online training for the asphalt pavement industry

George White
Online Training for the Asphalt Pavement Industry

- The triple convergence
  - Education
  - Industry
  - Technology
Types of Education

• Formal
  - Subject matter expert driven
  - Prepared prior to delivery
  - Delivered in a variety of ways, including:
    • physical classroom
    • virtual online classroom
    • video conferencing

• Informal
  - Self learning
  - Peer-to-peer or on the job
Industry Snapshot

• Employs over 300,000 persons directly
• Supports over 600,000 people in related fields (equip. manufacturing, gov’t agencies, etc)
• Growing demands for accountability
  – Design / Build
  – Design / Build / Maintain
  – Warranties
• New equipment, practices and procedures
• Seasonal personnel and operators
The Importance of Training

• Informed, skillful people are the cornerstone for successful business
  - Adapt to industry growth and change
  - Differentiate your company or agency
  - Solve problems effectively
  - Increase quality
  - Increase productivity

Paving in Ballard, circa 1900
from UW Libraries NW Collection
Productivity and Beer?

- Miller Brewing Company – Trenton, Ohio
- Implemented new training program for workers
- Now produces 50% more beer than any other facility
How We Typically Train

• Classroom Training
  – Short courses
  – Seminars
  – Conferences

• Limitations
  – Location requirement
  – Time requirement
  – Size constraint
How We Typically Train
The Challenge of Training

• Content Quality
• Delivery
• Cost
• Knowledge Retention
• Participant Accountability
• Measuring ROI
What is Online Training?

- A type of formal training
- Sometimes referred to as:
  - E-Learning
  - Online Learning
- Delivered via the Internet
- Only requires browser
- Available anytime, anywhere
Benefits of Online Training

• Typically requires 40 to 60% less time than similar content delivered in a classroom setting

• Equivalent effectiveness

• Readily and quickly distributed throughout a company or agency

• Consistent message

• Ease of updating

• Removes time and location requirement

• Reduces the overall cost of training
Methods of Online Training

• Self Directed Learning
• Guided Learning
• Blended Learning
Self Directed Learning

• Learn at your own pace
• Interactive multimedia experience
• Cross references and linking
• “Just-in-time” training
• Searchable reference
• Delivery through a web-based interface
Guided Learning

- Participant is led through material
- Typically audio or video to lead the participant
- Usually fixed time length
- Fixed navigation path
Blended Learning

• Combination of Online and Classroom
• Participants come to class with basic knowledge and can spend time solving problems
• More effective use of training instructors
• Classroom time is invaluable!
Case Study: Caterpillar

- Examined their internal cost to deliver traditional vs. online training

Figure 2 - E-learning Savings Expressed as a Percentage
Online Training for the Asphalt Pavement Industry

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Who are we?

pavia systems

• Specializes in technology driven solutions for the paving community

• Launched from University of Washington
  - Over 35 years of experience in pavement industry
  - Strong collaboration with industry
  - Recognized in the pavements and learning communities
Data Management Solutions

HMAView (MDSHA)

WSDOT Pavement Management System
Interactive Pavement Guides

A Guide for Hot Mix Asphalt Pavement

Main Menu (List of Modules)

3. Design Parameters. Discussion of HMA pavement design inputs beyond material characteristics. Concentrates on subgrade characteristics, load (traffic) and the environment.
4. Mix Types. Overview of the different types of HMA available and guidance on when each might be appropriate. Also includes a section on HMA recycling.
6. Structural Design. Overview of basic structural design approaches including both empirical and mechanistic-empirical methods.
7. Construction. Discussion of HMA pavement construction including production, transport, laydown, compaction, surface preparation, quality assurance, and specifications.
8. Pavement Evaluation. Survey of the basic methods of pavement evaluation, why they are used, the most common measurements used. Includes a picture catalog of HMA pavement distress.
9. Maintenance & Rehabilitation. Overview of current rehabilitation and maintenance methods and a focus on overlay design.

NAPA Guide for Hot Mix Asphalt Pavement

HAPI Asphalt Pavement Guide

Welcome to the HAPI Asphalt Pavement Guide. Provided by the Hawaii Asphalt Paving Industry (HAPI), this is an informational resource for hot mix asphalt (HMA). It contains a general overview of all HMA aspects and is written for education, information, and best practices for Hawaii asphalt pavement practitioners and professionals. It is intended to assist those who work with HMA in any way including architects, engineers, contractors, students, and homeowners.

The HAPI Asphalt Pavement Guide works well by itself or as the Hawaii companion to the National Asphalt Pavement Association’s (NAPA) Guide for Hot Mix Asphalt (HMA). Both publications cover the same basic topics. The HAPI Guide is a national publication that provides more background and detailed information, while the HAPI Guide provides information and design recommendations specific to Hawaii.
Virtual Superpave Laboratory
Online Training Courses

• Courses
  – One lesson
  – Multiple lessons

• Lessons
  – 30-60 minutes in length
  – May build on each other
What does a course look like?

- Learning objectives
- Packaged in digest-able topic driven modules
- Two methods of delivery
  - Guided lesson
  - Self directed lesson
- Quiz feature
  - Measures trainee knowledge retention
- Progress tracking and feedback
- Supplemental resources
Course Content

- Digital Media
- Interactive Graphics
- Video
- Animations
- Narrations
Course Content Examples
Course Content Examples

- Rich media
- Interactive graphics
- Video
Course Content Examples
Course Navigation

• Self directed, at your own pace
Course Navigation

- Guided, with narration and interactions
Progress Tracking

- Feedback for participant
- Enforce prerequisites
- Tracking ability for administrators
Evaluation Quizzes

• Many different question types
Certificates

- Indicate successful completion
- Verification of course compliance
Additional Resources

• VSL, Pavement Guides, etc.
• Data management links
• Company specific practices and techniques
Industry Partnership

- We’ve teamed up with NAPA to provide high quality content for the industry
- NAPA member benefits
  - Discounted course pricing
  - Quality review by NAPA
- Course development jointly managed
Availability

- Online training available in coming weeks
- Initial course offerings to include topics on:
  - The fundamentals of asphalt paving
  - Basic operations and procedures
  - Environmental
  - Safety
- VSL, Guide for Hot Mix Asphalt available now
Online Training Pricing

- Similar to traditional training model
- Per user per course
- Prices start at $35
- Courses available for 12 months
Key factors to success

- Identify training needs
- Set training goals
- Provide incentives to reach those goals
- Focus on your core competencies
- Track your training performance over time
- Empower workers
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contact me at:
george@paviasystems.com

www.paviasystems.com