UP CLOSE AND PERSONAL: ENGAGEMENT WITH OTHER CULTURES VIA REAL-TIME SATELLITE COMMUNICATIONS

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More information here: http://www.intxinc.com

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Keywords: satellite communications, learning assessment, learning space design, collaborative learning.
Overview of INTX’s Real-time Content Distribution Network

More Information: http://www.intxinc.com

Receivers

Users worldwide access a live, interactive broadcast with a user friendly system.

In-Field Personnel

In-Field Personnel broadcast their live experience and control user interaction via a satellite-enabled network run by an INTX specialized tablet.

Participant Network
- Scalable to any group size
- Immersive Learning Environment
- Passive or Interactive
- Individual or Multiple Participant Interface
- Accessible to Any Online Participant Worldwide

Interactive Portal
- Live Audio/Visual Collaboration
- Customizable Interface
- Media-Rich Content

Remote Production Hub
- Multiple Audio/Visual Channels
- Wireless Video Cameras
- 2 Way Broadband Capability
- One Touch Satellite Uplink

Control Tablet
- Network Controller
- Launches Stored Media
- Enables Live Two-Way Interaction
More information here: http://www.intxinc.com
Training Control Tablet

(screenshot during South Africa Cultural Transect, Fall 2010.)
NOTE: all photos during South Africa Cultural Transect, Fall 2010.
Methodology: OJT

Based on three learning concepts that appear to be universal to learner success:

- **Participation**
  - Perceived as prerequisite to learning in online environments

- **Student engagement**
  - Collaborative interaction helpful for critical evaluation of resources

- **Use of technology**
  - Informalizes process & supports varied learning styles

For more information please see section 2.2 of article.
On the Job Training Scenario

Research participant in action:

Interaction with remote subject matter experts using the Training Control Tablet

Location:
Mobile Satellite Antenna Workshop

University of Central Florida Summer, 2012.
Methodology: OJT

Positive correlations found in review of research between:

- Active participation behaviors & critical analysis
- Engagement, collaboration, cooperation & higher quality work
- Use of technology (video) & breakdown of perceived barriers between instructors and students

For more information please see section 2.2 of article.
Methodology: OJT

Research Question:

Does the INTX software platform – when used in conjunction with a simulated On-The-Job (OJT) training scenario – have any effect on participant engagement and learning within the scenario?

For more information please see section 2.2 of article.
Methodology: OJT

- Task: Inspection & repair of high-tech satellite communications system
- 26 participants
- Both groups provided identical online training prior to experiment.
- Experimental group interacted with subject matter experts (SMEs) via INTX tablet
- Control group interacted with SMEs via phone

For more information please see section 2.2 of article.
Results: OJT (Quantitative)

- Post-task survey + observation (video)
- Task success rates
  - Experimental group outperformed control group at all three checkpoints
- Task duration
  - Average task duration almost 10 minutes shorter for experimental group
    - \( t = -2.257, p = 0.033 \)
- No significant difference in number of questions asked of remote expert

For more information please see section 3.5 of article.
Results: OJT (Quantitative)

More experimental group participants reported:

- technology did not impede their ability to complete the task
- level of interaction with remote expert was sufficient (100% v. 80% control)
- they felt in control of events during session with remote experts
- they were not easily distracted from the task while communicating with remote experts (100% v. 89% control)

For more information please see section 3.5 of article.
## Results: OJT (Quantitative)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pre-training material provided sufficient technical content and background data.</td>
<td>6 31 63</td>
<td>0 40 60</td>
</tr>
<tr>
<td>The on-site training sufficiently prepared me for the task.</td>
<td>0 6 94</td>
<td>10 30 60</td>
</tr>
<tr>
<td>The technology provided was sufficient to effectively communicate with the remote experts regarding task issues.</td>
<td>0 0 100</td>
<td>0 0 100</td>
</tr>
<tr>
<td>The technology provided was sufficient to effectively communicate with the remote experts regarding task issues.</td>
<td>0 0 100</td>
<td>0 0 100</td>
</tr>
<tr>
<td>The technology impeded my ability to complete the task.</td>
<td>75 6 19</td>
<td>44 22 33</td>
</tr>
</tbody>
</table>

