



**CREATE THE FUTURE**

Steve Baule  
Winona State University  
507-285-7481  
steven.baule@winona.edu

# EVALUATING THE EFFECTIVENESS OF YOUR TECHNOLOGY PROGRAM

NOVEMBER 2021

IETC

SPRINGFIELD



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# Evaluating the effectiveness of your technology program

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**Full Schedule: [il-edtech.org/agenda](http://il-edtech.org/agenda)**



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# Must Know Info

## NEED PD HOURS?

Scan the appropriate QR code at the end of your day to check out and generate PD Hours Form. Full instructions available in conference program and at [il-edtech.org](http://il-edtech.org)

## ENGAGE @ IETC

### Game: IETC-opoloy!

Find secret codes and complete challenges to collect game pieces throughout the conference. Complete a full set to be entered into special raffle at the registration desk.

[app.gamably.com](http://app.gamably.com)

Enter code "ZXC46U"

### IETC-Q

*Drinks, food, & friends*

Join your fellow educators for an evening packed with delicious food and plenty of laughter.

**Exhibit Hall, 1st Floor**

**Thursday, November 18**

**5:00 - 6:30 PM**

**Thursday**



[4ltc.org/ietc21pd1118](http://4ltc.org/ietc21pd1118)

**Friday**



[4ltc.org/ietc21pd1119](http://4ltc.org/ietc21pd1119)

### CoffeeEDU

*Coffee, conversation, & learning*

Wake up with the early birds for a warm cup of coffee or tea and an enlightening conversation about your edtech interests and aspirations.

**Atrium, 2nd Floor**


**Friday, November 19**

**7:00 AM - 8:00 AM**

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*Program evaluation is essential in today's high stakes accountability environment*





Education is the only business still debating the usefulness of technology. Schools remain unchanged for the most part, despite numerous reforms and increased investments in computers and networks.

- *U.S. Secretary of Education Rod Paige, quoted in National Educational Technology Plan, 2004*

# SHIFTING GEARS...



Getting from here to the Global One Room  
Schoolhouse

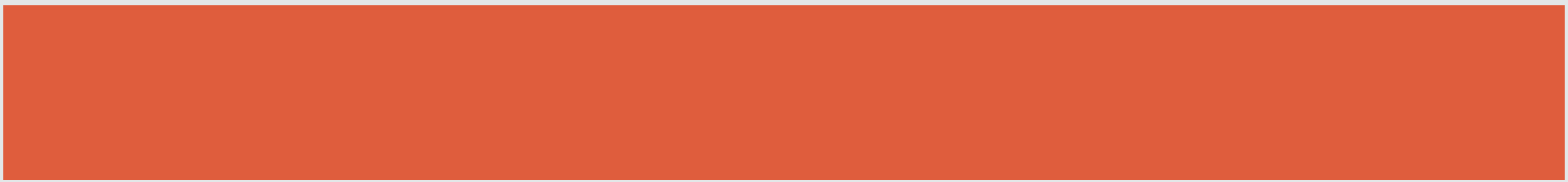
<http://vimeo.com/49645115>

[http://www.youtube.com/watch?v=yocqrhvgBBO&feature=youtube\\_gdata\\_player](http://www.youtube.com/watch?v=yocqrhvgBBO&feature=youtube_gdata_player)



# INTRODUCTIONS

Please Share	
	Name
	School/Organization and your role
	Current technology foundation
	Primary reason for attending today
	Any specific questions you have





## HEALTH & WELLNESS

# Four Days of No Tech for Roxbury Students

By FRED J. AUN  
October 5, 2018 at 4:15 PM



Roxbury students to experience "tech-free" days

↑ DJIA  
16776.53 1.85%

↑ Nasdaq  
4777.31 1.48%

↓ U.S. 10 Yr  
-17/32 Yield 2.054%

↑ Crude Oil  
46.34 1.76%

↓ Euro  
1.1186 -0.24%

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U.S. Reaches Trade Deal With 11 Pacific Nations



Probe Into Secret Service Is Reopened



Coast Guard Believes El Faro Sank



At Least Nine Dead in South Carolina From Rains, Flooding



Ben Had Ties Scrutinized Supplement



4072



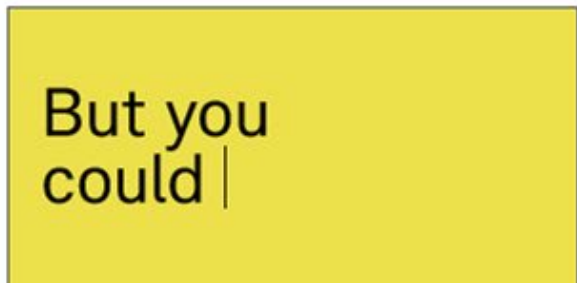
475



U.S. | EDUCATION

## Technology in Classrooms Doesn't Always Boost Education Results, OECD Says

Overexposure to computers and the Internet causes educational outcomes to drop, study finds



Retrieved From: WSJ, Sept 15, 2015 <http://www.wsj.com/articles/technology-in-classrooms-doesnt-always-boost-education-results-oecd-says-1442343420>

# The cons

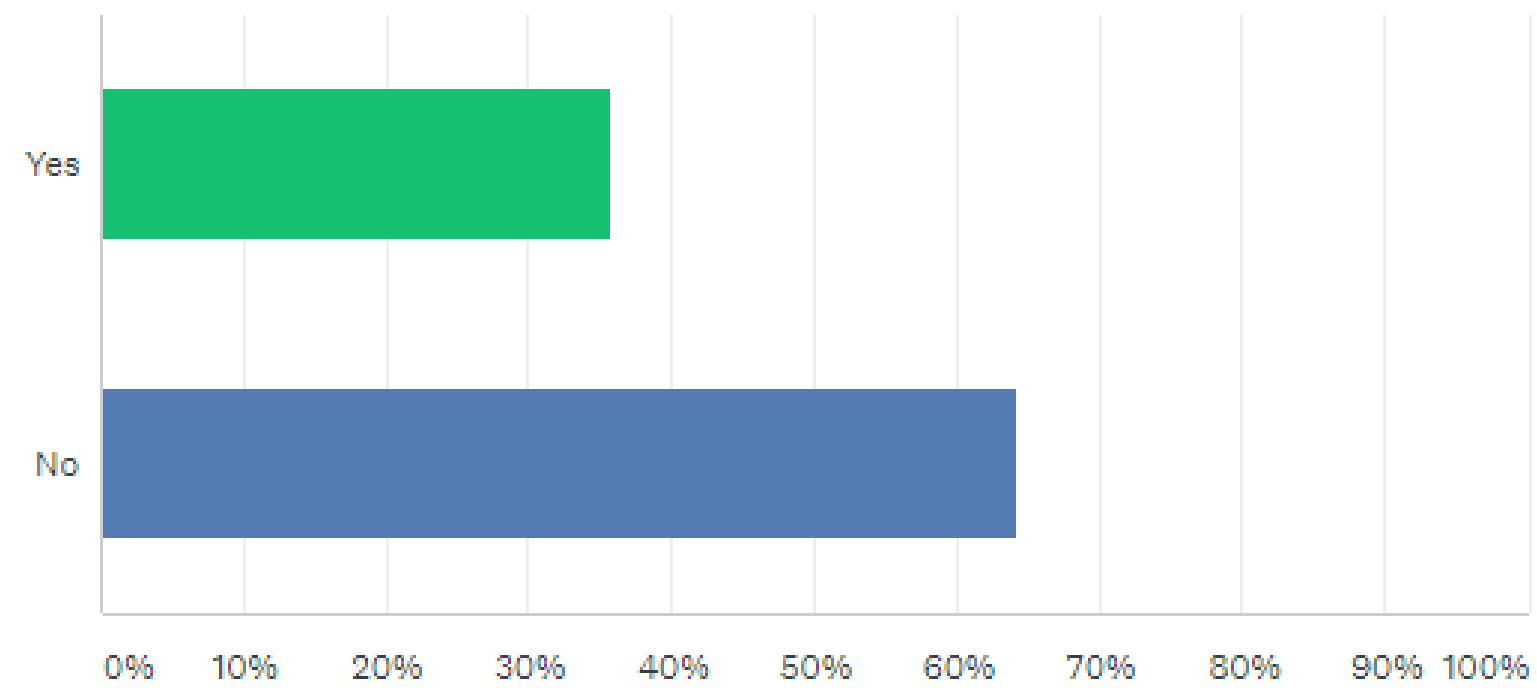
## 1. Technology in the classroom can be a distraction.

Tech savvy students may find it hard to concentrate in class when a wide range of digital devices are around them. College students learn less when they use computers or tablets during lectures, writes Susan Dynarski, a professor of

[HTTPS://TOPHAT.COM/BLOG/6-PROS-CONS-TECHNOLOGY-CLASSROOM/](https://tophat.com/blog/6-pros-cons-technology-classroom/)

# Have you assessed the impact of the 1:1 program?

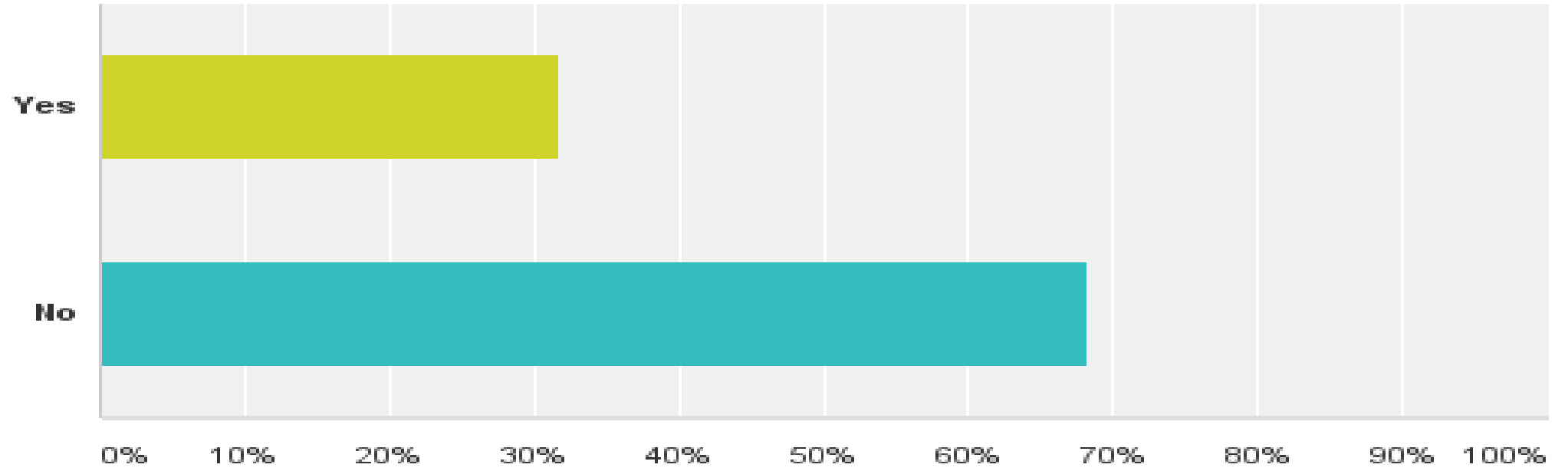
Answered: 165 Skipped: 27



Baule, 2017

# Q21 Have you assessed the impact of the 1:1 program?

Answered: 236 Skipped: 127



# WHY PROGRAM EVALUATION

- Demonstrate program effectiveness to administration and Board of Education
- Improve the implementation and effectiveness of programs
- Better manage limited resources
- Document program accomplishments
- Justify current program funding or support the need for increased levels of funding
- Demonstrate positive and negative effects of program participation
- Document program development and activities to help ensure successful replication

