge as unimportant.



Source: Junior Achievement USA

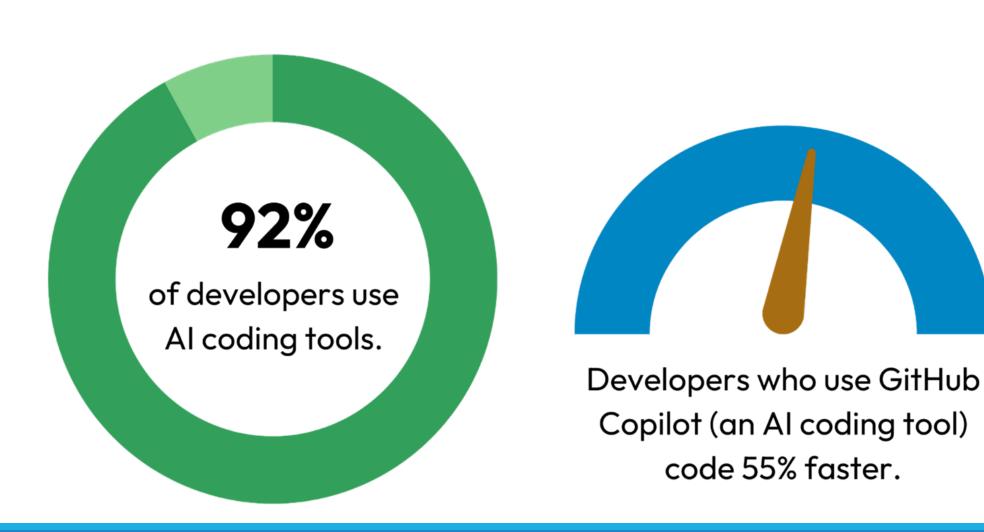


Students See the Benefits of AI in the Classroom



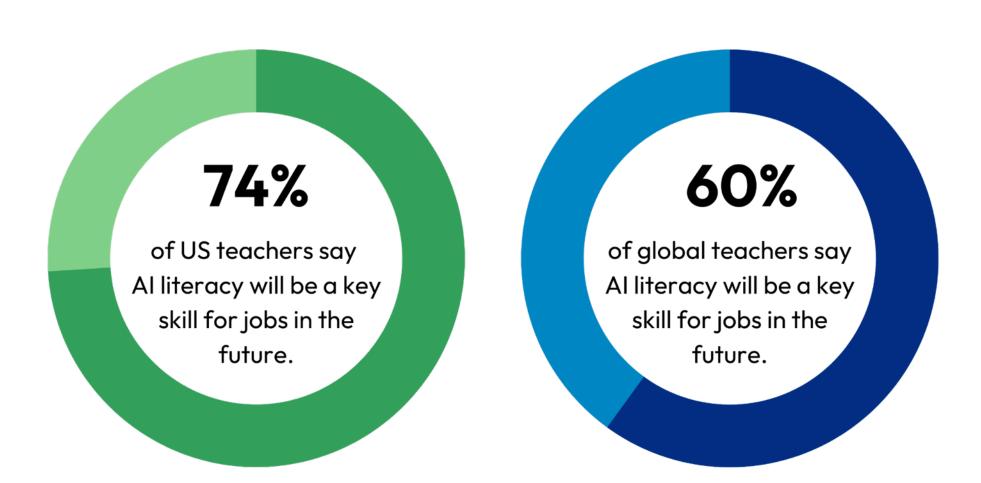


How AI is Impacting Software Developers





Teachers Believe AI Literacy is an Important Skill



Questions?

Kevin M. Hustek, CTO, Director of Technology, Warren Woods Public Schools

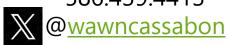
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Finalize Credit for Attendance

New Process: The MSBO Evaluation is your record for attendance.

Please complete by January 25

- ✓ Receive an email from survey monkey for the MSBO evaluation. Your evaluation will be your record for attendance.
- ✓ Receive e-mail from MOECSnoreply@michigan.gov to fill out an evaluation for SCECHs.