K-12 Technology Reconsidered

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Topics

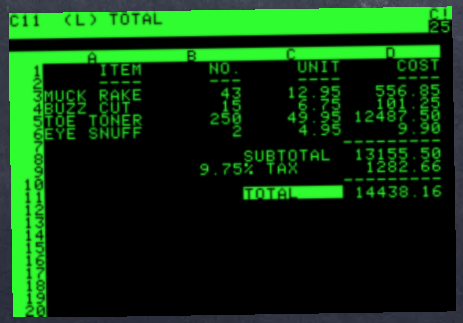
- Changes in K-12 technology needs and direction through the years.
- Case for change in IT role and direction.
- Leadership and technology organization.
- Lessons from Districts grappling with change:
  - Planning across the organization.
  - Communication and relationships.
  - Roles and responsibilities
  - Inadequate focus on pedagogy
  - Training for effective application of technology
  - Considerations in financing and staffing.

30 years of change in K-12 technology needs, roles, and management.....

...1985...

Generation 1: local school "guru" – often a personal technology user often seen as an oddity.

We had: Emerging technologies, few, isolated computers, no networks or technology services, crude mainframe management systems.



...1995...

Generation 2: trusted teacher or low-level administrator - perhaps at the central level. Decisions are largely local, uncoordinated, and chaotic.

We had: Emerging school/classroom networks, rudimentary email, stand-alone management systems, Office tools, dial-up internet services and forums.


The PDP-7

...2005...

Generation 3: Technologist to oversee infrastructure development, standards, enterprise solutions,"back-room" network and server support, Instructional functions were neither well integrated nor supported.

We had: Portable computers, District-wide networks, dedicated instructional resources, sophisticated management apps, established email, websites and web services, security firewalls and controls.

REPORT SOFTWARE PIRACY

...2014...

I DIDN'T SEE THAT COMING

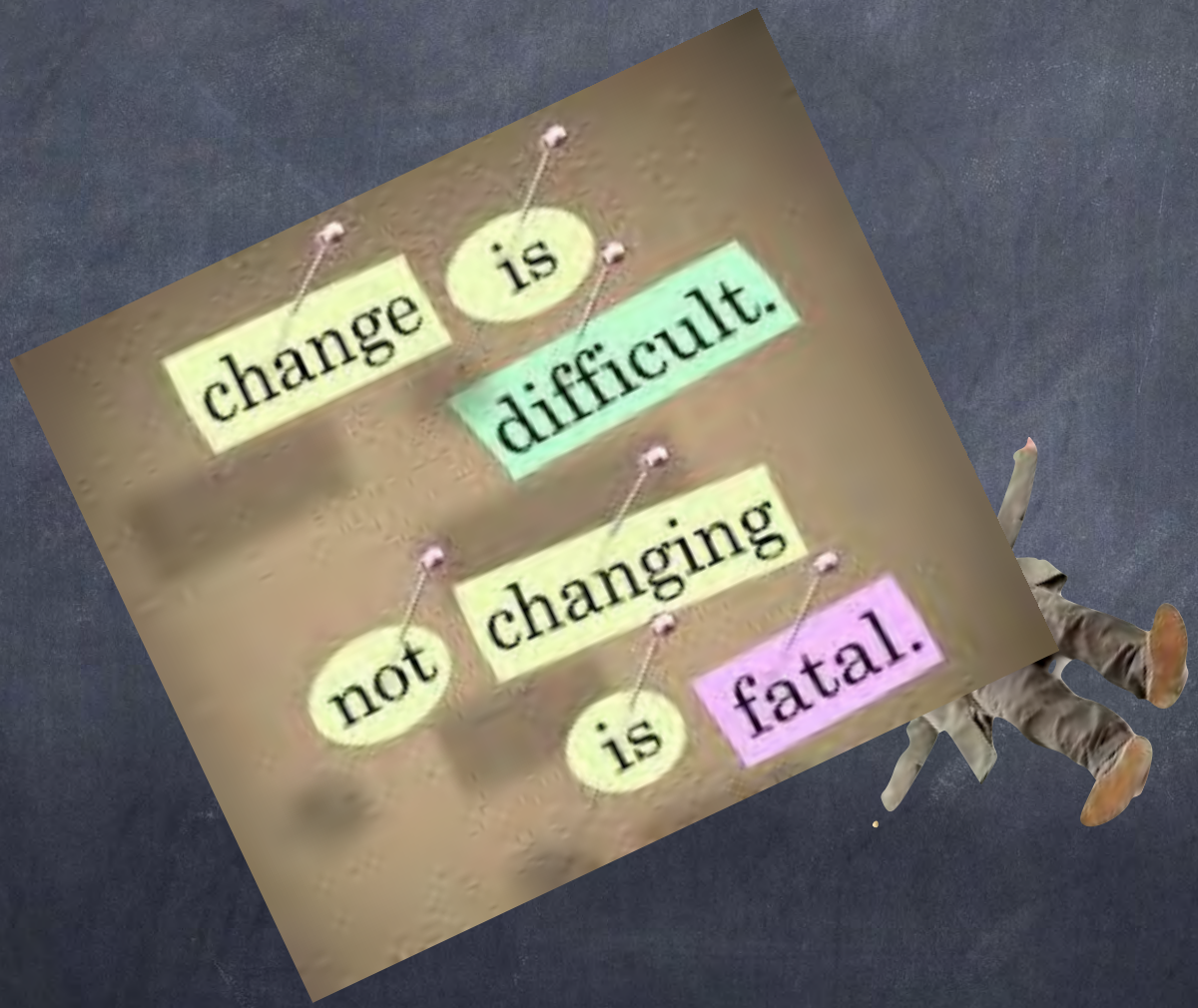
Generation 4: Central District-wide change agent to coordinate technology decisions, guide the District, and manage a complex technology organization.

