Susan Smith Nash, Ph.D.

Effective E-Learning for Technology Transfer in the Global, Multi-Generational Workplace
What is E-Learning? A Brief Review

- Delivered via the Internet
- Used with a variety of devices
- Synchronous or asynchronous

- Chief benefits: Any time, any where, affordable

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High-Quality Content for Technology Transfer

- Identify needs
- Learning goals
- Match content with goals
- Connect real-life learning conditions and levels of the personnel

- Long-term, complex, multipart program?
- Short-term, individual stand-alone learning components?
Ways E-Learning Is Presented

- **Objects**
  - Videos, Audio Presentations, Readings, Presentations, Graphics, Digital Flashcards, Simple Quizzes

- **Packages**
  - Courseware and complex learning solution packages

- **Events**
  - Webinars, Guided interactive sessions (web conference)

- **Activities**
  - Simulations, Virtual World Interaction
What does e-learning look like?

- Stand-alone learning objects
  - *Powerpoints, maps, graphics, texts*

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Synchronous Events

- Example: Webinars
- Interactive, synchronous events
- *Can be archived for future replay*

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Learning Management Systems

- Contain lessons / modules / assessment / interaction

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Micro-Learning: 2 – 15 min

- Finding and reviewing instructional materials (often accessing learning object repositories supplied by the learning provider)
- **Reading posts in a discussion forum, and responding** by posting text, images, audio, video
- **Sharing ideas** in real-time via tweets, text-message, email, chat
- **Building and sharing reaction pieces:** video reaction to a video, posted on youtube; powerpoint reaction to a powerpoint, posted in a forum designed to accommodate portfolios
Who Are the Learners?
Boomers, Gen X, Gen Y, Millennials

- **The WWII Generation**: Events, economic climate, social policies shaped them
- **Boomers**: Are E&P Boomers different from the general herd of Boomers? (Yes, definitely)
- **Gen X**: Independent, self-actualizing, want to work on own
- **Gen Y // Millennials**: Information technology shaped them (trust text more than talk)

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## Generational Characteristics

Top ranked terms used to describe co-workers in same generational cohort

<table>
<thead>
<tr>
<th>Gen Y</th>
<th>Gen X</th>
<th>Baby Boomers</th>
<th>Matures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Friendship Officers</td>
<td>The Doer</td>
<td>Moral Authority</td>
<td>Moral Authority</td>
</tr>
<tr>
<td>Makes personal friends at the workplace</td>
<td>Confident</td>
<td>Strong work ethic</td>
<td>Strong work ethic</td>
</tr>
<tr>
<td>Sociable</td>
<td>Competent</td>
<td>Ethical</td>
<td>Ethical</td>
</tr>
<tr>
<td>Thinks out of the box</td>
<td>Willing to take responsibility</td>
<td>Ability to handle a crisis</td>
<td>Committed to the company</td>
</tr>
<tr>
<td>Open to new ideas</td>
<td>Willing to put in the extra time to get the job done</td>
<td>Willing to take on responsibility</td>
<td>Competent</td>
</tr>
<tr>
<td>Friendly</td>
<td>Ethical</td>
<td>Good communication skills</td>
<td>Confident</td>
</tr>
</tbody>
</table>

Source: *World of Work Study, 2008*
Generational Differences?

- Socialization Process is Key
- What did the dominant culture do?
  - Meetings culture
  - Phone conference culture
  - Lone wolf “get it done” culture
  - Collaborative culture
    - @@@@@@@@@@@@@@@@@
- What do you trust? The words? The text? The behavior? The follow-up actions?

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Cultural Differences?

- Distributed, Global Workplace
- Organizational culture aspects
- Context culture (background / locations)
- Historical culture (the traditional approaches to training and professional development)
- Training culture
  - @@@@@@@@@@@@@@@@@@@@@@@@@
- Work toward a collaborative culture.

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Geoscientist Training Needs

- **Rapid Adaptation Needed**
  - New plays, new trends every day

- **Integrated, Interdisciplinary Knowledge**
  - Engineering / geophysics / petrophysics / geology solutions
  - Application-focus, with theoretical underpinnings & conceptual grounding
  - *Example: fractures in the Marcellus Shale*

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How Busy Professionals Learn

- **Self-directed Learning**
  - Focus on interest and need, motivation, Knowles (1975); often uses Open Courseware

- **Situated Learning**
  - Ties the content to a concrete setting or situation, Lave and Wenger (1995)

- **Learning Communities**
  - Communities of interest, shared goals / vision Wenger (1991)

- **Process-ordered media creation**
  - Collaborations with team members in distributed locations (response videos, audio, illustrative slides / images)

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TOPICS

Time management

Online Focus

Performance Management

Internet and Mobile

Content Management

Skills Management
Getting Started

- Tie training to organizational goals and mission
- Identify needs (skills, knowledge, competencies)
- Get to know your learners
- Describe the real conditions under which your learners will be working
- Need to be able to download to mobile device? Snippets rather than hours of video? Time / access issues?
Knowledge Transfer Considerations

- **Outcome first**: what do you want them to do?
- **Who is your audience?**
- **Why are they listening to you?** What do they want?
- **What are their beliefs, values, needs?**
- **Know the “deal-killers”**

Example: Your geoscientist want to be able to compare / Contrast shale plays in the U.S.

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Developing Your Own Content

- Webinars
- Video Snippets of Presentations ("video executive summary" of new process / procedure)
- Powerpoints with audio (caution – boring)
- Repositories of Resources: Bundled articles, presentations, audio – accessible through website
- Key to success: Redundancy / multiple formats
Prepackaged Solutions

- **Pro’s**
  - Convenient
  - Can be cost-effective
  - Great for basic competencies

- **Con’s**
  - Can be expensive
  - Not precisely what you need
  - Not instructor-led, can be passive

*Best approach? Use as complementary/supplementary*

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Simulations and Virtual Worlds

- **Pro’s**
  - Replicates real-life scenarios
  - Can be cost-effective, esp for safety training
  - Interactive, immersive

- **Con’s**
  - Can be extremely expensive
  - Steep learning curve
  - Need very good, fast connection

*Best approach? Grab it if you have affordable access*

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Leveraging Social Networking

“Chirp and peep are passé. Now it’s all Twitter!”
Social Networking

- **Benefits**
  - Form virtual teams for case studies
  - Guided questions – sharing
  - Build cross-disciplinary relationships

- **Potential Costs**
  - Can veer off-track
  - Potential time-waster
  - Task-dedicated account

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Distributed Teams: Individuals in different parts of the world can share their experiences / knowledge

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Optimal E-Learning: Mobile

- Make training mobile-friendly
  - Any place, Any time: Access is everything

- Create stand-alone downloadable objects
  - Diagrams and maps
  - Videos
  - Audio
  - Presentations
  - Text (pdf reader-friendly)

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Success is a function of flexibility

- \( f(x) = \) listening to generational / cultural differences + urgency of training needs + technological realities + economical considerations + realities of access + preferred modalities of content delivery

Remember:

*The future is handheld.*

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