Examining the Correlation between Sensory Modality Preferences and Reality-Based Simulations

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Examining the Correlation between Sensory Modality and Reality-Based Simulations

Dr. Eloy Nuñez, Associate Professor, Dept. of Public Safety Administration
Dr. Ernest Vendrell, Assistant Director, Dept. of Public Safety Administration
Professor Christine Sereni-Massinger, Esq.re
The Genesis of the Idea

Super Bowl XLI
Miami-Dade County, Florida
February 2007
EOD / Canine Workgroup

Co-Chairpersons
MDPD
FBI

MDPD Bomb Squad
US Dept. of Energy
FBI
ATF
Miami PD Bomb Squad
Broward County SO Bomb Squad
MDPD Canine Unit
Palm Beach SO Bomb Squad
Fla Nat. Guard 44th Civil Support Team

US Dept. of Energy
FBI
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Broward County SO Bomb Squad
MDPD Canine Unit
Palm Beach SO Bomb Squad
Fla Nat. Guard 44th Civil Support Team
Three Dimensional Approach to Critical Incident Management

3 Spheres
Tactical
Operational
Strategic

3 Phases
Before
During
After

Interdisciplinary
A - Z

Three Dimensional Approach to Critical Incident Management

3 Spheres
Tactical
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3 Phases
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During
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Interdisciplinary
A - Z
Dealing with *Complexity*:
The Disciplines Within The Criminal Justice Field

- Law
- Homeland Security
- Criminal Investigations
- Public Administration
- Corrections & Rehabilitation
- Forensic Psychology
- Critical Incident Management
- Incident Stress Management
- Forensics
- Emergency Management
Background: The DRNC as an Overarching Theme
Collaborative Course Design Process

Course Instructor

Instructional Design

DRNC SME
The overarching theme for this course is the Democratic-Republican National Committee (DRNC) Convention. The rationale for choosing the DRNC Convention as the overarching theme for courses of the Criminal Justice program is that such large-scale special events provide an ideal setting whereby most, if not all of the issues related to the criminal justice field can be played out. These large-scale special events are complex and involve virtually all the stakeholders and their issues associated with criminal justice. Planning and executing the DRNC Convention will lend a setting which will provide a realistic context that exposes students to a full range of criminal justice issues—in other words, “criminal justice A to Z.”

Continued...
CRJ-550 Legal Issues in Criminal Justice Administration
CRJ 551 Legal Issues in Criminal Justice Agencies
CRJ-552 Criminal Advocacy and Judicial Procedure

CRJ-570 Future Studies in Criminal Justice
CRJ-575 Contemporary Issues in CJ Administration

CRJ-522 Corrections Issues and Trends
CRJ-535
Personnel Management

CRJ-540
Planning and Financial Management in Criminal Justice

PSY-501
Introduction in Forensic Psychology
CRJ 545
Introduction to Forensic Science

CRJ 546
Advanced Forensic Science

CRJ 547
Forensic and Medicolegal Death Investigation

CRJ 548
Crime Scene Investigation and Management

CRJ-584 Psychological Aspects of Critical Incidents
Warren defined the mission goals and rules of engagement, and then he let his field commanders make decisions on the spot when necessary. It was that kind of operational flexibility and trust in his mobile field force commanders that gave him confidence that all would turn out right in the end.
CRJ-530 Ethical Issues in Criminal Justice Administration
CRJ-581 Impact of Terrorism on Homeland Security
What REALLY Matters

• Connecting the simulation to prior learning within the course

• Facilitating student debriefing and reflection throughout the simulation

• Connecting to subsequent learning experiences
The Studies

ASSESSING THE EFFECTIVENESS OF REALITY-BASED FOCUSING EVENTS ACROSS THE CURRICULUM (2013)

EXAMINING THE CORRELATION BETWEEN SENSORY MODALITY AND REALITY-BASED SIMULATIONS (2014)
RQ₁: Will the overarching DRNC theme *increase learner interest* in the Criminal Justice curriculum?

Percentages

- More Interesting: 46%
- Equally Interesting: 46%
- Less Interesting: 8%

N=67
RQ2: Will the DRNC theme be perceived by learners (non-practitioners) and learner-practitioners to be relevant for careers in the criminal justice field?

Percentage of Non-Practitioners

- Very Relevant: 65%
- Somewhat Relevant: 28%
- Not Relevant: 7%

N=40

Percentage of Learner-Practitioners

- Very Relevant: 70%
- Somewhat Relevant: 20%
- Not Relevant: 10%

N=30
RQ3: Will the DRNC theme be perceived by learners (non-practitioners) and learner-practitioners as providing a realistic portrayal of what managers in the criminal justice field are faced with?

Scenarios in their particular course were realistic.