We have, or will have: Internet of everything, cloud computing, hosted services, bring your own device, social media ubiquitous wireless, integration throughout the enterprise, & focus on use rather than the device.

BYOD

VS

The Case for Change in The Role and Management of I.T.

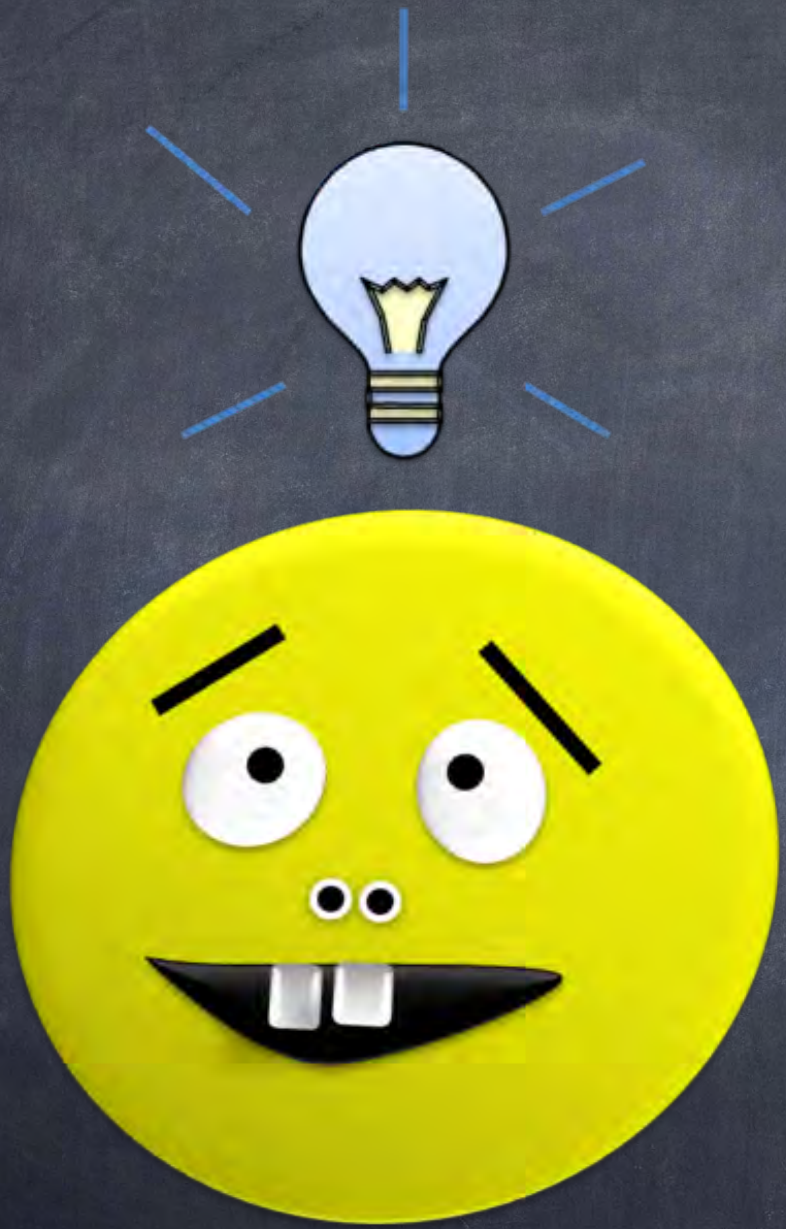


The Realities

- The role of technology change agent may be the most important k-12 role in the next decade. It affects work, teaching, and learning. In most districts it doesn't exist.
- The entire administrative team must actively participate - everyone has a need to use and manage technology.
- Change must be cross-district. The time for "islands" has passed. Change must be planned, managed, budgeted, implemented, trained and supported.