## HOW CAN DISTRICT LEADERS HELP THIS HAPPEN?

- Providing ongoing systemic professional learning for everyone, at all levels
- Being skilled in leading reform measures
- Creating a shared vision based on research and best practices
- Ensuring the use of assessments and evaluations to collect data that will be used to continuously improving learning and instruction.
- Transformative leadership

## AND YOU MUST CONSIDER...

- How to cultivate district, building and staff leadership
- What is the short and long-term financial planning
- Expectation management
- Infrastructure
- Technology preparation, rollout and support
- Communications
- Policies
- Of major importance in successfully engaging a 1:1 program is the community's will to let go of outdated, ineffective practices to make way for the new



# EARLY TECHNOLOGY INDICATORS

- Student to computer ratios
- Age of computing equipment
- IT staff to student or faculty ratios
- Use of computer labs
- Funding
- Website traffic



# IT Program Evaluation: Following the Correct Steps

Determine project goals & objectives to be measured ~ Key Performance Indicators

Determine criteria (or norms) to measure success

Determine measurement period(s)

Determine who will collect the data and how it will be collected

Conduct an analysis of the data & present your results

## WHAT TYPE(S) OF PROGRAM EVALUATION SUITS YOUR NEEDS?

Type of Evaluation	Best Used For
Formative Evaluation	Pilot programs, feasibility studies, etc.
Process Evaluation	Implemented as intended?
Outcome Evaluation	Measures effect on various aspects of the organization
Impact Evaluation	Does the program reach its desired goal?

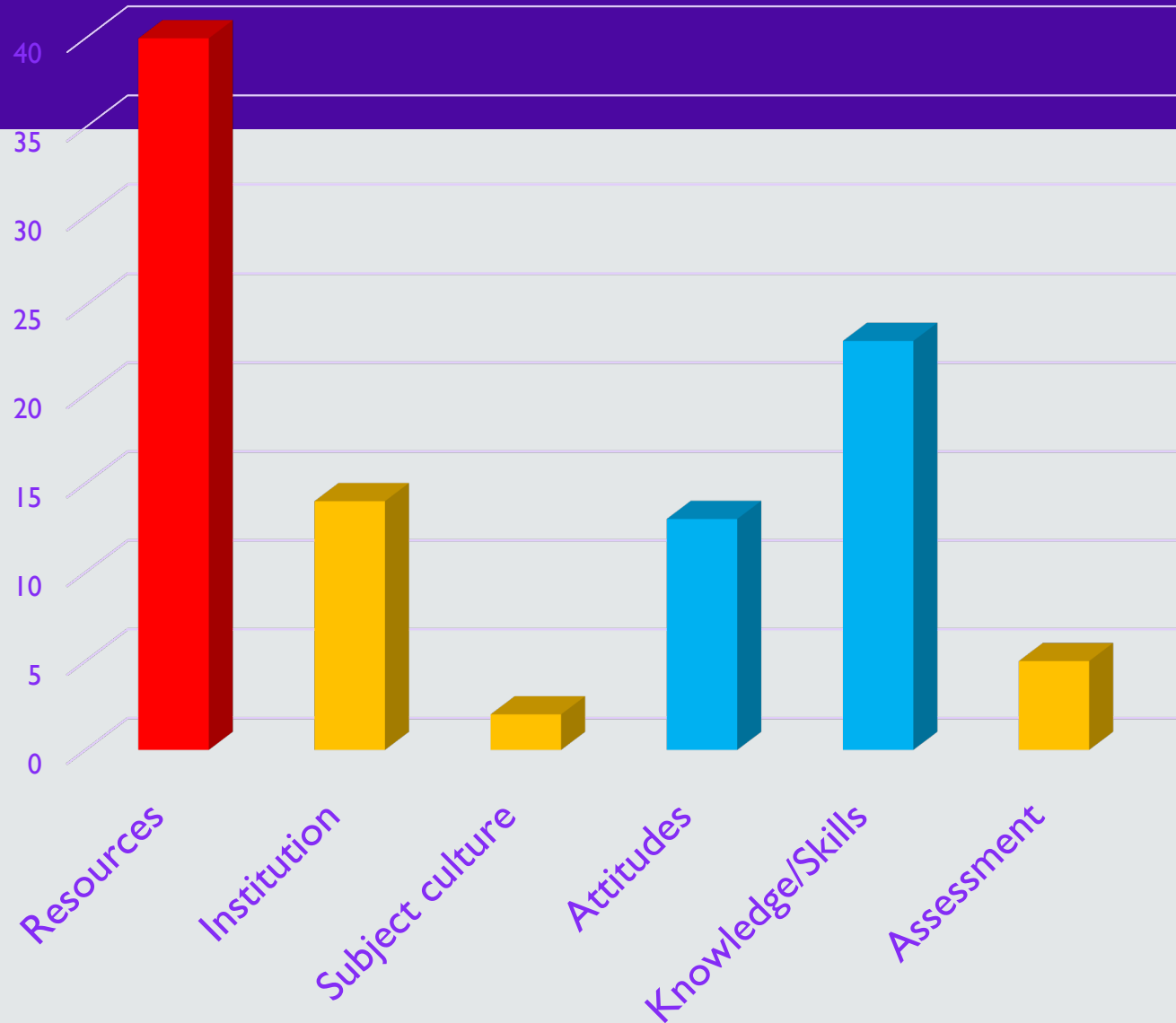
Evaluation Types	When to use	What it shows	Why it is useful
Formative Evaluation Evaluability Assessment Needs Assessment	<ul style="list-style-type: none"> <li>- During the development of a new program.</li> <li>- When an existing program is being modified or is being used in a new setting or with a new population.</li> </ul>	<ul style="list-style-type: none"> <li>- Whether the proposed program elements are likely to be needed, understood, and accepted by the population you want to reach.</li> <li>- The extent to which an evaluation is possible, based on the goals and objectives.</li> </ul>	<ul style="list-style-type: none"> <li>- It allows for modifications to be made to the plan before full implementation begins.</li> <li>- Maximizes the likelihood that the program will succeed.</li> </ul>
Process Evaluation Program Monitoring	<ul style="list-style-type: none"> <li>- As soon as program implementation begins.</li> <li>- During operation of an existing program.</li> </ul>	<ul style="list-style-type: none"> <li>- How well the program is working.</li> <li>- The extent to which the program is being implemented as designed.</li> <li>- Whether the program is accessible and acceptable to its target population.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides an early warning for any problems that may occur.</li> <li>- Allows programs to monitor how well their program plans and activities are working.</li> </ul>
Outcome Evaluation Objectives-Based Evaluation	<ul style="list-style-type: none"> <li>- After the program has made contact with at least one person or group in the target population.</li> </ul>	<ul style="list-style-type: none"> <li>- The degree to which the program is having an effect on the target population's behaviors.</li> </ul>	<ul style="list-style-type: none"> <li>- Tells whether the program is being effective in meeting its objectives.</li> </ul>
Economic Evaluation: Cost Analysis, Cost-Effectiveness Evaluation, Cost-Benefit Analysis, Cost-Utility Analysis	<ul style="list-style-type: none"> <li>- At the beginning of a program.</li> <li>- During the operation of an existing program.</li> </ul>	<ul style="list-style-type: none"> <li>- What resources are being used in a program and their costs (direct and indirect) compared to outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides program managers and funders a way to assess cost relative to effects. "How much bang for your buck."</li> </ul>
Impact Evaluation	<ul style="list-style-type: none"> <li>- During the operation of an existing program at appropriate intervals.</li> <li>- At the end of a program.</li> </ul>	<ul style="list-style-type: none"> <li>- The degree to which the program meets its ultimate goal on an overall rate of STD transmission (how much has program X decreased the morbidity of an STD beyond the study population).</li> </ul>	<ul style="list-style-type: none"> <li>- Provides evidence for use in policy and funding decisions.</li> </ul>

## THREE PRIMARY APPROACHES

**Technology  
Itself**

**Overall  
Student  
Achievement**

**Program  
Effectiveness**



# BARRIERS TO INTEGRATION

Delgado, A. J., Wardlow, L., McKnight, K., & O'Malley, K. (2015). Educational technology: A review of the integration, resources, and effectiveness of technology in K-12 classrooms. *Journal of Information Technology Education: Research*, 14, 397-416

# PRIMARY METHODS OF TECHNOLOGY EVALUATION (TECHNOLOGY ITSELF)

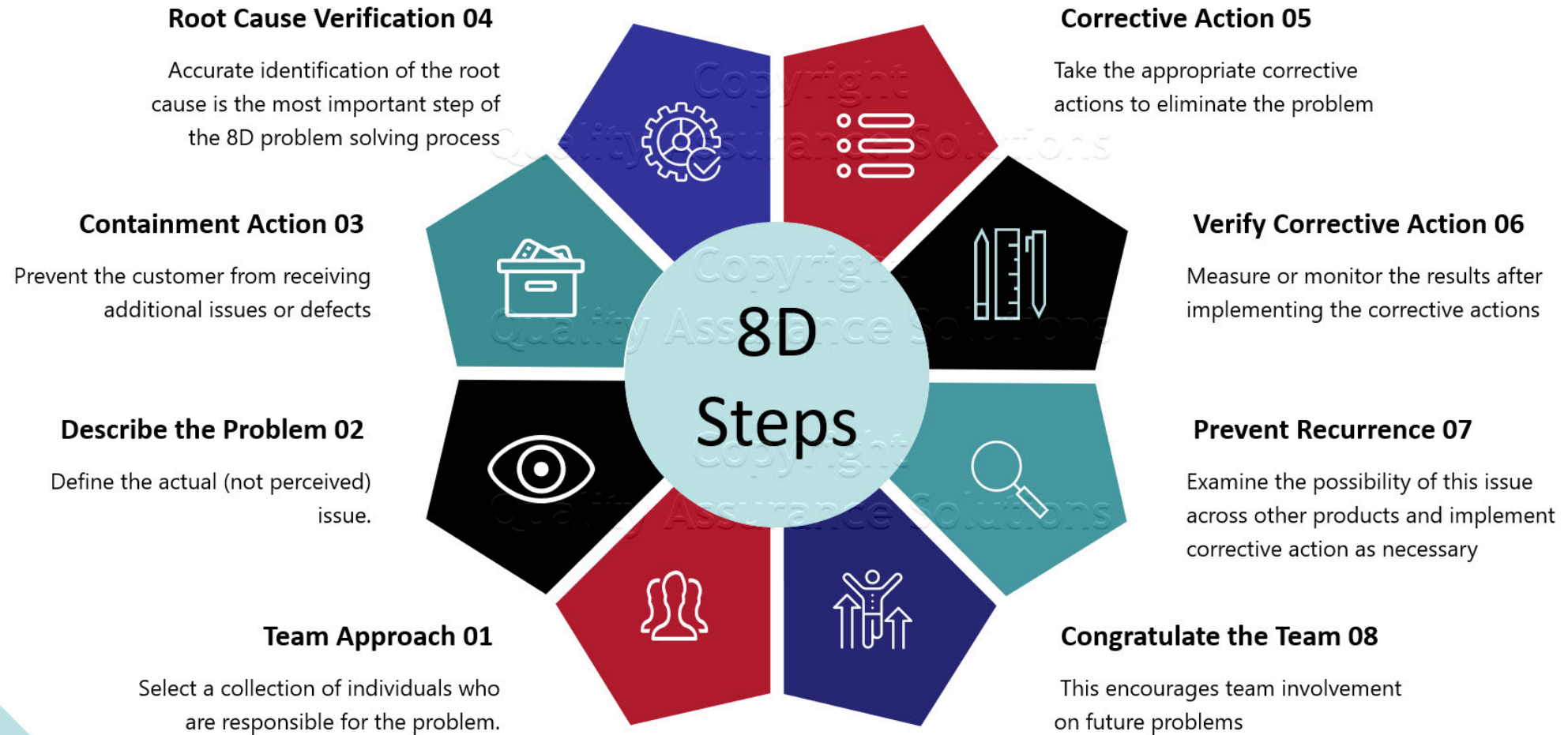
- Technology Benchmarking
- Failure Analysis
- Life Cycle Analysis
- Total Cost of Ownership / Return on Investment

