

Moving towards transformation

By Ted McCain

Sumarizing the sermon

- ¥ Transformed world
- ¥ Not education
- ¥ Why not?
- ¥ New skills needed
- ¥ Teaching must be transformed
- ¥ How to make that happen

Why should technology be used in schools?

Richness

- ¥ Wonderful addition
- ¥ Paper-trained
- ¥ “Resource-challenged”
- ¥ New resources & experiences
- ¥ Science fiction
- ¥ Just the beginning...

Effective research

- ¥ Technology a must
- ¥ Move of information
- ¥ Reliable data
- ¥ Encyclopedia Britannica
- ¥ eBooks - eZines
- ¥ Reason?
- ¥ Changes only reported online

New ways to communicate

- ¥ The way we interact
- ¥ E-mail
- ¥ Chat line communities

¥ Immediate feedback

Multimedia experience

¥ Just diagrams

¥ Online video

¥ Virtual reality

¥ Sony Playstation

¥ Richness of experience

Relevance

¥ High tech world

¥ Technical skills assumed

¥ Smallest offices

¥ Budgeting & modeling

¥ Business couldn't run without it

The Internet

¥ Millions of users

¥ Product info

¥ Online purchases

¥ Amazon.com

¥ \$1.9 trillion

¥ Marketing & sales

Not just retail sales

¥ Online banking

¥ Online stock trading

¥ From anywhere

¥ Online learning

New working environment

¥ New online mindset

¥ Remote control

¥ Driving a truck

¥ Downloading hardware

¥ Now faxing objects

Everything's upside down

¥ Worked in past...

¥ Work today?

¥ Transformed working world

¥ Time & distance

¥ New skill set

¥ Consider...

Hyatch International

¥ Engineering company

¥ New gold mine

¥ Design & environmental work

¥ 2 1/2 years

¥ Work group

¥ 24 hrs/day

¥ Expected problems

¥ More quickly

¥ Work checked each day

¥ 10 months

¥ Engineering & publishing documents

¥ Higher quality product

Prospect for workers...

¥ New working environment

¥ Different skill set

¥ All students - not optional

More than tech skills

¥ 3R's

¥ Information technology skills

¥ Not enough...

¥ Independent problem solving

¥ Info processing skills

¥ Information presentation skills

¥ Not optional

Our goal for tech use

¥ More than technology

¥ Relevant skills

¥ Step from classrooms...

So how are we doing?

¥ Assess technology use

¥ Goals

¥ How?

Stages of technology use

¥ Bernajean Porter

¥ Progression

¥ Preparing our students

¥ 1. Literacy

¥ 2. Adapting

¥ 3. Transforming

¥ What do these look like?

Literacy uses

¥ End in itself

¥ Focus on technology

¥ Specialist

¥ Optional courses

¥ Separate from other coursework

Activities you would see...

¥ Keyboarding

¥ Computer literacy

¥ Computer Studies

¥ Specialized classes

Adapting uses

- ✘ Traditional tasks & roles
- ✘ Integrating technology
- ✘ Started & controlled by teacher
- ✘ Not necessary

Activities you would see...

- ✘ Instructional games
- ✘ Content-related
- ✘ Productivity tool
- ✘ Traditional research
- ✘ If you take the technology away...
- ✘ Many feel they've arrived with this kind of use

Transformative uses

- ✘ Impossible without technology
- ✘ Shift in mind set
- ✘ Teams & self-directed learning
- ✘ Thinking, communication, info processing
- ✘ Students & teachers initiate use

Activities you would see...

- ✘ Real-world problems
- ✘ Different sites
- ✘ Beyond standardized tests
- ✘ If you took the technology away...

So what stage have we reached?

We have to stand back

- ✘ Where we are
- ✘ The difficulty making progress
- ✘ Bigger than technology
- ✘ How we view learning

Current teaching practice

- ✘ Industrial model

¥ Assembly line

¥ Specialists

¥ All of life

¥ 15-20%

¥ Rest ...

Industrial Age Skills

¥ Punctuality

¥ Memorization

¥ Obedience

¥ Don't think - just do

¥ We grew up with

¥ Recognize this...

Industrial Age Teaching – a one act play

Recognize this approach?

¥ Know anyone?

¥ Common?

¥ Lower to higher grades?

¥ What skills?

¥ Who is active?

¥ Who owns the problem?

¥ What is level of thinking?

Industrial Age teachers

¥ Specialists

¥ Products

¥ Purpose?

¥ Sort by intelligence

¥ Top 15-20%

Industrial Age mind set

¥ Perfect fit

- ¥ Industrial Age workplace
- ¥ Right proportion
- ¥ Successful
- ¥ Deeply ingrained

So along comes technology...

How has it been used?

- ¥ Transformed education?
- ¥ World outside?
- ¥ Different from 20 years ago?

Houston, there's a problem

- ¥ Magnifying glass
- ¥ Approach to learning
- ¥ Low level thinking & product
- ¥ Not the process

Focus of evaluation?