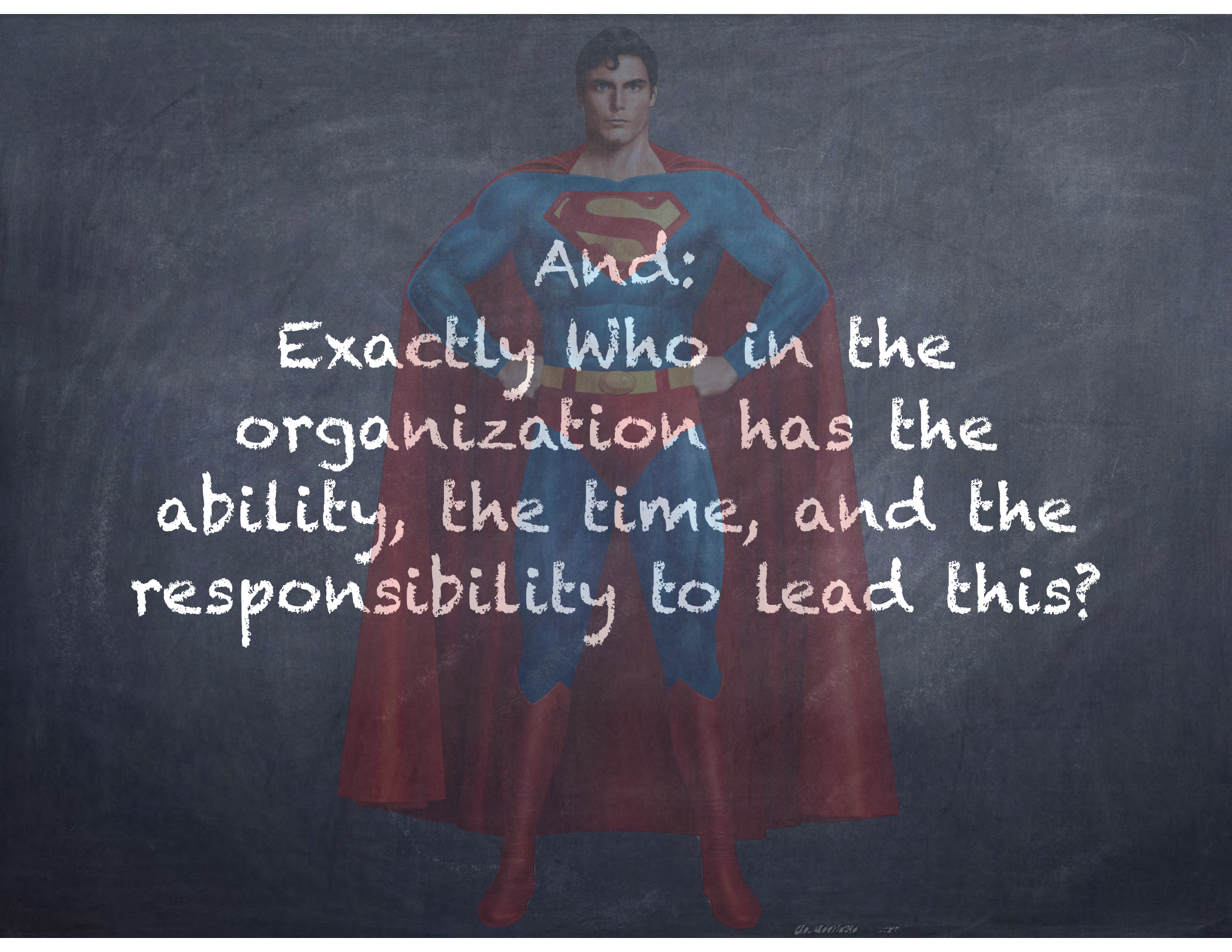
The Realities

- The use of technology will expand whether planned, integrated , and coordinated or not.
- Change will be wrenching to staff – training, mentoring, and support are key.



Hey! Let's issue tablet computers to all of our students! We could use them for testing, save on textbook costs, and provide a valuable research and creativity tool.

Task	Considerations	Involvement
Selection	Needs, Specifications, costs, functionality, compatibility	IT, Instruction, business
Infrastructure	Wireless capability, density, power, wiring, installation	IT, Maintenance, vendor
Configuration	What software? What personal access? How open? Done by?	IT, instruction, schools, PR
Deployment	Receiving, unpacking, inventory, storage, loading, transport, distribution	IT, maintenance, business, principals
Support	Updating, repair, account management, end user help	IT, instruction, principals
Community preparation	Informing, agreements? Insurance, board input.	Supt, PR, It, Instruction
Policy/ guideline	personal use? damage? retention? BYOD?	Cabinet, board, It
Class use	Charging, storage, loaners, implications for support	It, maintenance, instruction, principals.
Funding	Purchase, enhancement, reallocations, peripherals, staffing	Cabinet, Board, PR, Community


And:
Exactly who in the organization has the ability, the time, and the responsibility to lead this?

Characteristics of the Modern C.T.O

Bob Evans, Oracle Corp.

- Works with superintendent and administrative team to develop a clear Vision of technology across the organization.
- Provides active, sustained, positive leadership across the organization.
- Embraces change & actively guides the introduction of new technologies (e.g., BYOD, social media, irrigation systems, Work order).