## 8D Approach | Problem Solving Steps

- D1** • Establish the Team
- D2** • Defining the problem or Problem description
- D3** • Containment/Short-term/Interim Actions
- D4** • Identifying & Verifying Root Cause
- D5** • Identify/choose Permanent Corrective Actions
- D6** • Implement Permanent Corrective Actions
- D7** • Preventive Actions
- D8** • Team Recognition



# 8D Problem Solving Process



# HOW TO MEASURE SUCCESS

- Compare to Benchmarks
  - Criterion Referenced
  - Rubrics can work well here
- Measure Growth
  - Norm Referenced
- Qualitative Measures



## COSN'S ELEMENTS

- Devices
- Networks
- Systems
- IT Spending
- Support
- Online Learning



## - IT Key Performance Indicators -

*37 Information Technology Key Performance Indicators for CoSN Members*

### DEVICES - 6 Measures

- Advanced Presentation Devices per Teacher
- Average Age of Computers
- Computers per Employee
- Tablets per Student (Student Use)
- Devices per Student
- Devices per Teacher (Dedicated Teacher Use)

### NETWORK - 5 Measures

- Bandwidth per Student
- Bandwidth per User
- Days Usage Exceeds 75% of Capacity
- Overflow Capacity
- WAN Downtime

### SYSTEMS - 10 Measures

- Business Systems Cost Per Employee
- Instructional Systems Cost Per Student
- Systems Downtime - E-Mail
- Systems Downtime - ERP
- Systems Downtime - Finance System
- Systems Downtime - HR System
- Systems Downtime - LCMS/IMS
- Systems Downtime - Online Assessment System
- Systems Downtime - Payroll System
- Systems Downtime - SIS

### IT SPENDING - 6 Measures

- Capital Investments
- Hardware, Systems And Services
- Personnel Costs
- IT Spending Per Student
- IT Spending Percent Of District Budget
- IT Spending Spending Per District FTE

### SUPPORT - 6 Measures

- Break/Fix Staffing Cost per Ticket
- First Contact Resolution Rate
- District Employees per Help Desk FTE
- Help Desk Call Abandonment Rate
- Help Desk Staffing Cost per Ticket
- Mean Time to Resolve Tickets

### ONLINE LEARNING - 4 Measures

- Blended Courses Completed Per Course Offering
- Blended Courses Offered
- Online Courses Completed Per Course Offering
- Online Courses Offered

Enrollment	Annual License Fee
1,000	\$500

From CoSN, KPI, 2014.

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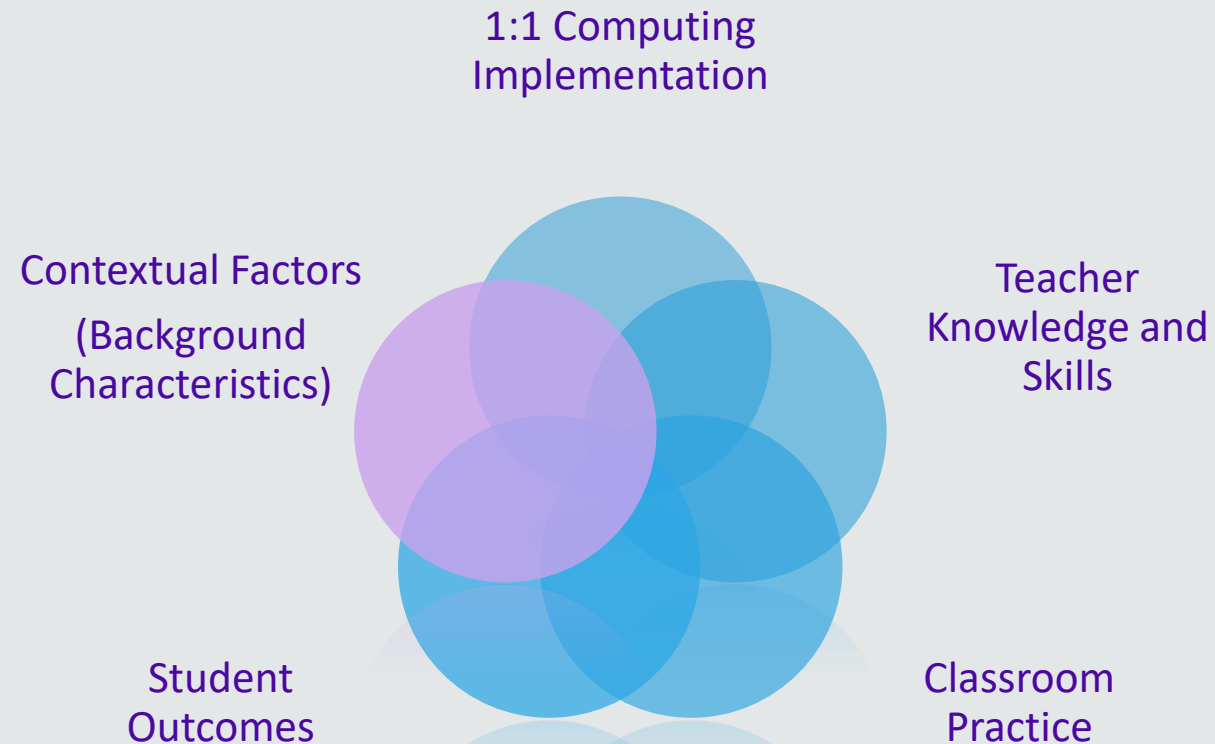
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- Online Courses Completed Per Course Offering
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Enrollment	Annual License Fee
...	...

From CoSN, KPI, 2014.

# FACTORS FOR EVALUATION FROM INTEL



## WHAT DOES PROJECTRED SAY?

First and foremost, the 1:1 program needs to be focused on student learning, personalization and the most effective methods for the delivery of instruction. A 1:1 program's vision and goals will vary from district to district, but maximizing the learning potential of each individual student must remain the core of established goals.



# ADDITIONAL PERFORMANCE MANAGEMENT RESOURCES

- CoSNs KPI
- ISTE Standards and Performance Indicators
  - <http://www.slideshare.net/mictwell/iste-nets-and-performance-indicators-for-teachers>
- ISTE 14 Essential Conditions
  - <http://www.iste.org/standards/essential-conditions>



# Education Success Measures (ESMs)

REVOLUTIONIZING *EDUCATION*

## What are the outcomes we wish to improve?

### All Schools

1. *Fewer* disciplinary actions
2. *Lower* dropout rates
3. *Less* paperwork
4. *Lower* paper and copying expenses
5. *Higher* teacher attendance
6. *Higher* test scores

### High Schools

7. *Higher* AP course enrollment
8. *Higher* college attendance plans
9. *Higher* course completion rates
10. *Higher* dual/joint enrollment in college
11. *Higher* graduation rates

From ProjectRED

[http://www.kent.k12.wa.us/cms/lib/WA01001454/Centricity/Domain/567/Project\\_RED\\_Presentation\\_121010.pdf](http://www.kent.k12.wa.us/cms/lib/WA01001454/Centricity/Domain/567/Project_RED_Presentation_121010.pdf)

<b>What</b> will you measure?	<b>How</b> (What is the measurement tool)?	<b>When</b> (Annually, Quarterly, etc.)	Success will equal what?	<b>Who</b> (Which stakeholders are involved in the goal setting and reporting?)
Student Engagement and Motivation				
Cost savings				
Increased Student Achievement				

# A STUDENT ENGAGEMENT EXAMPLE

- Goal to increase student engagement through the implementation of I:I technology
- How will you measure student engagement?
  - Survey data?
  - Attendance?
  - Observation?

### Priority 1: End-User Support

*Provide exceptional service and support to our end users.*

Goal 1: Educate end users on IT tools and resources

Goal 2: Provide timely and transparent communication and IT solutions to our end users

### Priority 2: Campus and Community Engagement

*Engage and inform both campuses and the greater Bemidji community.*

Goal 1: Increase IT communication across both campuses

Goal 2: Increase IT engagement across both campuses

Goal 3: Increase IT engagement in the greater Bemidji community

### Priority 3: Security

*Ensure the secure use of IT resources.*

Goal 1: Promote a culture that balances security needs and academic freedom

Goal 2: Help ensure the protection of data

### Priority 4: Infrastructure

*Build and utilize an IT infrastructure that supports success.*

Goal 1: Ensure reliable access to the network and computing resources

Goal 2: Ensure accessible and reliable technology tools for students in all learning environments

Goal 3: Move towards a more sustainable cloud environment

### Priority 5: IT Team Development

*Build and foster a cohesive and effective IT team.*

Goal 1: Invest in and support the development of IT leadership and staff

Goal 2: Foster a cohesive and effective team, with a clear understanding of roles and responsibilities

Goal 3: Increase the value of and opportunities for IT student employees.

## Priority & Goal 4: Infrastructure

*To build and utilize an IT infrastructure that supports success.*

Goal 1: Ensure reliable access to the network and computing resources

- **Action Item 1:** Beginning Fall 2018, update IT core infrastructure such as cabling and network equipment whenever any new construction, renovation or remodeling is occurring on campus.
- **Action Item 2:** By Fall 2021, update at least 25 percent of aging fiber optics on campus.

Goal 2: Ensure accessible and reliable technology tools for students in all learning environments

- **Action Item 1:** Beginning Fall 2018, gather input each semester regarding lab and classroom technology needs for the same semester next year.
- **Action Item 2:** By Spring 2020, develop and utilize an annual life-cycle plan for all end-point equipment: from acquisition to disposal.

Goal 3: Move towards a more sustainable cloud environment

- **Action Item 1:** Beginning Spring 2019, conduct a cloud-analysis with every new service and equipment request.
- **Action Item 2:** By Fall 2020, utilize cloud-storage for 100 percent of individual (non-shared) files.
- **Action Item 3:** Beginning Fall 2019, migrate at least one department to digital imaging/archiving each year.

