E-Learning as a Training Tool

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Outline

Impetus for developing e-courses

- How did it start, where are we now
- Advantages & disadvantages
- Methods of evaluating learning
- Tips for developing e-courses
- Lessons learned
- Steps involved in developing an e-course
- Resources required



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Why did CCOHS start developing e-courses?

- Have been delivering Health and Safety for Managers and Supervisors for 15+ years
- 2-day classroom course
- Delivered 4-5 times per year in Hamilton



Multiple on-site courses in Canada and internationally



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Why did CCOHS start developing e-courses? (continued)

- Demand exceeded our ability to deliver classroom courses
- Requests for on-site courses nationally and internationally
- Requests for courses in other languages
- Requests from large organizations for e-courses
- Requests for "more for less" more frequent courses, more subjects, lower overall cost for learners



How did it start?

Began discussing e-learning in the 1990's

Impetus to begin development was from Pan American Health Organization (PAHO) in 2002 who wanted a Spanish version of the Health and Safety Managers e-course

Developed English e-course, then translated to Spanish in 2003



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How did it start? (continued)

- Changed platforms, partnered with Vubiz
- Infrastructure already developed Learning Management System, e-commerce
- Revised English version, developed French version, began marketing in early 2004
- Began developing other requested topics



Where are we now?

Offer 24 tripartite reviewed e-courses in English and French

10 new e-courses planned for the next year

Over 20,000 e-course "seats" sold since March 2004

Develop customized e-courses for clients



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Advantages and disadvantages

For learners

For organizations

For trainers/ course developers



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Advantages for learners

- Better retention
- Learn at their own pace
- Less intimidating
- Available at any time
- Instructor can be available to answer questions, address concerns





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Disadvantages for learners

Less interactive

- Must be literate and computer-literate
- People learn in different ways not all learn well by reading
- Requires more self-discipline/motivation
- May be boring if course is poorly designed
- Not practical for all types of training suitable for awareness only



Advantages for organizations

- Stretch training dollar farther
- Uniform course content
- Available anytime, anywhere



Automated tracking and scoring



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Disadvantages for organizations

Organization must provide computers, Internet access for learners

- Some learners aren't comfortable with computers, prefer classroom courses
- Some subjects still require instructor-led training
- Additional expertise and infrastructure required for developing courses - may not have resources inhouse



Advantages for trainers/ course developers

- Extends reach of training expertise
- Once a course has been developed, it can be delivered to thousands of people
- Objective testing, not just trainer's opinion of whether learners "got it"





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Disadvantages for trainers/ course developers

- Subject knowledge isn't enough
- Instructional design expertise required
- Multimedia design and development expertise required
- Infrastructure required systems for developing, delivering, and tracking the use of courses
- Can be expensive \$50,000+ per hour of training



Issue – "Successful Completion"

Classroom course - instructor sees attendance and participation

E-course - need objective way of ensuring that learners have seen/heard all the material, and understand it

Require proof of participation, competence (Management responsibility, Continuing Education credits)



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Evaluating Learning

Classroom

Observation

Learner's participation

Written testing

E-course - Several approaches...



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Evaluating Learning

"Test your knowledge" - interactive activities throughout the course

- Case studies interact with instructor
- Self-Assessment" Q&A at the end of a module/course - scored but not tracked

Exam - more formal Q&A - set number of questions, number of times exam can be taken, passing grade



The Good News

Based on the evidence of exam scores and interaction between learners and the instructor, we have found that:

Learners are taking the time to learn the material, then applying knowledge and skills learned to their own work situations



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Tips for Developing Effective E-courses

Material should be divided into "digestible chunks" not more than 50-60 slides per module

- Present the basics on the pages, additional detail in optional pop-ups
- Add images wherever appropriate
- Include interactive activities throughout to engage the learner, reinforce material



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Tips continued

Add "voiceover" to aid auditory learners, less literate individuals

- Include case studies to prompt thinking beyond the subject material, invite interaction
- Have an instructor available to answer questions, discuss concerns
- Develop FAQs based on learners' questions



Bottom Line...