- Leads "cost-shifting" - the attainment of efficiencies and reallocation of existing resources to pay for new initiatives.

The Integrated I.T. Organization

Chief Technology Educator

Visioning, Planning, Setting Priorities, Communication, Consolidation, Budgeting, Project oversight, Training

Operations

Networks, Vendor Relations, Back-room Operations, Coordination With Other Departments,

Training and Instruction

Needs Assessment, Software and Device Selection, Curriculum Support, Content Scouts, Leadership Training, Training All Departments

Chief Technology Educator (Superhero)

Skilled and respected manager, able to represent all department needs, negotiate politics, set priorities. Inst or Tech background

Operations Manager (technologist)

Deeply skilled technologist to manage and train technical staff, work with vendors, and display a "can do" attitude.

Mgr. for Learning and Technology (Principal or TOSA)

Skilled administrator or teacher with a deep understanding of pedagogy, quality trainer, instructional leadership and District support operations.

CTE Role in the Organization?

- Assesses needs and establishes the vision for enhanced communication, efficiency and productivity across the District.
- Represents every department and consolidates tech resources, operations, budgeting, and support across the District
- Is a key member of the cabinet participating in all significant district-wide decisions.
- Reports directly to the Superintendent or deputy - to someone who can make decisions stick.

Things Not To Do:

Lessons from Other Districts in The Process of Change

Fail to Plan

- Develop a multi-year plan to guide purchases, staffing, and budgeting.
- Plan across the district – every department and function.
- Make certain the planning team is broad-based but informed.
- Use the plan to set priorities, build budgets, and guide purchasing.

