

Evolving Educational Programs Through Times of Changing Technology: Lessons Learned

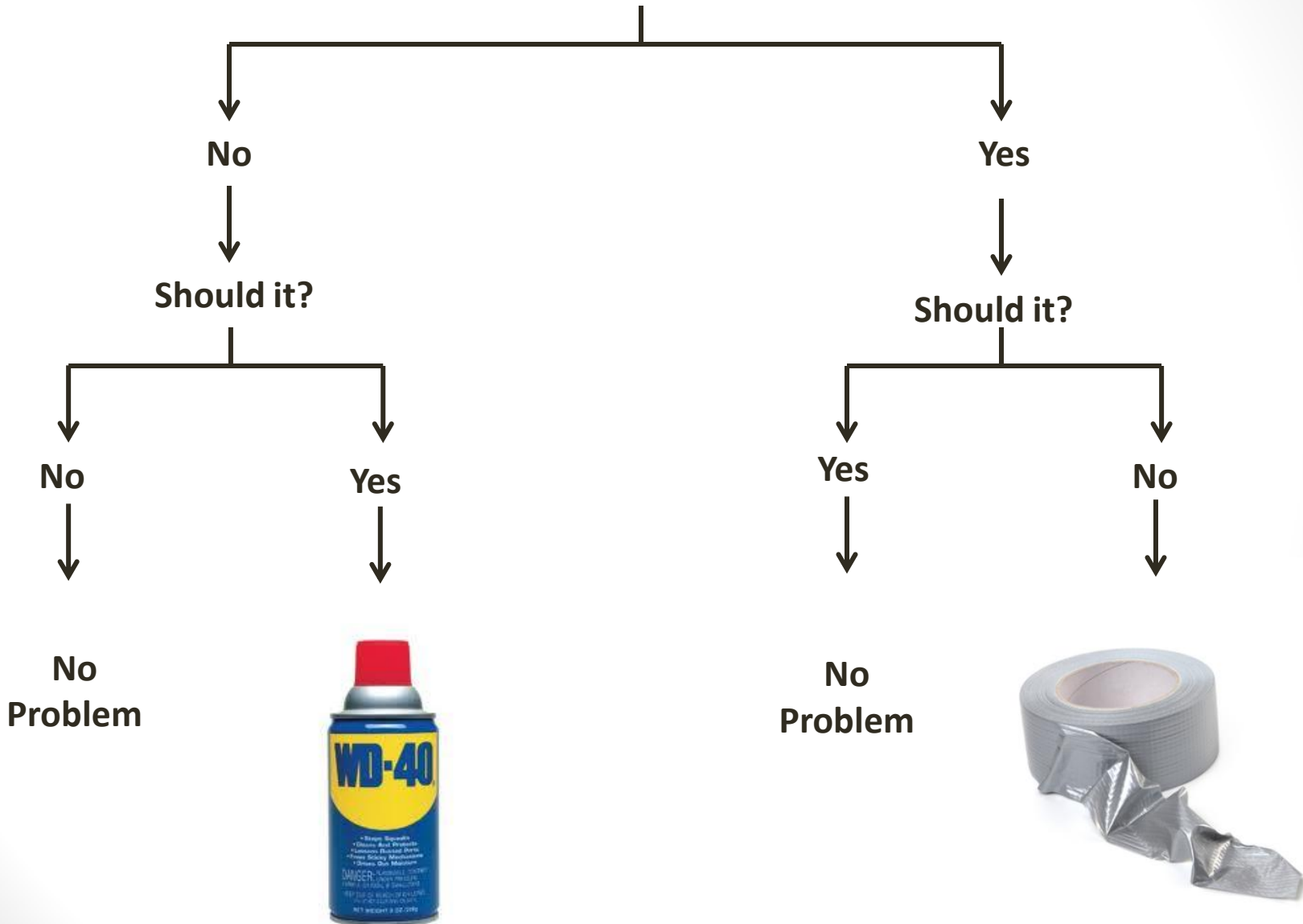
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Engineering Flowchart

DOES IT MOVE?



