

26th World Gas Conference

1 – 5 June 2015 – Paris, France



TF 1.1

BLENDED LEARNING ENHANCES LEARNING EFFICACY

Rod Rinholm
Gas Technology Institute

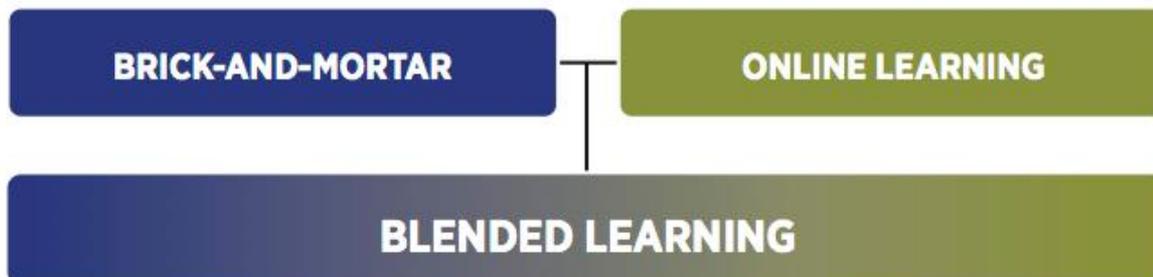


Overview

- Blended Learning Approaches
- Benefits
- Case Studies

What is Blended Learning?

- An education program in which a student learns:
 1. In part through online learning, with some element of student control over time, place, path, and/or pace
 2. In part in a supervised brick-and-mortar location away from home
 3. Modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.