An e-course is not an online manual and shouldn't be used to dump piles of text on the learner



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Some Lessons Learned

From the learners' viewpoint:

- Work should be scheduled so that learners don't have to spend more than an hour at a time in a course
- Many learners want ready access to an instructor (email, phone)
- Many learners want a printed course manual
- Most learners want signed, paper certificates of completion



Some Lessons Learned

From the course developer's viewpoint:

- If "converting" an existing classroom course, speakers' notes, PowerPoint slides and user manuals usually aren't enough
- Need ready access to the classroom instructor to fill in the inevitable information gaps
- E-courses are self-contained this is all the learner is going to get!
- Balance "need to know" against information overload



Developer's Lessons (continued)

When reviewing the e-course, ensure good information flow by reading out loud

Review, review, review

Takes longer and costs more than you expect to develop an e-course!



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Steps to Develop an E-course

Identify topic, content author

- Determine learning objectives for e-course
- Develop outline (like detailed Table of Contents)
- Develop 1st draft in English using PowerPoint - text, sample images



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Steps continued

Internal review of draft for:

- Structure and flow
- Clear language
- Content
- Create English course in presentation software
- Develop graphics



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Steps (continued)

Final internal review – incorporate comments

- Tripartite external review incorporate comments
- Send content for translation
- Record English voiceover
- Technical set up for public release, CCOHS web server, learning management system



Steps continued

Receive/ review translation

- Create French course in presentation software
- Create any necessary graphics for French version
- Record French voiceover
- Technical set up for public release, CCOHS web server, learning management system



How Long Does it Take?

To develop one-hour course in English -

minimum 4-5 months



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Resources required to develop a one-hour e-course

- Writer(s), editors, graphic artist(s), course builder(s), sound editor(s), voice talent, project manager(s)
- Approximately 20 people at CCOHS involved in e-learning, plus external authors and reviewers
- Total of 70-90 person-days required, excluding infrastructure support, translation of content



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Resource breakdown

- 10-15 person-days (PDs) for writing e-course draft
- 20-30 PDs for various edits
- 6-10 PDs for graphics development
- 2-4 PDs for sound recording/ editing
- 5-7 PDs for various promotional activities (media releases, web pages, catalog, targeted mailings, etc.)
- 10 PDs for project coordination
- 10-15 PDs for other activities course building, QA, etc.



Sample Pages from "Health and Safety for Managers and Supervisors"



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🏉 Module 5 - Occupational Hygiene - Windows Internet Explorer

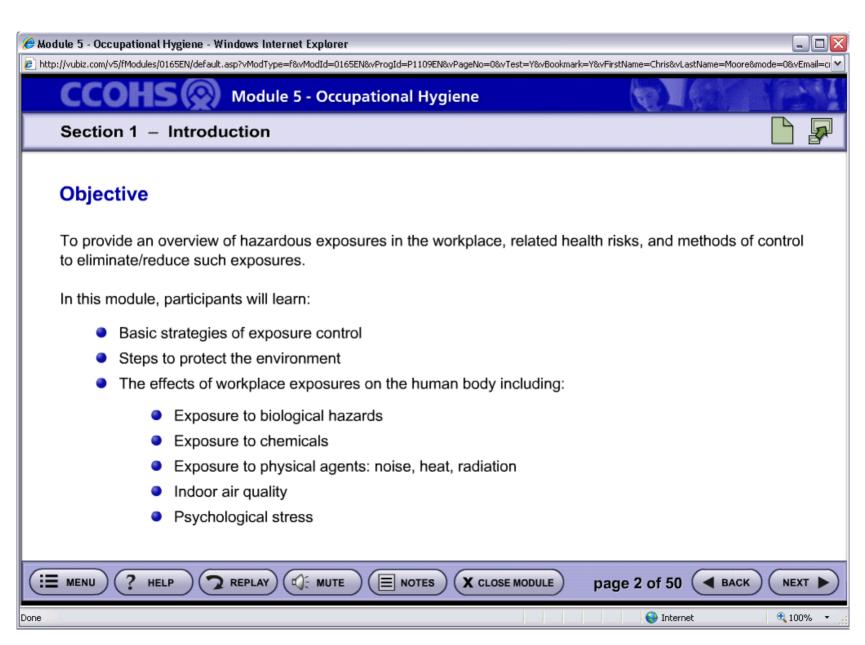
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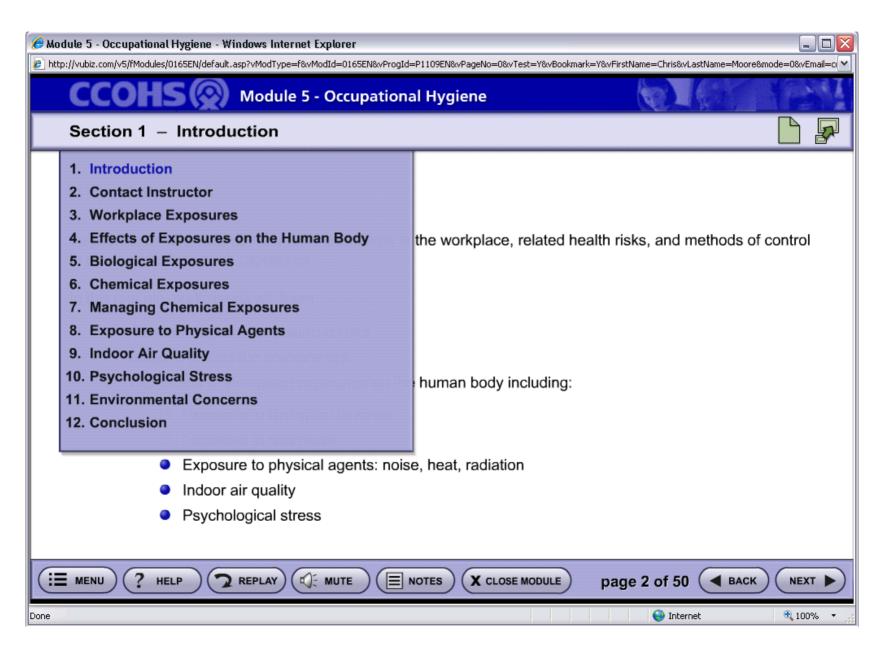
Canadian Centre for Occupational Health and Safety