# IMPROVING STUDENT MOTIVATION & ENGAGEMENT

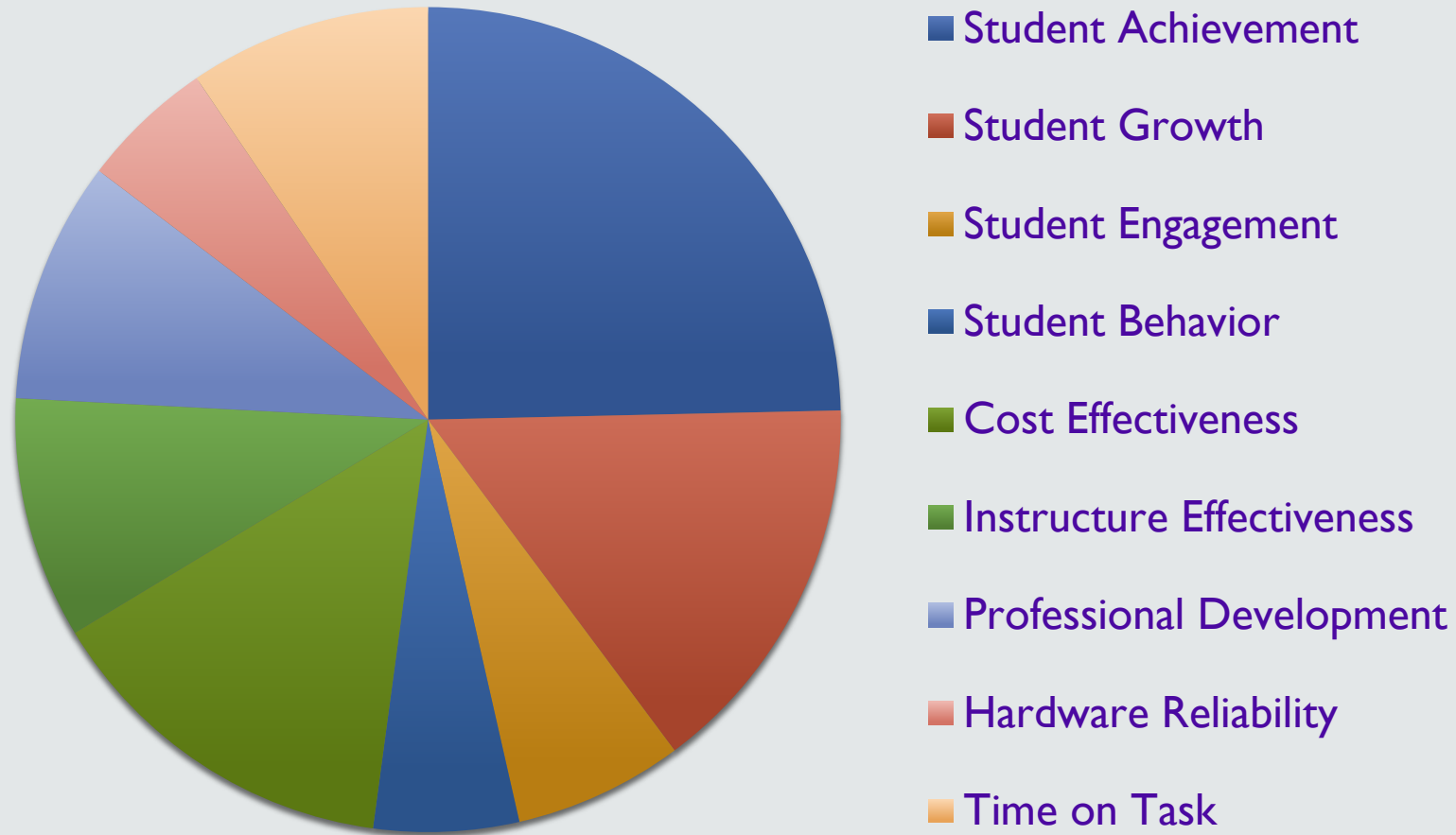
## Success Indicators

- A decrease in office referrals, detentions and suspensions
- A decrease in the number of days absent
- An increase in homework completion

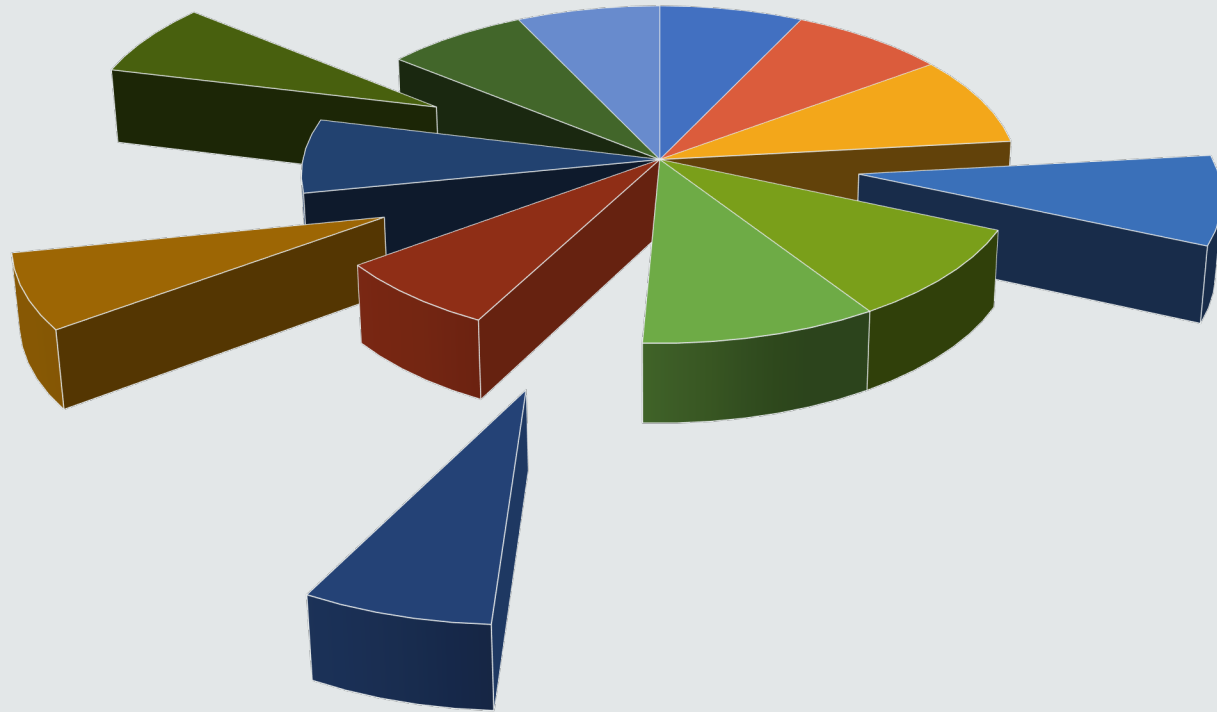
## Results

- Reduced from 138 to 28
- 45.8% decrease in days absent
- Completion increased from 59% to 76.2%

# Potential Aspects of Instructional Technology Programming

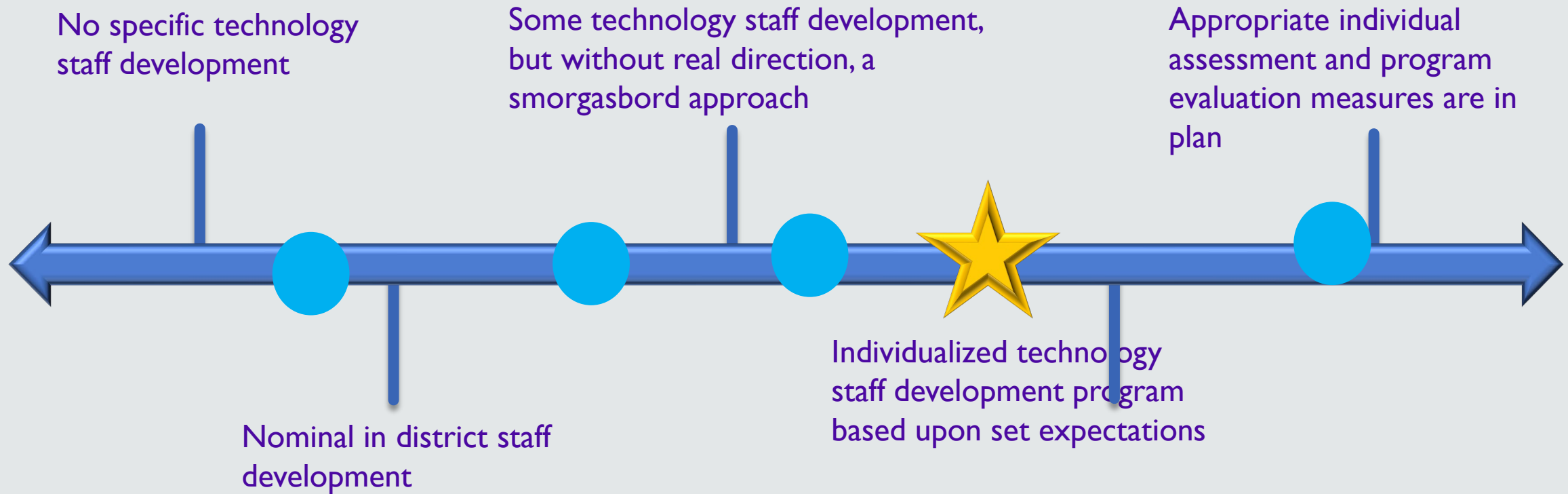


# A HOLISTIC APPROACH CAN BE MORE IMPACTFUL



Facets
Infrastructure
Hardware
Software
Administrative Software
Service and Support
Staff Readiness
Technology Staff Development
Integration into the General Instructional Program
Integration into Special Instructional Programs
Technology Facilities
Internet and Social Media Presence
Organization of Technology Services

# WHERE DOES YOUR DISTRICT FALL ON THE CONTINUUM?





# QUESTIONS TO ASK WHEN EVALUATING A TECHNOLOGY PROGRAM

- Does the district's infrastructure support the instructional and administrative goals of the district?
- Do the district's administrative systems support and encourage effective data driven decision making?
- Is the district's software suite appropriate to support the district's instructional and administrative goals? Are the necessary policies, procedures, and processes in place in order to secure all district data resources from both internal and external threats?
- Does the district have adequate policies, processes, and staff in order to support all aspects of the district's technology resources? Does the organization of the technology staff facilitate effectiveness and responsiveness to organizational and individual and collective staff needs?
- How does the district determine professional development needs related to technology? How are those needs addressed?
- How is technology being integrated into the teaching and learning process to improve student achievement?
- Is technology being effectively leveraged in the development of modifications and adaptations to the instructional program in order to effectively support the needs of exceptional children?
- Does the district's Internet and social media presence provide positive, factual, accurate, and timely picture of the district's activities, successes, and challenges?
- Does the district have adequate facilities and resources to support the IT staff and their functions, including help desk functions, repair, inventory control, professional development, and instructional technology resources?
- How is technology organized within the school/district/organization? How does technology fit within the organizations mission and vision?