Change is Never Easy (Especially in Higher Education)

- Lasting Change: Evolution vs. Revolution
 - Delayed change = Tectonic plates
 - Disruptive change... changes the game (e.g., wireless vs. copper)
- Engineering Outreach (EO) is in the same technology-based content delivery business as Netflix
 - Once bungled, tech change is difficult to fix
 - EO has *mostly* avoided this pitfall for almost 40 years



What “Lessons Learned” will allow us to continue?

Background: Engineering Outreach

<http://eo.uidaho.edu>

- 11 graduate degree programs, 11 academic certificates, +800 students in Idaho, the region, and the world
- Started in 1973 at the behest of Hewlett Packard-Boise
- Current online delivery format developed in cooperation with Princeton using an MPEG-4 digital format (high-resolution, rapidly downloadable, minimal bandwidth)

- Started with videotape in 1973
 - → DVD-Web support in 2002
 - → proprietary high-resolution/low bandwidth online in 2007



Background: Engineering Outreach

- Currently “pushing” > 1.5 terabytes of online content to students monthly
- 24 programs like EO in 1993; currently over 80
 - Online student numbers have increased – so have programs serving them
- Competition is daunting:
 - The National Technological University (NTU) had 85% market share in 1992 (first accredited “virtual” university), founded in 1984
 - As of 2011: bought, sold, and chopped-up
 - Disruptive change... again
 - Satellites, big dishes, and obsolescence



Engineering Outreach Today

- 23% of College of Engineering (CoEng) graduate credit hours
- 94% course completion rate
- 70 courses a semester
 - 63% College of Engineering
 - 37% College of Science and College of Business
- +50% CoEng graduate students (on/off campus) take EO courses
- Student incentive: +90% employee reimbursement
- A niche program: \$597 per credit hour
- Self-supported “plus”:
 - 1:3 Return on Investment (ROI)
 - 1:4+ ROI including the CoEng
 - The “produce” department
 - Allows EO to impact outreach & on-campus students
 - ThinkTank
 - Videoconferencing connectivity with Centers



From “Quaint Irrelevancy” to “Lightning Rod” in 30 Years

- Three ways to succeed:
 - Higher quality (Better)
 - Less expensive (Cheaper)
 - Most innovative (Different)
- To survive, you need two – to thrive, you need all three
- As Netflix learned, you’ll still face challenges:
 - Rationale for change (never explained)
 - Reasonable to customers (still implementing previous changes)
 - Logistically reasonable (two websites?)
 - Cost effective for customers (doubled the \$ for users)
- In the higher education “business” context, the challenges expand:
 - Must be viewed as a comparative public good (too expensive vs. a good value)
 - Smaller margins – no money for “do-overs”
 - EO can afford major change every 5-7 years



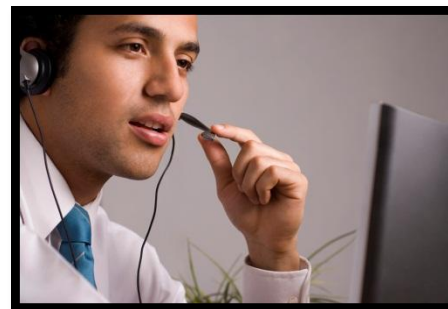
Lessons Learned

1. Program (not course) focus
 - Certificate programs as “proof of concept”
2. It’s about increasing access, not making money
3. NO technological “silver bullet” (not even the Web)
4. “Change” is the only IT constant
5. Face-to-Face instruction good – hybrid delivery usually better



Lessons Learned

6. Avoid tech solutions in search of instructional problems
7. Communication is critical: Learn to “Flip the ball”
8. Plan your change... avoid changing plans
9. Pick your battles carefully... win the battles you pick
 - Avoid being all things to all people
10. Customer service is “key”... everything else just details
(including the delivery technology)



In Summary

- Distance/online Learning is a change process... not a delivery system
- Competing in this world of new educational access poses numerous challenges and risks...
- The refusal to look ahead, take calculated risks, and move forward... may be the greatest risk of all
- Look before you leap... but leap