For more information please see section 3.5 of article.
## Results: OJT (Quantitative)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Experimental</th>
<th></th>
<th>Control</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree</td>
<td>Neither</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>I felt comfortable using the technology.</td>
<td>6</td>
<td>0</td>
<td>94</td>
<td>0</td>
</tr>
<tr>
<td>The technology was difficult to use.</td>
<td>81</td>
<td>19</td>
<td>0</td>
<td>80</td>
</tr>
<tr>
<td>The level of interaction with the remote experts was sufficient enough to</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>complete the task.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understood the task expectations.</td>
<td>0</td>
<td>19</td>
<td>81</td>
<td>0</td>
</tr>
<tr>
<td>I understood the remote experts’ instructions during the task.</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>I felt that I was in control of events during the session where I was</td>
<td>0</td>
<td>6</td>
<td>94</td>
<td>0</td>
</tr>
<tr>
<td>communicating with the remote experts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was easily distracted from my task when I was communicating with the</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>89</td>
</tr>
<tr>
<td>remote experts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For more information please see section 3.5 of article.
## Results: OJT (Quantitative)

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dissatisfied</td>
<td>Neither</td>
</tr>
<tr>
<td>Satisfaction with clarity of information provided by remote experts</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Satisfaction with detail of instruction provided by remote experts</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Satisfaction with usefulness of interaction with remote experts</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

For more information please see section 3.5 of article.
Results: OJT Qualitative

- 44% of the participants in the control group reported that adding a video feature to communicate with the experts would have made the task easier.

- A participant in the control group stated: “I think it would’ve helped to see the tech person, or at least for them to be able to see me and what I was doing. They knew what they were talking about and helped fine, but it would have moved faster if they had been able to point at something or show me on their end how to do something.”

For more information please see section 3.6 of article.
Results: OJT Qualitative

- A participant in the experimental group stated:

  “I had no idea what parts they were referring to on the computer screen so I got walked through the entire thing with the experts but initially had difficulty because I am terrible with putting things together, sometimes it was hard to see what they were showing me to do through the tablet but I would have never completed the task without them.”

For more information please see section 3.6 of article.
Conclusions

- Cultural Transect Scenario
  - Potential to consider new metaphors for knowledge transfer and pedagogy
  - Changes how students learn and instructors teach by augmenting traditional classroom methods with greater access and interaction
  - Provides real-world experiences based on dialogue, action, and reflection

For more information please see section 4 of article.
Conclusions

• OJT Scenario
  ◦ Provides support for learners in remote locations & fosters a sense of teamwork
  ◦ Visual and audio technology enhances troubleshooting, customer service, and service task completion
  ◦ May increase company productivity and profit based on increasing service technician skills

For more information please see section 4 of article.
Conclusions

◦ Recommendations
  • Appropriate training for instructors or technicians on the INTX technology is critical prior to implementation

◦ Limitations
  • Small sample sizes
  • One service task (OJT) utilized
  • Simulated training conditions

◦ Future Research
  • Larger sample sizes
  • Multiple task completions (OJT)
  • Cross-disciplinary approaches to broaden application
  • More formalized training process on INTX technology

For more information please see section 4 of article.
References

(in order of appearance in article)

- Crook, A., Mauchline, A., Maw, S., Lawson, C., Drinkwater, R., Lundqvist, K., & ... Park, J. (2012). The use of video technology for providing feedback to students: Can it enhance the feedback experience for staff and students?. *Computers & Education, 58*(1), 386-396.
Remaining slides feature earlier INTX Case Studies (2007 through 2010) referenced in the article.
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Project History

Summer 2007
USA: “Film History”

Summer 2008
Bermuda: “Marine Biology”

Summer 2009
India: “Ethnobotany”

Fall 2010 - “Cultural Anthropology”
Expanding the Reach of
The New Global Classroom

2007  UTAH  FILM HISTORY
2008  BERMUDA  MARINE BIOLOGY
2009  INDIA  ETHNOBOTANY
2010  AFRICA  CULTURAL TRANSECT

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Texas A&M – Sea Campus
(Aug. 6th 12pm CDT)
&
Galveston Aquarium – Moody Gardens
(Aug. 11th 8pm CDT)

Orlando Science Center
(Aug. 8th 11am EDT & Aug. 9th 1pm EDT)

Bermuda
Underwater Exploration Institute
(Aug. 7th 10:30am ATC & Aug. 12th 7pm ATC)

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