# #1: DOES THE DISTRICT'S INFRASTRUCTURE SUPPORT THE INSTRUCTIONAL AND ADMINISTRATIVE GOALS OF THE DISTRICT?



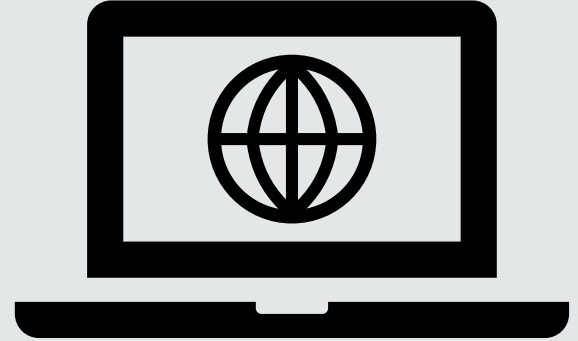
# FACETS OF INFRASTRUCTURE

- ISP Connectivity
- Firewalls / CIPA Compliance
- Data Storage: SAN v. Cloud, etc.
- Wired Network / Electrical Capacity
- Wireless Network
- E-mail and Account Management
- Hardware Base
- Help Desk Support / Repair Support



# ADMINISTRATIVE NEEDS

- What kinds of technologies do administrators have? What technologies do they need to have access to?
- How can technology be applied in the administration of the school? Of the district?
- What are the next steps in refining and better utilizing the district's present administrative software systems?
- How can routine administrative tasks such as processing purchase orders, vacation requests, and sick leave be automated to make better use of clerical time?
- What staff development or training do administrative and support personnel need to be able to make the best use of technology?
- How can the district use technology to assist in the attraction and retention of good teachers and other staff?
- How can the administration use technology to enhance communications with all stakeholder groups within the school or district?
- How do the present administrative software packages potentially tie to the move towards a standard data interface for student records and fiscal reporting?



EVERYONE HAS A COMPUTER, BUT...

# HARDWARE BASE

Don't forget the need for non- I:I devices

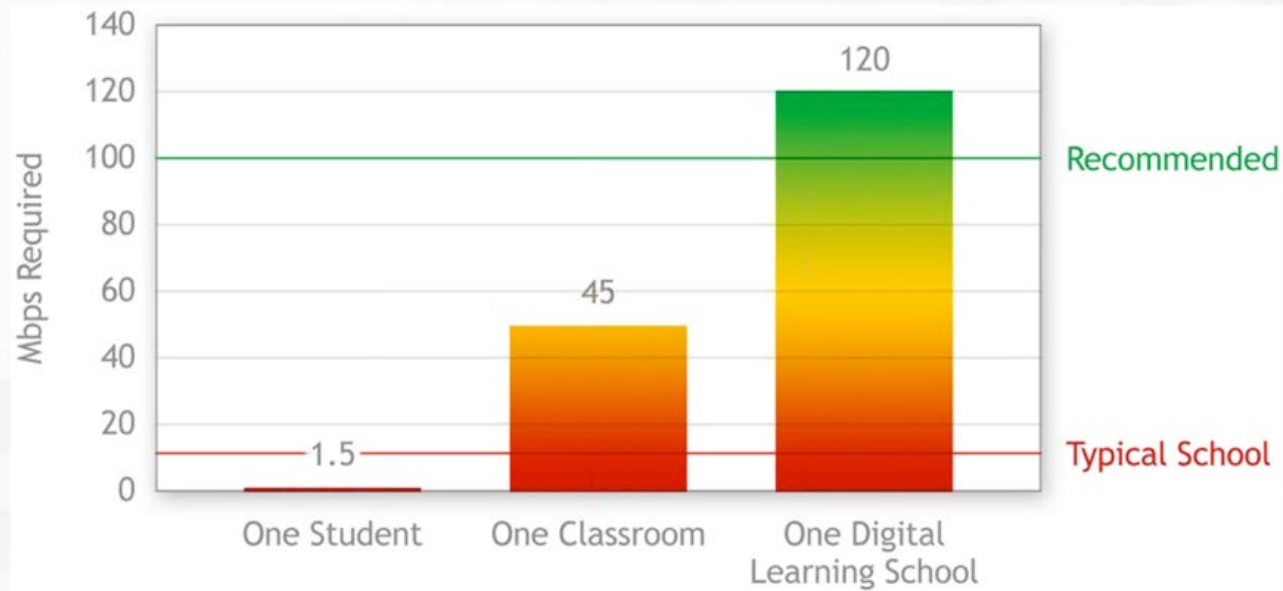
- Rotation plan
- Reduce the number of labs?
- Loaner equipment
- Loaner mice, keyboards, headphones?



# Digital Learning Requires High Speed Internet



Typical School has 10-15 Mbps



Assessment	Recommendation
Partnership for Assessment of Readiness for College and Careers (PARCC)	100 kbps/student recommended

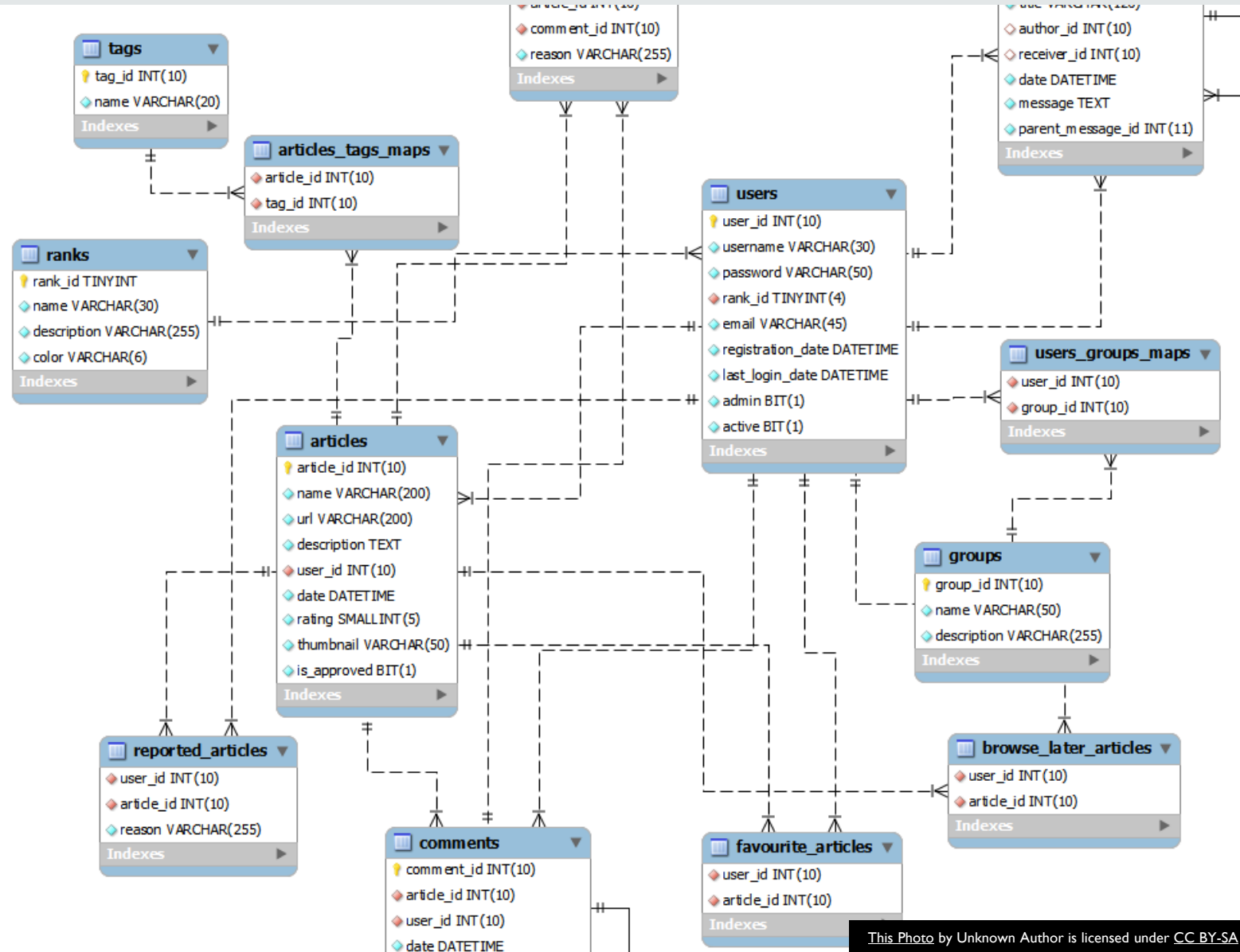






## COULD YOUR IT SYSTEMS ANSWER THESE QUESTIONS

- Provide a list of students to principals by bus route or mode of transportation?
- Which students are receiving math interventions by grade and demographic groupings?
- What is the impact of student's participating in athletics on their state test scores?



This Photo by Unknown Author is licensed under CC BY-SA

# DATA MAPPING WITHIN AND BETWEEN SYSTEMS



Human Resources

Business Services

Student Records

Food Service

Transportation

Research and Data Analysis

MANAGEMENT  
INFORMATION  
SYSTEMS

## MIS Questions

What software do you currently use?

On what platform/hardware configuration?

How many users?

Does it support multiple browsers, OSs?

What is the annual maintenance costs?

Do you receive the source code as part of the purchase?

Are you happy with the level of support you receive?

Who is the primary software contact?

Was the initial training provided adequate?

Is training offered locally by the vendor?

Is there an Illinois Users Group?

If yes, how often do they meet?

Are all/most ISBE reports part of the software package?

If yes, which ones if any are not covered?

If no, which reports are covered ?

Any serious problems?

How often is the software updated?

Are their additional fees for updates?

Did you have any data converted into the new system?

If yes, how did that process go?

How easy is it to extract data to a .csv or similar format?

Does the software package a standard report writer?

If yes, which one?

How many on your staff people support the system?

How reliable is the system?

What do you like the most about the system?

What are the system's drawbacks?

Who could we talk to for more in-depth information?

#3: IS THE DISTRICT'S SOFTWARE SUITE APPROPRIATE TO SUPPORT THE DISTRICT'S INSTRUCTIONAL AND ADMINISTRATIVE GOALS?

#4: ARE THE NECESSARY POLICIES, PROCEDURES, AND PROCESSES IN PLACE IN ORDER TO SECURE ALL DISTRICT DATA RESOURCES FROM BOTH INTERNAL AND EXTERNAL THREATS?

