
 Council on Licensure,
Enforcement and Regulation




How to Cheat on Credentialing Exams

2012 Annual Educational Conference - September 6-8
San Francisco, California

Presenters: **Danny Breidenbach**, Applied
Measurement Professionals
Stephen Hennessey, Prometric
Mark Poole, Pearson


Promoting Regulatory Excellence

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Before the Exam

Danny Breidenbach, Applied Measurement
Professionals


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Security During Examination Development

- Internal vs. External
- Testing company vs. Credentialing
organization and Subject Matter Expert
(SME)


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Security During Examination Development

- Physical Access
- Staffing
- Inventory / Storage
- Other Functions
 - Translation, Printing, Artwork, etc.
- Working with SMEs

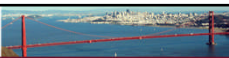
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Development – Physical Access

- Secure Room/Area
- Vault – Key Access
- Limited Authorized Access
- Print copies vs. Electronic copies
- Chain-of-Custody
- Shredding – including notes/drafts


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Development – Staffing

- Staff
- Confidentiality Agreements
- Conflict of Interest
- Audits


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Development – Inventory and Distribution

- Printing (internal vs. outsourced, serial #'s, sealed booklets, shrink wrap)
- Shipping (multiple counts, traceable shipping, courier)
- Electronic Transmission
- Web Access

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Development – Other Functions

- Translators
- Artwork
- Supplies for Practical Exams
- Printers
- Couriers


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Development – Working with SMEs

- Face-to-Face Meetings
- Passwords
- Selective Access Permission
- Specific Time Period
- Read-only, non-print, non-export
- “Screen security”
- Web-conferences


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Summary – Security During Development

- Main threat: unintended exposure of materials
- Responsibility must be shared among testing company, credentialing organization, volunteer subject matter experts


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During the Exam

Stephen Hennessey, Prometric


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Various Types and Levels of Threats


- Single cheater
- Collusion
- Proxy testing
- Item harvesting
- Hackers


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Common Cheating Methods

- Copying from other examinees
- Hidden notes
 - in clothes
 - on hands or legs
 - inside books or exhibits
 - underneath hats or taped to brim
 - Inside bottle/ labels
 - inside food packages
- Accessing notes on a break
- Notes hidden in bathroom
- Bribery of Test Administrator

Paper Cheating Notes 


Cheating Notes 

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Facility- Computer Based Testing


- Separate area for check-in & testing rooms
- Window into test room & surveillance system
 - video & audio recording
- Signs posted notifying of recording
- Secure lockers for personal items
- Partitions between workstations or privacy screens
- Surveillance cameras view desktops
- ADA compliant

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Facility- Paper Based Testing

- Separate areas for check-in and testing
- All testing materials kept secured by proctor
- Optimum proctor to examinee ratio- no more than 1:20
- Provide storage for personal belongings
- Exam booklets numbered, tracked by examinee
- Maintain examinee seating chart
- Monitor examinees on breaks



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Proctors - Best Defense Available

Qualifications

- Background checks- include 5-7 year country criminal search, State Police are an inexpensive option
- Formal training & certification program with annual re-certification required

Monitoring

- Conflict of interest restrictions - proctor agreement
- Examinees monitored at ALL times
- Conduct frequent walk-throughs
- Be vigilant for suspicious

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Emerging Threats



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Emerging Trends in Detection Technology

- Hand Held Metal Detectors
- Wireless Jamming Devices & Cell Signal Detectors
- Screen Monitor Obfuscation




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Biometric Identity Management


Capture examinee Information from ID → Scan & Validate ID → Capture Fingerprints



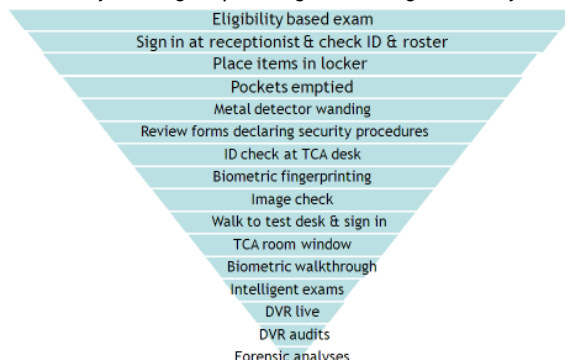
The examinee's ID is swiped in the combined magnetic strip and 2D barcode reader which verifies the legitimacy of government issued ID (North America only).

The ID is then placed on a flatbed scanner which captures an electronic image of the photo ID and uses optical character recognition (OCR), to compare printed data and encoded data.


The examinee then places a finger on the fingerprint scanner, which collects a unique physical characteristic which is then linked to the examinee's identity record.

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Day of testing - steps to mitigate risk during test delivery




- Eligibility based exam
- Sign in at receptionist & check ID & roster
- Place items in locker
- Pockets emptied
- Metal detector wandung
- Review forms declaring security procedures
- ID check at TCA desk
- Biometric fingerprinting
- Image check
- Walk to test desk & sign in
- TCA room window
- Biometric walkthrough
- Intelligent exams
- DVR live
- DVR audits
- Forensic analyses

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After the Exam

Mark Poole, Pearson


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Security After the Test

- Data Forensics
- Monitoring Websites
- Item Updating
- Facility Screening
- Audits
- Incident Reporting


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After - Data Forensics - Items

- p-value: Percentage of candidates who answer an item correctly
- pbis: Correlation between performance on an item and performance on the overall exam
- option stats: Percentage of candidates who answer each option correctly
- option pbis: Correlation between performance on the options and the overall exam

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After - Data Forensics - Items

p-value: Too high, too low


pbis: Too low

options: Distractors with no responses
Distractors with more responses than key

O pbis: Distractors higher than key

Omits Above expectations

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After - Data Forensics - Candidates

Suspicious Candidate Activity

- Test for significant differences in pass rates
- Better performance on harder items
- High scores in low test times
- Suspicious improvement in scores


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After - Monitoring Websites

- Cram Schools
- Sample Exams
- False Advertising
- Social Networking


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After - Item Updating

- Monitor Item Statistics
- Replace Items
- Add New Items


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After - Facility Screening

- Look for Notes in Testing Station
- Screen Restrooms and Hallways


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After - Audits

- Test Center Audits
- “Secret Shopper” Programs
- Inventory
- Continuing Education for Proctors


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After - Incident Reporting

- Documentation
- Evidence
- Reporting to Client

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Examples

- Cheating Incidents

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Speaker Contact Information

- **Danny H. Breidenbach**, Psychometrician
dbreidenbach@goamp.org
- **Stephen Hennessey**, Director Global Security
steve.hennessey@prometric.com
- **Mark Poole**, Product Strategist
Mark.Poole@pearson.com
- **Tadas Dabsys**, Executive Vice President
tadas@psionline.com






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