Communicate Sporadically

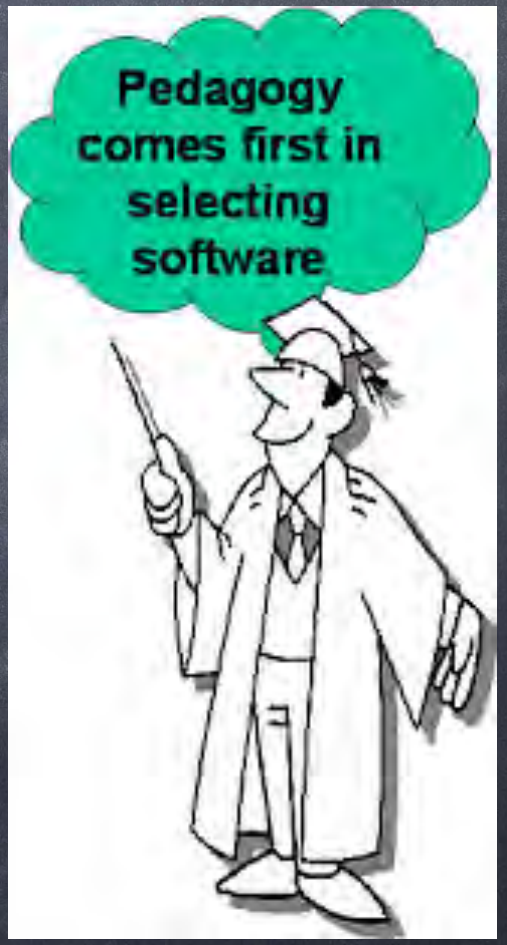
- Learn what questions to ask, when to ask them, and who to ask.
- Include all stakeholders in decisions regarding technology.
- Don't trust vendors to answer key questions.
- Explain what is planned and how it will affect all stakeholders and users.

Confuse Roles and Responsibilities

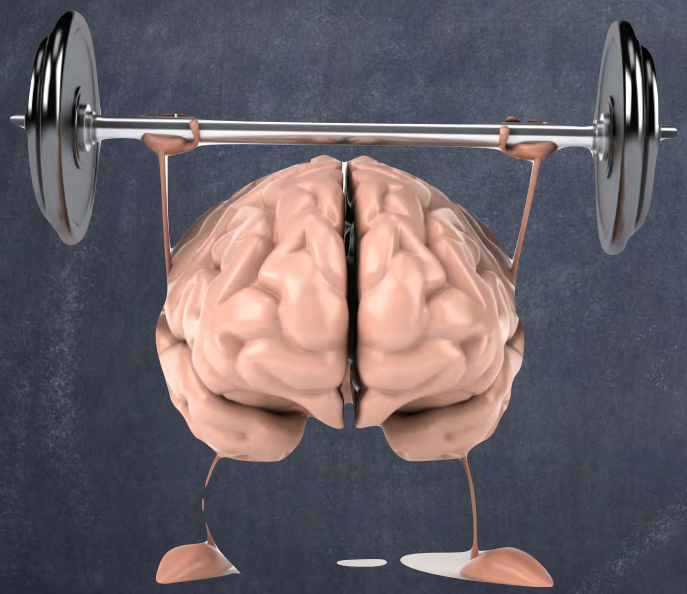
- All Departments and leaders are jointly responsible for technology.
  - IT provides technical service, makes reliable systems available, Develops solutions and trains to the use of tools.
  - Others use those tools and are responsible for the content, entry, accuracy, uses, account management, reporting, security and access.

Focus on Glitz Rather Than Pedagogy

- Identify the need before buying the technology (whiteboards, clickers).
- Understand teacher/staff willingness and requirements for change.
- Provide a variety of tools for a variety of needs.
- Consider principles of learning in selection.



Train Inadequately



- Extend known principles of training to technology learning.
- Focus on applications of technology, not tool use.
- Consider needs of support and Sped.
- Share the design and conduct of training (use of the tool, application).

Fail to Manage Finances

- Understand the total cost of ownership (e.g., training, staffing, replacement).
- Use free internet resources and creative commons textbooks/ materials.
- Centralize purchasing, set standards, and foster controlled exploration.
- Budget forward and be plan-driven.

Have a Wonderful Day

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