- ¥ Joel & solar system
- ¥ Socials & Science teachers in GP Lab
- ¥ Getting data & completion of report
- ¥ One source-itis

A focus on product

- ¥ English teachers
- ¥ Nice final copy
- ¥ Department head
- ¥ Response...
- ¥ No time for it

The reality of tech use

- ¥ Majority of use
- ¥ Specialized courses
- ¥ Some have progressed
- ¥ Optional use

✂ Traditional approach

✂ Little transformation

This is to be expected

✂ Literacy & Adapting uses

✂ No major shift

✂ Using technology

✂ Big barrier

✂ Real challenge is...

Moving Towards Transformation

Much bigger than tech

✂ New paradigm for education

✂ Rethinking of:

✂ What skills?

✂ How of teaching

✂ What learning?

✂ Outside the box

1. Stop giving content without a context

✂ Why?

✂ Curriculum guide? Test?

✂ T³

✂ Context

2. Stop giving the final product of our thinking

✂ Stop cookbook approach

✂ Louis Riel outline

✂ Who thinks?

✂ Worksheet exercise

✂ Behind closed doors

✂ Quicker, but...

3. Must progressively withdraw from helping

✂ Learning to walk

- ¥ Need to let go
- ¥ When they fall
- ¥ Do it themselves

4. Give projects that ask for higher level thought

- ¥ Tasks as problems
- ¥ Ask for evaluation in research

5. Teach 4D's of problem solving

- ¥ Structured process
- ¥ Senior students
- ¥ Not been taught

Another approach

- ¥ Listen closely...
- ¥ What skills are being valued?

The way it could be – another one act play

Toto: we're not in Kansas!

- ¥ Who owns this problem?
- ¥ Will students cover content?
- ¥ Context of problem
- ¥ Important question...

What about technology?

- ¥ Technology the focus?
- ¥ Need technology skills?
- ¥ Problem provides context

New skills required

- ¥ Real world problems
- ¥ New set of skills
- ¥ Structured process
- ¥ Which leads to...

Start with a problem

- ¥ Stop giving answer
- ¥ Curiosity
- ¥ From curriculum
- ¥ Reason
- ¥ No problem...
- ¥ No need
- ¥ Beginning of year

A problem is the key

- ¥ Problems lead to...
- ¥ Questions lead to...
- ¥ Ownership leads...
- ¥ Independent learning leads to...
- ¥ My new role

The use of role playing

- ¥ Prevents access
- ¥ How do you get better at anything?
- ¥ Ready for workplace...
- ¥ Must have real-world link

1. Define

- ¥ Kadiddle?
- ¥ Wrong topic?
- ¥ Pressing need

Three critical components

- ¥ 1. Define in specific terms
- ¥ 2. How evaluated
- ¥ 3. Confirm
- ¥ Real-world skill

2. Design

- ¥ A plan

- ¥ Wasted effort
- ¥ Logical strategy
- ¥ Constraints of time & money

Think first

- ¥ Created twice
- ¥ Formal plan
- ¥ Involves learning
- ¥ My goal...

3. Do

- ¥ Something useful
- ¥ Your thought process
- ¥ Not linear
- ¥ Many forms
- ¥ Product important, but...

4. Debrief

- ¥ Continual improvement
- ¥ Kaizen - CANI
- ¥ Continual evaluation

Major problem

- ¥ Teachers
- ¥ Focus on products
- ¥ Problem solving is linear
- ¥ Product to teacher
- ¥ Responsibility shifts

In real life...

- ¥ Responsibility continues
- ¥ Involved in evaluation
- ¥ Ownership
- ¥ Real-world skill

What should we ask?

¥ Back to first step

¥ Find criteria

¥ Criteria for reward

¥ Can't stop there

More than the product

¥ Evaluate the process

¥ Example

¥ 2 assignments

¥ Last two days

¥ Disruption

¥ Time management

Another example

¥ 2 assignments

¥ 5 hrs (average)

¥ 27 hrs

¥ Efficiency problem

¥ If focus just on product...

A new role for the teacher

¥ Shift

¥ From teacher

¥ To student assessment

¥ Goal...

¥ New factors

A new role for the teacher

¥ Disorientation

¥ Lost control

¥ Illusion

¥ Can't have independence without...

The role of technology

¥ Just one tool

¥ Problem solving & info literacy

¥ 4D process

¥ Empowers students

¥ Key to preparing students

Moving to transformation

¥ Lessons

¥ Schools

¥ Schedules

¥ New tasks

¥ New tools

¥ Disoriented

¥ Should be that way

Two valuable resources

www.glef.org

www.analyze-apply.com

Talking about change

¥ You go first

¥ The issue

¥ Uncomfortable & risky

¥ Many agree, but...

¥ Must ask yourself...

Before you change what you do...

You must change what you think.

Before you change what you think...

You must change what you believe

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The Thornburg Center For Professional Development

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