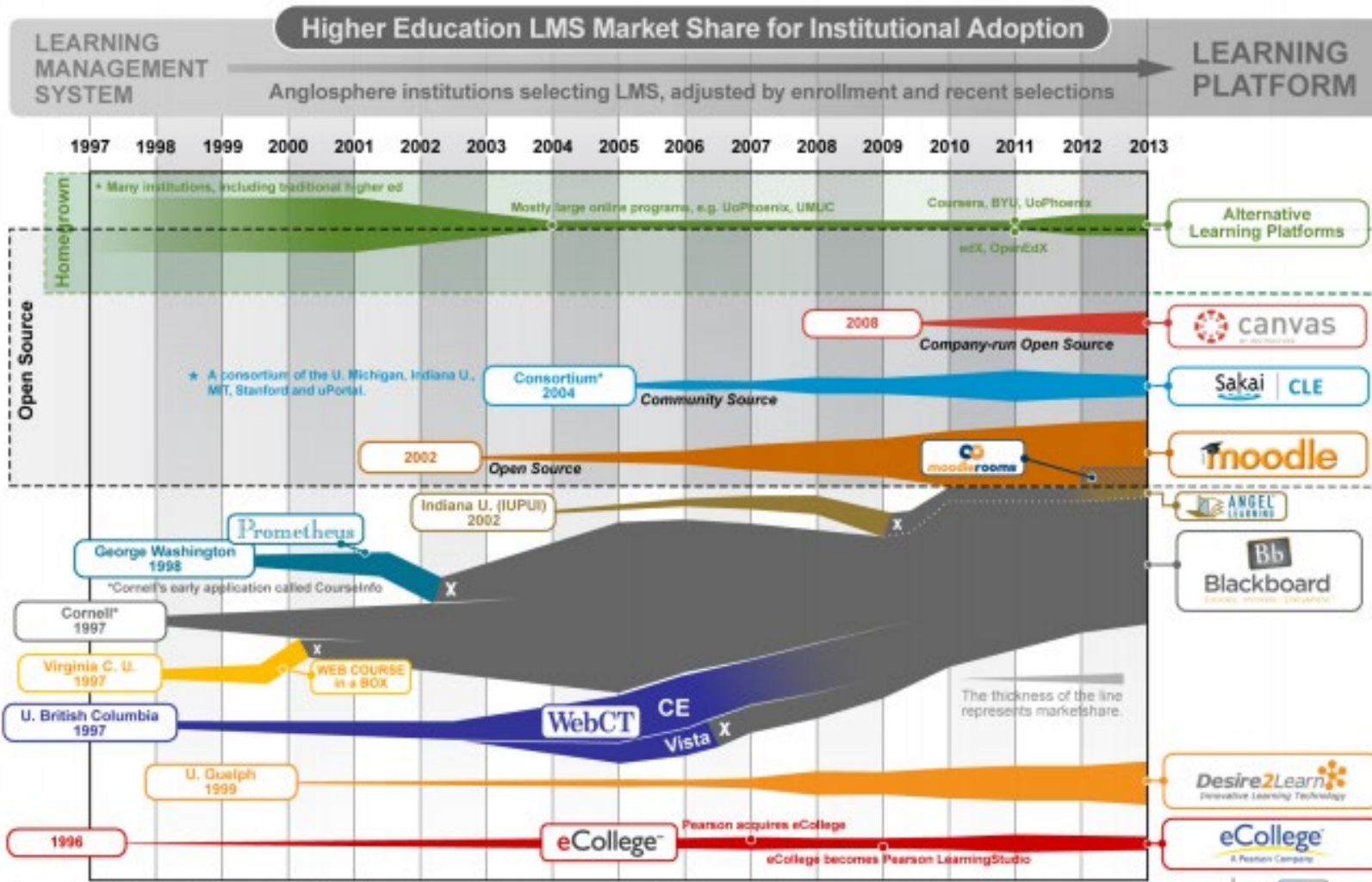


# Anatomy of the WSU NGDLE

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Key data from 2005 - 2009 from Campus Computing project <http://www.campuscomputing.net>,  
 2013 data from Edutechnica <http://www.edutechnica.com>

Phil Hill (@PhilOnEdTech)





# CLASSROOM TECHNOLOGY QUESTIONS

## **Classroom Technology:**

- What is the standard computer/AV configuration within a classroom?
- A science lab?
- If all classrooms are not equipped similarly, what criteria do you use to place equipment?
- What types of standard computer software are loaded on all (or nearly all) computers?

## **What type of network does your building/district have?**

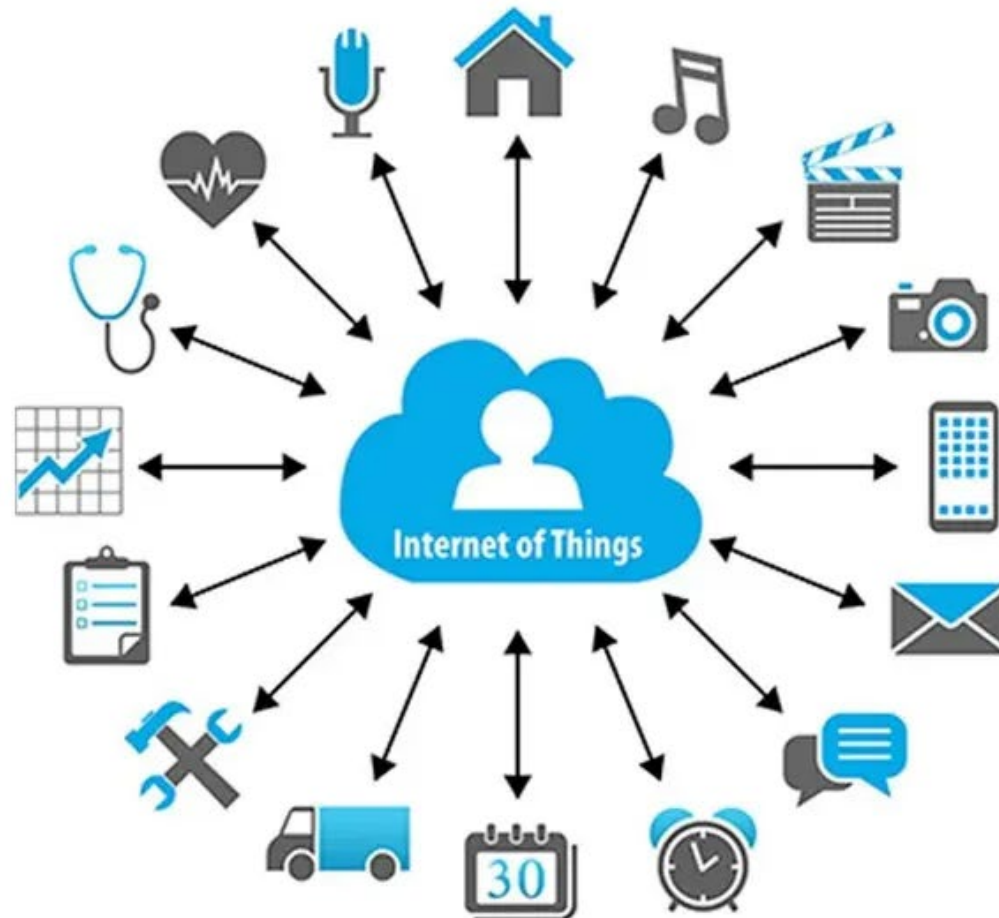
- What kind of access do teachers have to technology outside of the classroom?
- What kind of access do students have to technology outside of the classroom?

## **What are some examples of how the classroom equipment is being used?**

## Technology Integration Rubric

	<b>Initiating</b>	<b>Developing</b>	<b>Demonstrating</b>
<b>Attitudes</b>	<ul style="list-style-type: none"> <li>Teacher is not sure that technology will enhance their teaching or their students' learning, but tries to integrate nonetheless.</li> <li>Teacher is fearful of change.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher has some positive experiences with technology and begins to see its potential to enhance their teaching and to enhance student learning.</li> <li>Teacher occasionally shares practices with other teachers.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher has had many positive experiences with technology integration.</li> <li>Teacher is a champion of technology integration.</li> <li>Teacher frequently shares practices among teachers.</li> </ul>
<b>IT Fluency</b>	<ul style="list-style-type: none"> <li>Teacher uses technology primarily for presentation or demonstration purposes.</li> <li>Teacher begins to use technology for interactive student activities.</li> <li>Teacher uses online access to information from within school.</li> <li>Teacher uses technology for professional and personal use, such as Microsoft Office software or e-mail.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher sometimes uses technology for both presentation and interactive student activities (communication, production, collaboration).</li> <li>Teacher uses online access to information from within school and from home, or from other settings.</li> <li>Teacher uses technology for personal and professional use, such as MS Office, e-mail, and some Web 2.0 technologies.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher regularly uses technology for both presentation and interactive student activities (communication, production, collaboration).</li> <li>Teacher uses online access to information from within school and from home, or from other settings.</li> <li>Teacher uses technology for personal and professional use such as MS Office, e-mail, and is comfortable with different Web 2.0 technologies.</li> </ul>
<b>Planning and Instructional Design</b>	<ul style="list-style-type: none"> <li>Teacher is comfortable with the Common Instructional Framework and is starting to plan lessons that have a technology component.</li> <li>Teacher is somewhat comfortable with the Common Instructional Framework, but has started to plan lessons with technology components.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher is comfortable with the Common Instructional Framework and has planned some lessons that integrate technology.</li> <li>Teacher most often chooses technologies appropriate to their activity and need.</li> <li>Teacher begins to evaluate effectiveness of technology</li> </ul>	<ul style="list-style-type: none"> <li>Teacher integrates technology seamlessly within the Common Instructional Framework.</li> <li>Teacher regularly uses technologies to support higher-level learning objectives.</li> <li>Teacher chooses technologies appropriate to their activity and need.</li> <li>Teacher encourages students to</li> </ul>

# INTERNET OF THINGS (IOT) WHICH WILL THEN BECOME THE INTERNET OF BEHAVIORS (IOB)



#5: DOES THE DISTRICT HAVE ADEQUATE POLICIES, PROCESSES, AND STAFF IN ORDER TO SUPPORT ALL ASPECTS OF THE DISTRICT'S TECHNOLOGY RESOURCES?

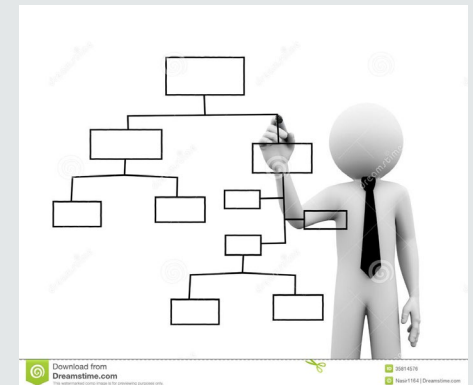
#6: DOES THE ORGANIZATION OF THE TECHNOLOGY STAFF FACILITATE EFFECTIVENESS AND RESPONSIVENESS TO ORGANIZATIONAL AND INDIVIDUAL AND COLLECTIVE STAFF NEEDS?