Learning Approaches



Face-to-face

- Instructor-led training/workshops



Synchronous

- Webinars/Live streaming
- Live simulations



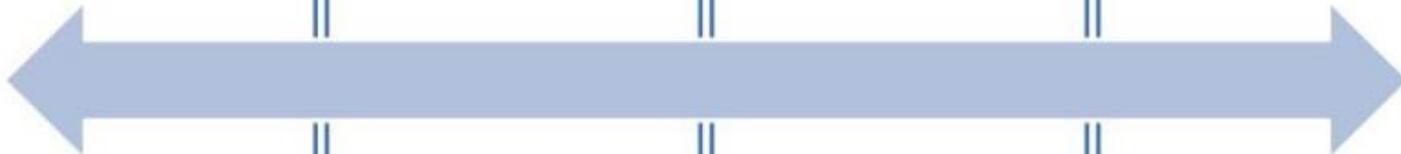
“Collaborative” Asynchronous

- Discussion forums
- Social networking



Self-paced Asynchronous

- Online-self tutorials
- Archived podcasts

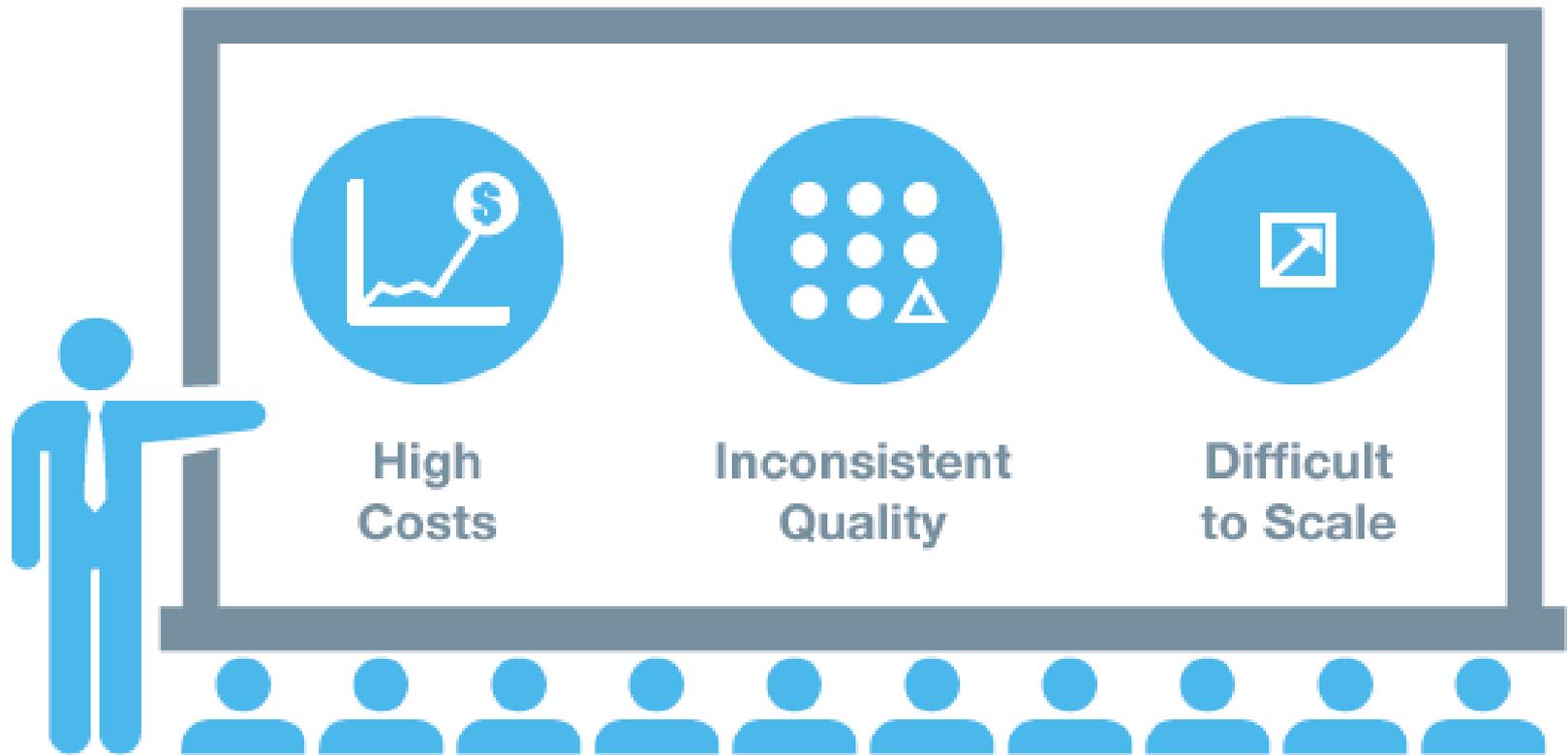


Blended Learning Background

- Emergence of e-learning offered advantages
 - Increased cost efficiency
 - Increased flexibility
 - Increased scalability
- Realization occurred that the human interaction aspect was still a critical part of the learning process
- Blended learning developed from combining the benefits of e-learning with those of classroom interaction
- More recently, mobile learning is becoming a key component to the learning process



Why the movement to blended and online approaches?



Blended Learning Benefits

- **Richer Instructional Content:** can use multiple forms of media to raise completion rates for learners and overall results
- **Acceptability:** learners are more accepting of multiple learning methods vs. only one
- **Cost:** can save money, for example reduced seat time in a classroom
- **Learning Appropriateness:** the content can be tailored to individual learning needs
- **Scale:** can roll out new courses and initiatives to additional audiences

Source:

Schildermans & Scheurs,
Blended learning in professional learning practice: an explorative study in Belgian-Dutch context.
Hasselt University, Belgium, 2010



Challenges for Blended Learning

- Rapidly changing technology
- Time to develop blended learning resources
- Inadequate technical infrastructure
- Lack of understanding the potential and benefits of blended learning
- Learner resistance
- Instructor or trainer resistance
- Lack of management support
- Limited budgets for training



Future of Blended Learning: Mobile Learning

- Defined as: a form of e-learning that uses mobile devices in many locations at the convenience of the learner
- Using mobile tools for creating learning aids and materials becomes an important part of informal learning
- Mobile learning is extremely portable as it replaces binders of information and cumbersome laptops (with smaller devices)



Mobile Learning as Performance Support in the Workplace

- Because the majority of work-based learning happens on the job (often in moment of need), mobile learning is becoming the primary method for workplace learning through various modes:
 - On the job training for someone who accesses training on a mobile device
 - Just in time training to solve a problem or gain an update
 - Performance support. Immediate access to tools to streamline a work-task
 - Reference guides and ebooks
 - Checklists

Case Study of Blended Learning, Including a Mobile Component

- Using mobile performance support tools solves a **compliance** problem: field workforce needing up-to-date procedures and other company reference documents
- Utility Contractor Training Program provides a 40 hour classroom training program, hands-on learning and integration of company documents on field tablets
- Primary audience is the field workforce, although because blended learning is portable and adaptable, additional audiences are being considered
- Result: This program will reduce regulatory fines for the client because field workers have ready access and are demonstrating greater proficiency

Natural Gas Field Skills Training

Instructor-led and e-learning options

- PowerPoint Presentations
- Leader Guides
- Participant Guides
- Knowledge Assessments

1. Overview
2. Construction
3. Corrosion Control
4. Pipeline Installation
5. Pipe Joining
6. Pipeline O&M
7. Pressure Regulation
8. Customer Service
9. Compressor Station O&M
10. Emergency Preparedness



Natural Gas Field Skills Training

- Tablet application houses utility construction standards, work methods, procedures, drawings, bulletins and other reference materials
- Reference documents can be reformatted or linked into customized training modules
- Field Tablets are used both during and after training as a mobile performance support tool



Train your field workers for safe, effective on-the-job performance and meet regulatory requirements