


Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

The Balance Between Visual and Textual Training Material: How Much is a Picture Really Worth?




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Introduction

- **What this paper covers:**
 - The CSSP and the IAEA.
 - Just what is a “picture”?
 - What are the costs and benefits?
 - Making stepwise improvements.
 - Delivery platforms for instructional material.
 - Five real-world examples.
 - Summary and concluding remarks.

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The CSSP and the IAEA

- **The CSSP provides support to the IAEA for many activities, including:**
 - Equipment Development
 - Training
 - Cost Free Experts
 - SGs Concept Development
 - Information Technology

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Canadian Safeguards Support Program

EQUIPMENT DEVELOPMENT AND SUPPORT	INFORMATION TECHNOLOGY	HUMAN RESOURCES
<ul style="list-style-type: none"> • VIFM • CVD • IRUS-Seals • DCVD • VIFM Stand-alone • VIP 	<ul style="list-style-type: none"> • Satellite Imagery • Polaris WCS • GIS • Remote Monitoring • Vulnerability Assessment • Support 	<ul style="list-style-type: none"> • Cost-Free Experts (CFE) • Infrastructure Support • Safeguards Implementation • Technology Transfer
TRAINING		
<ul style="list-style-type: none"> • Courses • Field Training (CVO) • Computer-based Training 		
SYSTEMS STUDIES		
<ul style="list-style-type: none"> • Physical Models • Transfer of Used Fuel • Integrated Safeguards • Geological Repository 		

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Just What is a “Picture”?

More Realistic ↑	•Photos •Paintings	•Videos
	•Maps •Schematics •Isometric drawings •Cartoons	•Animations
	More Dynamic →	

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Costs versus Benefits

- **Controlling costs:**
 - In-house versus contracted resources
- **Benefits**
 - Language independence
 - Photos/videos for realism
 - Diagrams/animations to show hidden aspects
 - Web-based = on-demand/frequent updates
 - Visualizations reveal hidden relationships

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Stepwise improvements

- Control costs and scope

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Delivery Platforms for Instructional Material

- See table of pros and cons in paper ...

Platform	Pros	Cons
Printed manuals	<ul style="list-style-type: none"> easy to use can include any kind of static imagery relatively inexpensive to produce no additional hardware needed for delivery easy for users to navigate 	<ul style="list-style-type: none"> can be bulky needs gone out of date no dynamic imagery not interactive
Interactive CD-ROMs	<ul style="list-style-type: none"> more readable than text in a classroom situation interactive can attract attention not necessarily covered by the manual or at least provide the motivation to do otherwise interactive can gauge student comprehension and adjust the presentation accordingly 	<ul style="list-style-type: none"> can incur significant travel costs if network and students are not co-located scheduling can be problematic qualified instructors may be in high demand
Video presence	<ul style="list-style-type: none"> more an interactive CD-ROM more qualified instructors available in many many places Video presence is an extension of video conferencing that allows the instructor to interact with several remote students 	<ul style="list-style-type: none"> high cost of equipment purchase or rental needs to offset the travel costs does not solve scheduling problems
Video on DVD	<ul style="list-style-type: none"> very high quality and reliable presentation 	<ul style="list-style-type: none"> no interactivity, manual can

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Example 1: CANDU Spent Fuel Monitor (animation shows hidden details)

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Example 2: Digital Čerenkov Viewing Device (interactive video triggered by keywords)

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Example 3: Livelink Navigation Procedure (test a prototype on your audience)

2. Left-click on the small icon (□) that immediately follows the folder name

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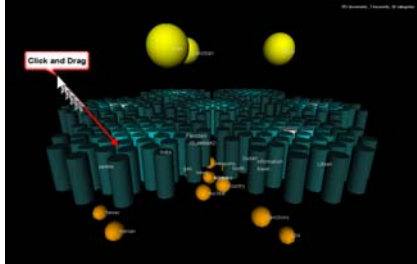
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Example 4: QMS Web-Delivery (make fast updates & use scarce resources)


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Example 5: Visualizing Searches (interaction speeds up analytical work)

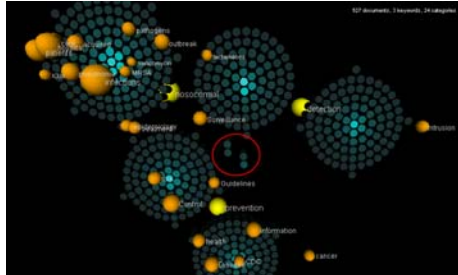


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Example 5 continued: A Rotated View (easier to see items of interest)



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Summary and concluding remarks



- We showed several examples
 - You need to pick an appropriate mix
- Understand your audience
 - Test a prototype on them
- Don't provide excessive detail
 - Keep it simple (KISS)
- Use high quality images
- Use stepwise improvements

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Any Questions?



- More details at <http://saturn.eton.ca/>

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