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## TECHNOLOGY POLICY NEEDS

- ✦ Purchasing policy
- ✦ Copyright policy
- ✦ Selection policy
- ✦ Checkout or loan policies
- ✦ Gift policy
- ✦ Web publishing, Social media, Internet [?] policy
- ✦ AUP & Filtering policies

# PURCHASING TECHNOLOGY

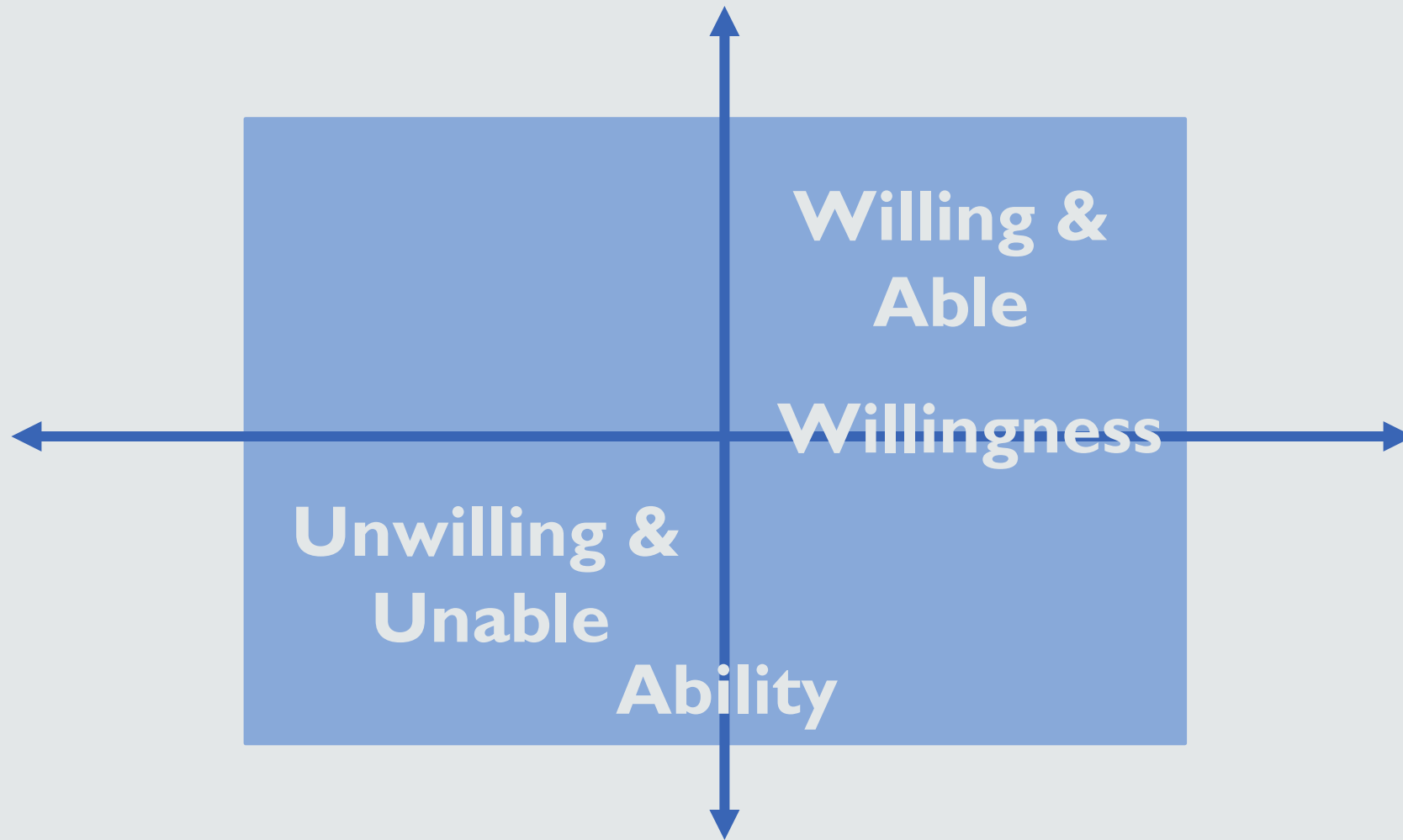
- ⊕ How does one request something?
- ⊕ Who can approve a purchase?
- ⊕ What factors are considered?
- ⊕ How are items budgeted for?
- ⊕ When items arrive, where do they go?
- ⊕ Is there a central inventory tied to purchase orders?



# #7: HOW DOES THE DISTRICT DETERMINE PROFESSIONAL DEVELOPMENT NEEDS RELATED TO TECHNOLOGY? HOW ARE THOSE NEEDS ADDRESSED?



# STAFF READINESS





## #8: HOW IS TECHNOLOGY BEING INTEGRATED INTO THE TEACHING AND LEARNING PROCESS TO IMPROVE STUDENT ACHIEVEMENT?

- State Test Scores
- ACT Scores
- Individual improvement over time
- Growth Measures v. Benchmarks (MAP, etc.)
- AP Test Success
- AP Test Participation
- Dual Credit Participation
- Type of Courses Taken
- Number of Courses Taken
- Success in Courses (Failure Rate)
- Graduation Rate
- Drop Out Rate
- CTE Participation
- CTE Certification
- Extra-curricular Participation Rate
- Discipline Rates (Expulsion / Suspension / Referrals)
- Homework Completion
- Attendance Rate
- Truancy Rate
- College Matriculation Rate
- College Completion Rate

# HOW DO YOU MEASURE STUDENT SUCCESS?



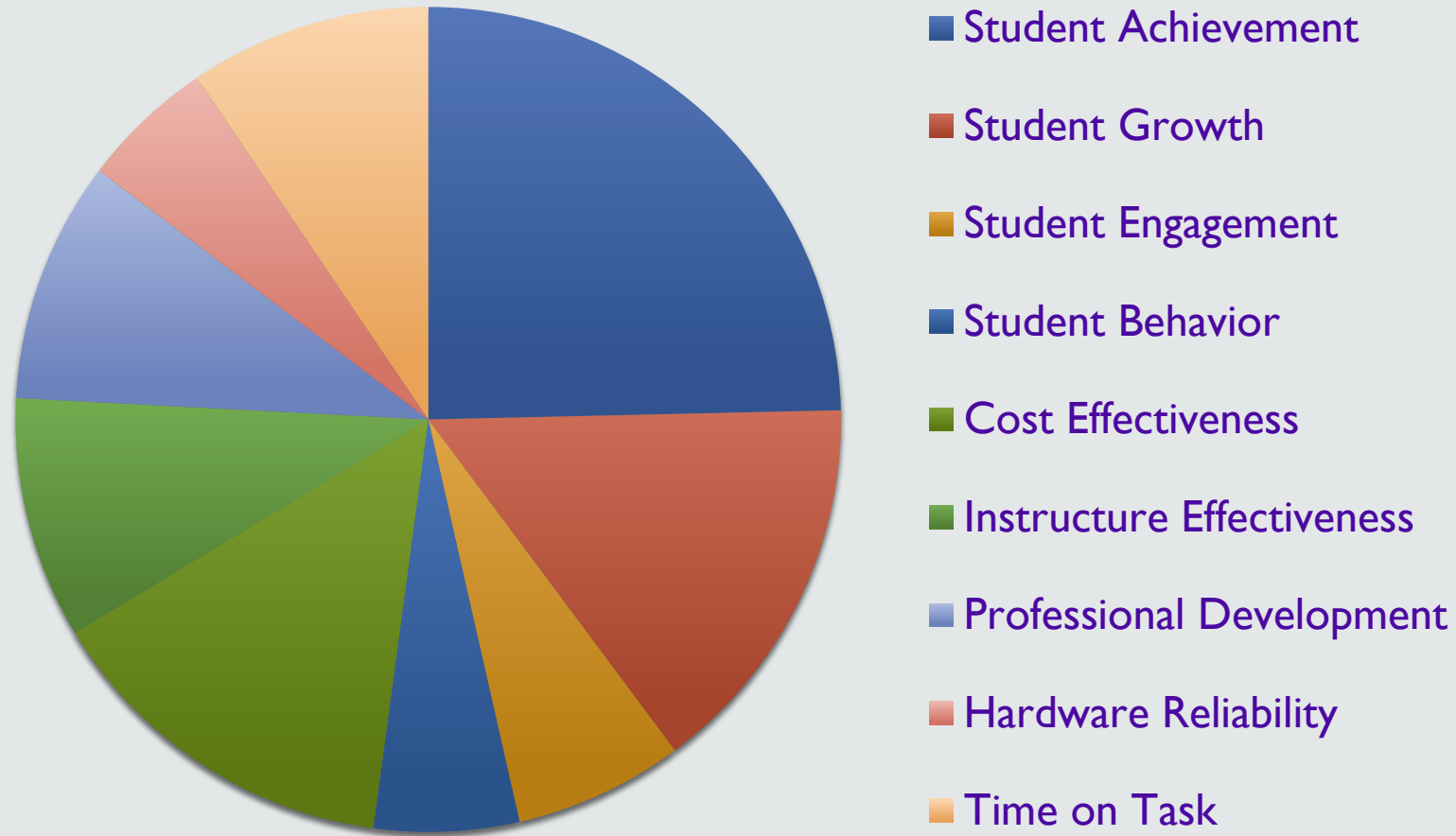
# INSTRUCTIONAL PROGRAM

- Technology has the potential to transform the instructional process
- Differentiation, Modifications and Accommodations like no other
- Potential to implement the ideas of the 1930s Progressives

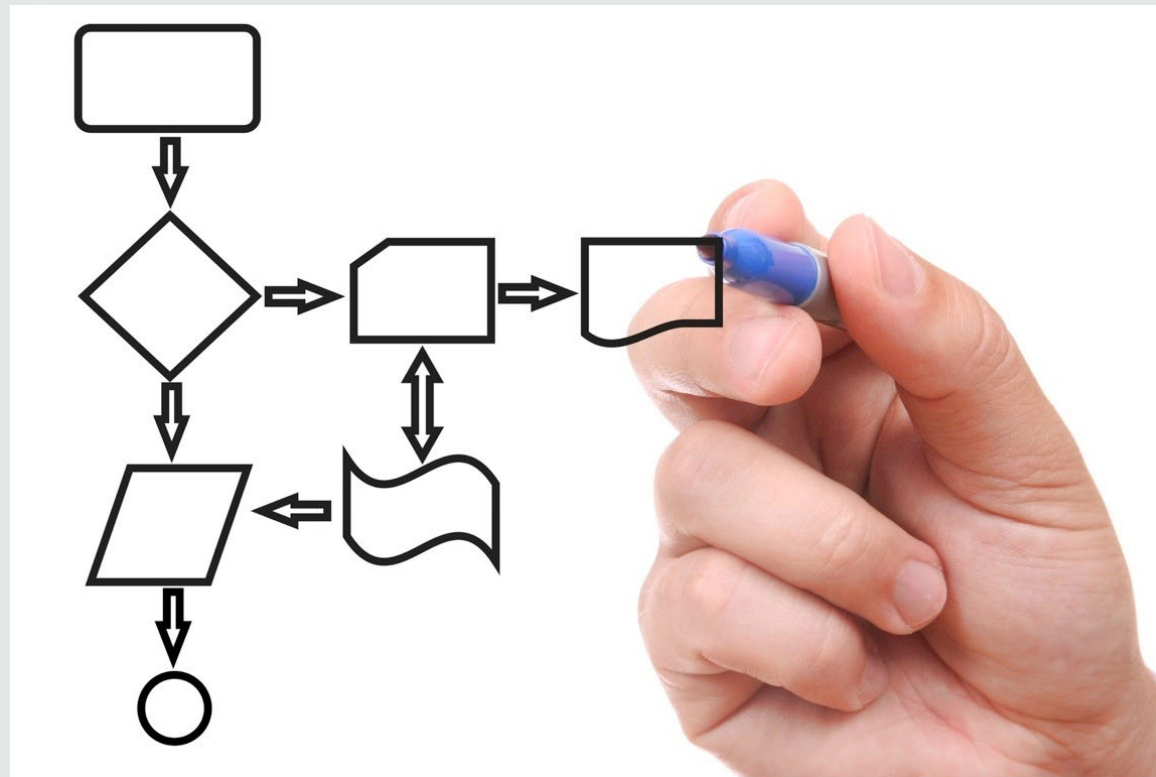
# FACETS OF THE INSTRUCTIONAL PROGRAM

- Curriculum
- *Instructional Methods*
- *Instructional Resources: traditional, electronic, and OER*
- *Learning Management System (LMS)*
- *Assessment Tools*

# Potential Aspects of Instructional Technology Programming



# PROCESS CHANGE NOT A PROGRAM CHANGE



# Key Implementation Factors (KIFs)

REVOLUTIONIZING EDUCATION

## Which technology practices improve learning the most? (rank order of predictive strength)

1. *Intervention classes:* Technology is integrated into every intervention class.
2. *Change management leadership by principal:* Leaders provide time for teacher professional learning and collaboration at least monthly.
3. *Online collaboration:* Students use technology daily for online collaboration (games/simulations and social media.)
4. *Core subjects:* Technology is integrated into core curriculum weekly or more frequently.
5. *Online formative assessments:* Assessments are done at least weekly.
6. *Student/computer ratio:* Lower ratios improve outcomes.
7. *Virtual field trips:* With at least monthly use, virtual trips are more powerful.
8. *Search engines:* Students use daily.
9. *Principal training:* Principals are trained in teacher buy-in, best practices, and technology-transformed learning.