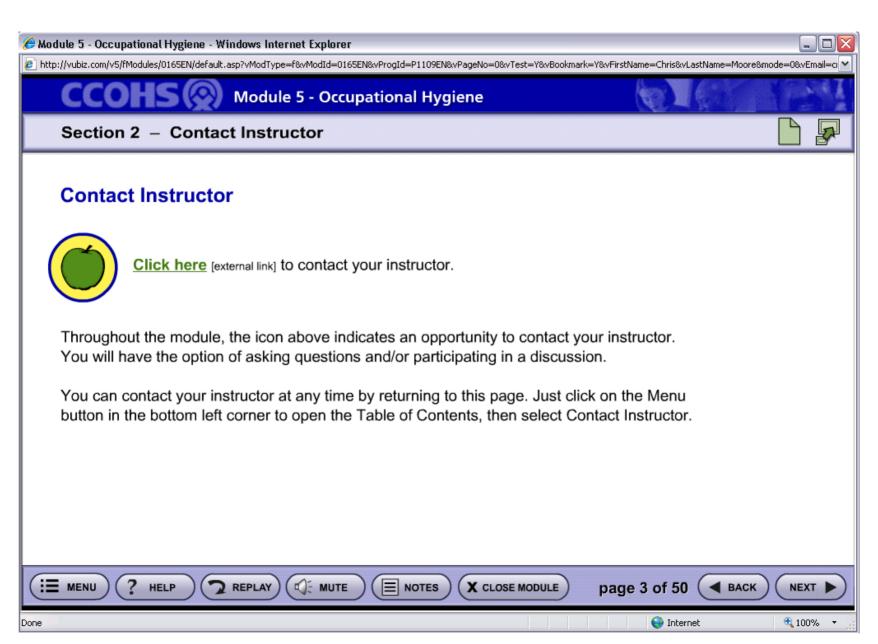
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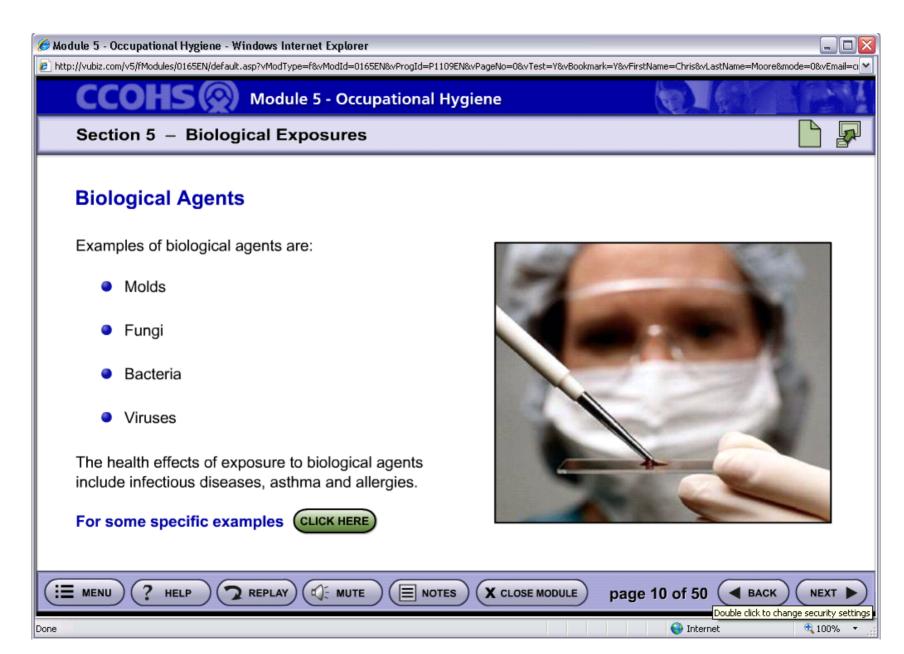
Occupational Hygiene

