CYBERSECURITY TRAINING FOR MULTI-GENERATIONS

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• 11 years in academia as Adjunct Professor, Specialized Tutor/Mentor, Lab Director, Consultant, Graduate Program SME

• B.S. Computer Science

• M.Ed. Adult Learning and Development

• Ph.D. Computer Information Systems, Information Assurance

• Management Certificate, University of Notre Dame, Mendoza College of Business

• Certified Expert RMF Professional
AGENDA

- Goal
- Assumptions
- Challenge
- Generations Definitions
- Outcome
- Future Plans
• Develop and deliver quality, cost-effective, interactive training to reduce cyber security risks through change in user behavior.
Assumptions

• If learners like the training, they will be more receptive to the activity and become active learners.

• Active learners are more likely to retain the information they learn.
How do we make training more engaging to the multitude of learners with different learning styles?
• Decide on targeted generations
• Decide on the design of training
• Activate survey
GENERATIONS

Traditionalists
Pre 1946

Baby Boomer
1946-1964

Generation X
1965-1979

Millennial
1980-1995
• Lectures
• Classroom-live
• On the job training
• Workbooks and manuals
• Books and reading
• One-on-one coaching
• No competition with learning
• Lectures
• Classroom instruction-live
• On the job training
• Workbooks and manuals
• Books and reading
• One-on-one coaching
• No competition with learning
• May be insulted by continuous feedback
Generation X
1965-1979

- On the job training
- Classroom instruction-live
- Workbooks and manuals
- Books and reading
- One-on-one coaching
- Assessment and feedback
- Discussion groups
- Use of games and case studies
• On the job training
• Classroom instruction-live
• Workbooks and manuals
• Books and reading
• One-on-one coaching
• Immediate and continuous feedback
• Gaming
• Mobile/Tech Savvy
• Competition in Learning
<table>
<thead>
<tr>
<th>Learning Style</th>
<th>Design Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>Slides, Video</td>
</tr>
<tr>
<td>Books and reading</td>
<td>Slides</td>
</tr>
<tr>
<td>Case studies</td>
<td>Scenario Videos</td>
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<tr>
<td>Competition in learning</td>
<td>Games</td>
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<tr>
<td>Immediate/Continuous Feedback</td>
<td>Games</td>
</tr>
<tr>
<td>Assessment and feedback</td>
<td>Quizzes, Exams, Games</td>
</tr>
</tbody>
</table>
Hybrid Training Offering

- Live (F2F)
  - Slides
  - Narrative Situational Videos
  - Gaming (Competition)
  - Surveys provided

- Online
  - Slides
  - 3 Animated Videos
    - Video Scribes
  - 1 Situational Video
  - *Gamification (quizzes)*
  - Surveys provided
2018 TRAINING

TABLE OF CONTENTS
- Information Security Overview
- Physical Access Control
- Cybersecurity Threats and Best Practices
- Foreign Travel and Counterintelligence Threats
- Remote Security
- Mobile Device Security
- Privacy Information

Privacy

Insider Threats

Remote Access Security

Encryption

The encryption process uses math to "scramble" data so it is unreadable by unauthorized persons. To unscramble the encrypted data, an encryption "key" is needed to change the information back to its original, readable form.

Encryption is important because it allows you to securely protect data that you don’t want anyone else to have access to. It is used to protect corporate secrets, secure classified information, and individuals use it to protect personal information to guard against things like identity theft.
SURVEY RESULTS

Chart Title

- **GAMIFICATION/MORE INTERACTION**: 5
- **LIKED VIDEOS**: 22
- **DISLIKED VIDEOS**: 61
- **COURSE WAS GOOD/EXCELLENT**: 123
• Revise surveys for better metrics
• Add demographics (generations)
• Add a likert scale
Thank You!

Dr. Brenda Ellis, NASA ITSATC Manager
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• “The training this year is improved over previous years”
• “Training was improved from last year.”
• “I believe the supplemental videos were very helpful in stressing the critical importance of maintaining information security for NASA data.”
• “I think the courses may lean too much to on-line courses to eliminate regular classes. I find I take away more with general interaction of people when a presentation [is] given by someone.”
• “more charts”
• “Perhaps offer as a live class in the auditorium (as an alternative)”
• “Use a virtual reality headset to make it more interactive”
• “…make the videos optional, with written material as the other option”
• “I would like to forward the course home so my wife can take it! Everyone has to step up [their] IT security!”
• “fewer videos, more text would be helpful”