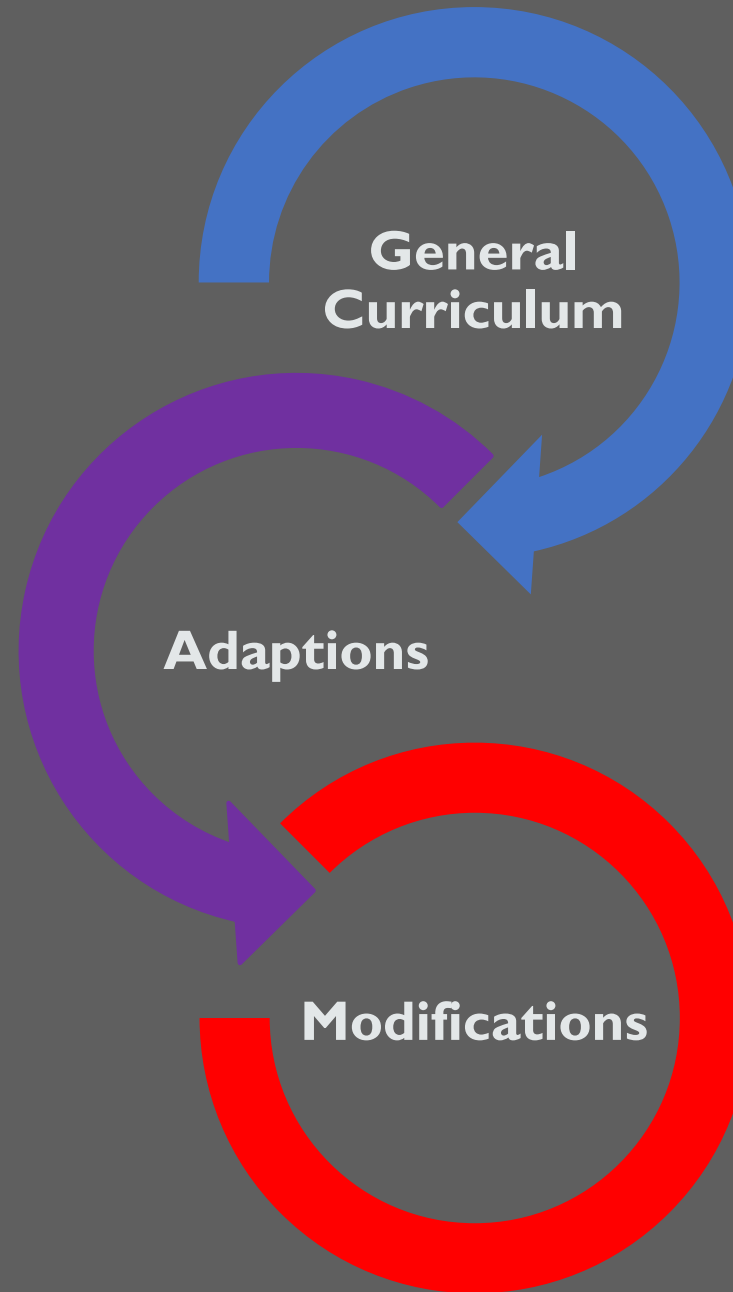


*Don't just teach  
Stuff,  
teach Skills...*

- What does the 21st Century Classroom look like
- Essential tools:
  - Web Platforms
  - Instructional Media aka Podcasting
  - Google Forms
  - Communication Methods
  - Digital Management



**#9: IS TECHNOLOGY BEING EFFECTIVELY LEVERAGED IN THE DEVELOPMENT OF MODIFICATIONS AND ADAPTATIONS TO THE INSTRUCTIONAL PROGRAM IN ORDER TO EFFECTIVELY SUPPORT THE NEEDS OF EXCEPTIONAL CHILDREN?**



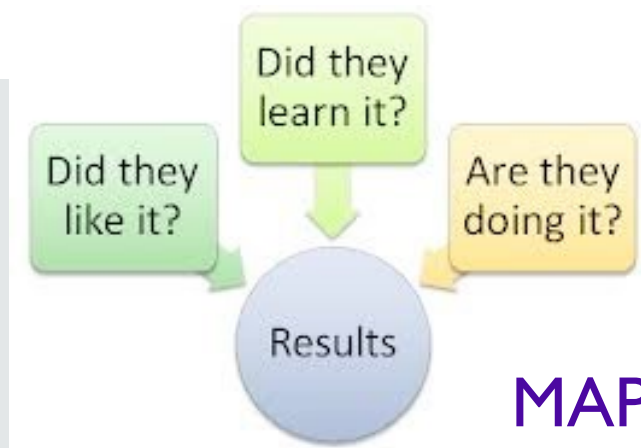
# ASSISTIVE TECHNOLOGY CONSIDERATIONS

- How often are technology solutions included in IEPs?
- What are the district's assistive technology resources?

# ASSESSMENT



- Merit Badges
- Portfolios
- Rubrics
- Differentiation



#10: DOES THE DISTRICT'S INTERNET AND SOCIAL MEDIA PRESENCE PROVIDE POSITIVE, ACCURATE, AND TIMELY PICTURE OF THE DISTRICT'S ACTIVITIES, SUCCESSES, AND CHALLENGES?





What is the purpose?

Be responsible for your content

Be authentic

Address your audience

Use good judgment

Respect copyright

Protect confidential information

Bring value to the organization

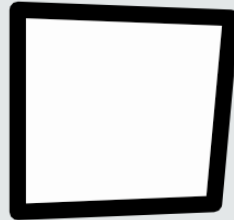


## IASB Press Service



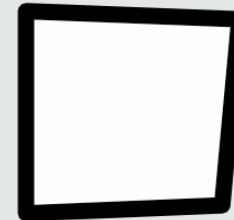
5.120; 5.125

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6.235 (electronic  
resources)

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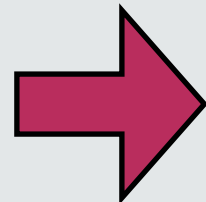
7.20, 7.180,  
7.190

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(cyberbullying,  
electronic  
devices, sexting),  
7.310

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Do not post financial, confidential, sensitive, proprietary, etc...  
Speak respectfully...about everyone associated with the district  
Beware of comments about your posts...  
If there are unfavorable comments, etc: don't remove the post and  
don't reply as to escalate...  
Disclaimer...the views of me the employee do not reflect...  
Stick to the facts...accurate information  
Do not post obscenities, slurs, etc... i.e. reputation!  
Do not post about students w/o permission of \_\_\_\_\_  
Is your post adding value to the district's reputation?  
Don't violate copyright or trademarks



Think before you Post...

#11: DOES THE DISTRICT HAVE ADEQUATE FACILITIES AND RESOURCES TO SUPPORT THE IT STAFF AND THEIR FUNCTIONS; INCLUDING HELP DESK FUNCTIONS, REPAIR, INVENTORY CONTROL, PROFESSIONAL DEVELOPMENT, AND INSTRUCTIONAL TECHNOLOGY RESOURCES?

Help Desk



Repair Spaces



Computer Labs

Storage Space



Office Space

Secure Spaces



Figure 2.1 Table 2

Area/Services	Space Required	Technology Infrastructure	Lighting Needs	Co-Location With
<b>Circulation Desk</b> <ul style="list-style-type: none"> <li>▪ Check out of materials</li> <li>▪ Check in of materials</li> <li>▪ Answer general informational questions</li> <li>▪ Provide supervision of student seating areas</li> </ul>	.5 classroom	Data, voice, fax, electrical	No glare	Entrance
<b>General Shelving</b> <ul style="list-style-type: none"> <li>▪ Hold print and non-print collection</li> </ul>	3 classrooms			
<b>Reference Shelving</b> <ul style="list-style-type: none"> <li>▪ Hold general reference collection</li> </ul>	.5 classroom	Wireless access?		Need reference computers
<b>Reference &amp; Catalog Computers</b> <ul style="list-style-type: none"> <li>▪ Provide online reference services &amp; access to search the library holdings</li> </ul>	.75 classroom	Data, electrical	No glare	Near reference shelving
<b>Class Seating</b> <ul style="list-style-type: none"> <li>▪ Allow for three classes to use the library media center at once</li> <li>▪ Allow for drop in student access</li> <li>▪ Allow for students to bring in personal laptops</li> </ul>	3 classrooms	Electrical, wireless access	Natural light	

## Questions Relating to Network Closets

1. What equipment will be included within this closet?  
Switches? \_\_\_\_\_  
Routers? \_\_\_\_\_  
Servers? \_\_\_\_\_  
UPS? \_\_\_\_\_  
Telephone equipment? \_\_\_\_\_
2. Will the equipment be mounted into equipment racks?  
Wall mounted? \_\_\_\_\_  
Or will furniture be required? \_\_\_\_\_
3. How far will this closet be from the main closet (MDF) or from other IDFs? \_\_\_\_\_
4. What areas will this closet serve?
5. Is this closet in an area of the building that will possibly see further expansion? How would that expansion affect the needs of the network or wiring closet?  
\_\_\_\_\_  
\_\_\_\_\_
6. What kind of ventilation will be necessary for this space?  
\_\_\_\_\_  
\_\_\_\_\_

7. What will the electrical needs be for this closet?
8. How should this area be lighted?
9. Should a phone be included in this closet? \_\_\_\_\_
10. How should this area be keyed?
11. Will any non-network or phone equipment be stored in the closet? How might that affect the network equipment?  
\_\_\_\_\_
12. Will manuals, disaster recovery plans, or other printer materials be stored here? \_\_\_\_\_
13. Should a desk or table be included within the closet? \_\_\_\_\_
14. Will any spares be kept in here? What kind?  
\_\_\_\_\_

# HOW TO EVALUATE HELP DESK SERVICES



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## LET'S REVISIT THE ORGANIZATION OF TECHNOLOGY

- How is technology organized within the school/district/organization?
- How does technology fit within the organizations mission and vision?
- Does the organization of the technology staff facilitate effectiveness and responsiveness to organizational and individual and collective staff needs?

Contact:

Steve Baule

[steven.baule@winona.edu](mailto:steven.baule@winona.edu)

507-285-7481 (office)

815-520-4851 (cell)



CREATE THE FUTURE



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