Percentage of Non-Practitioners

- Very Realistic: 10.30%
- Somewhat Realistic: 25.60%
- Not Realistic: 64.10%

N=40

Percentage of Learner Practitioners

- Very Realistic: 6.70%
- Somewhat Realistic: 30%
- Not Realistic: 63.30%

N=30
The Studies

ASSESSING THE EFFECTIVENESS OF REALITY-BASED FOCUSING EVENTS ACROSS THE CURRICULUM (2013)

EXAMINING THE CORRELATION BETWEEN SENSORY MODALITY AND REALITY-BASED SIMULATIONS (2014)
Theoretical Background

– Research has long shown that adults learn differently. (Goldstein & Blackman, 1978; Anderson and Adams, 1986; Knowles, 1990)

– One area of research hypothesizes that individuals have a personalized way of processing information. (Anderson and Adams, 1986)

– Research has identified student preference, specifically in terms of learning modality. (Kolb & Smith, 1985)
• The VARK learning preference is linked to sensory modality.
• It was created by New Zealand Educator, Neil Fleming in 1998.
• VARK is an acronym for:
  – Visual
  – Aural or Auditory
  – Read/Write
  – Kinesthetic
VISUAL LEARNERS

– prefer diagrams, flow charts and pictures.
– These learners also are categorized into another modality called Read/Write.
– These learners are often reliant on the written word and textbooks.
AURAL LEARNERS

– Gravitate to what is communicated to them.
– Tapes and conversation are beneficial to these learners.
– These learners remember what they hear.
KINESTHETIC LEARNERS

– thrive through hands on experience and tactile learning.
– These learners learn by doing.
– These learners prefer to see something done before doing it.
# See it... Hear it... Touch it

## Learning Modalities

<table>
<thead>
<tr>
<th>Designator</th>
<th>Predominant Sensory Preference</th>
<th>Secondary Sensory Preference</th>
<th>Name</th>
<th># of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>VM/am</td>
<td>Visual Modality</td>
<td>Auditory Modality</td>
<td>“See it, hear it”</td>
<td>2</td>
</tr>
<tr>
<td>VM/ktm</td>
<td>Visual Modality</td>
<td>Kinesthetic/Tactile Modality</td>
<td>“See it touch it”</td>
<td>19</td>
</tr>
<tr>
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<td>Kinesthetic/Tactile Modality</td>
<td>“Hear it, touch it”</td>
<td>1</td>
</tr>
<tr>
<td>KTM/vm</td>
<td>Kinesthetic/Tactile Modality</td>
<td>Visual Modality</td>
<td>“Touch it, see it”</td>
<td>9</td>
</tr>
<tr>
<td>KTM/am</td>
<td>Kinesthetic/Tactile Modality</td>
<td>Auditory Modality</td>
<td>“Touch it, hear it”</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total:** 37
Research Methodology

Sampling Frame

• 2014 Spring Term graduate students

• Enrolled in Criminal Justice courses that have implemented the DRNC focusing event theme (CRJ-530 and CRJ-565)

232 Surveys Administered

40 Returned 17.2%
Research Methodology

The data collection instrument for this study was a 35 question survey administered directly to graduate-level students via SurveyMonkey.
Results – Descriptive Statistics

PERCENTAGE OF LEARNER-PRACTITIONERS VS. NON-PRACTITIONERS

- Ranking Supervisors, 17.5%
- Non-Supervisors, 25.0%
- Non-Practitioners, 57.5%
Which statement best describes the reason for seeking a graduate degree in criminal justice?
Breakdown by Criminal Justice Sub-Discipline

- Forensics: 13%
- Criminal Investigations: 18%
- Critical Incident Management: 10%
- Psychology: 8%
- Law: 8%
- Corrections & Rehabilitation: 5%
- Other: 5%
- Multiple Disciplines: 33%
- Homeland Security: 0%
Included the 30 question Brookhaven College Sensory Modality Preference Inventory
See it... Hear it... Touch it

Learning Modalities

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<td></td>
<td><strong>37</strong></td>
<td></td>
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Learning Modalities

- See It, Hear It: 6%
- See It, Touch It: 51%
- Touch It, Hear It: 11%
- Touch It, See It: 24%
- Hear It, Touch It: 3%
- Hear It, See It: 5%
- Hear It, See It: 5%

N=37
Research Questions

$RQ_1$

Will the DRNC theme be perceived by learners as providing a *realistic* portrayal of what managers in the criminal justice field are faced with?
In regard to the overall DRNC theme in the Criminal Justice curriculum, which of the below statements most accurately describes your feeling?

- Very Realistic: 42%
- Somewhat Realistic: 47%
- Not Very Realistic: 11%
- Totally Unrealistic: 0%

The theme provides a _________ realistic portrayal of what managers in the criminal justice field are faced with.
Research Questions

RQ₂

Will the DRNC theme be perceived by learners to be *relevant* for careers in the criminal justice field?
In regard to the overall DRNC theme in the Criminal Justice curriculum, which of the below statements most accurately describes your feeling?

- Very Relevant: 22%
- Somewhat Relevant: 50%
- Not Very Relevant: 22%
- Totally Irrelevant: 6%

The theme is _________ relevant to my career (or intended career) in criminal justice.
Research Questions

$RQ_3$

Is there a correlation between sensory modality preference and receptiveness to reality based learning?

- Visual
- Audial
- Kinesthetic
Conclusions

• The overarching theme and scenarios throughout the graduate Criminal Justice curriculum were perceived as being a **realistic** portrayal of real life challenges in the criminal justice field.
Conclusions

- The overarching theme and scenarios were perceived by students as being relevant to their post-academic career advancement.
Lessons Learned & Practical Applications

- Future design of online courses needs to take into consideration the predominance of visual-kinesthetic learners.
- Incorporate more interactive simulations (games) into the online platform.
Questions?