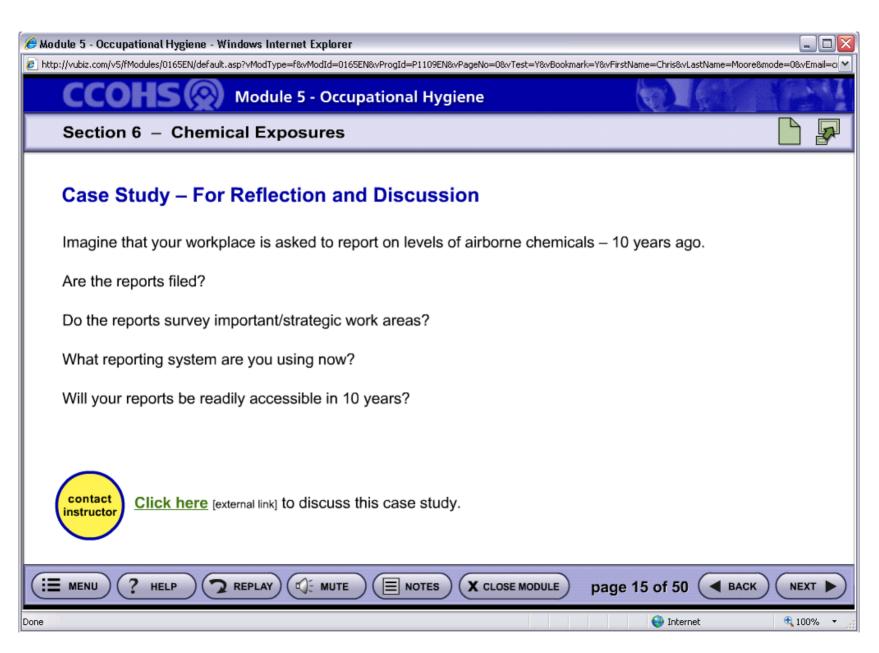
SKIP 1











🔗 Module 5 - Occupational Hygiene - Windows Internet Explorer	
🔊 http://vubiz.com/v5/fModules/0165EN/default.asp?vModType=f&vModId=0165EN&vProgId=P1109EN&vPageNo=0&vTest=Y&vBookmark=Y&vFirstName=Chris&vLastName=Moore&mode=0&vEmail=cr	
CCOHS Module 5 - Occupational Hygiene	
Section 6 – Chemical Exposures	
Test Your Knowledge	
Which of the following exposures is not a biological hazard?	
Select the answer you think is correct, then click the SUBMIT button.	
1. Anthrax.	
 2. Moulds and fungi. 	
 3. Hepatitis B. 	
 4. Volatile organic compounds. 	
SUBMIT	
	page 17 of 50 BACK NEXT
Done	😜 Internet 🔍 100% 🔻 🛒

Some other CCOHS e-courses

- Accident Investigation
- Confined Spaces (2 courses)
- Electrical Hazards
- Health & Safety Committees

- Lockout
- Office Ergonomics
- WHMIS (3 courses)
- Violence in the Workplace (2 courses)

Plus many more...

Visit http://www.ccohs.ca/education



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Thank you!

For More Information, Contact:

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