

*The Role of a Required Information literacy
Competency Exam in the First College Year: What
Test Data Can, Cannot, and Might Reveal*

ARL Assessment Conference

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First Year Students Complete...

Classes offered by five departments (History, Media Arts & Design, Business, History, Integrated Science & Technology, Philosophy)

Class delivered by the Communication Studies faculty. (85F/75S)

Class delivered by Writing Department. 1/3 of JMU students do not take this class. (AP/IB credit)

Tutorial & Test
Created by librarians

JMU's GenEd program is outcomes based, if we say we teach it, we *must demonstrate* the students are learning it.

Critical Thinking

After completing course work in critical thinking, students should be able to:

- Evaluate claims in terms of clarity, credibility, reliability and accuracy.
- Demonstrate the ability to identify, analyze and generate claims, arguments and positions.
- Identify and evaluate theses and conclusions, stated and unstated assumptions, and supporting evidence and arguments.
- Apply these skills to one's own work and the work of others.

Human Communication

After completing course work in communication, students should be able to:

- Explain the fundamental processes that significantly influence communication.
- Construct messages consistent with the diversity of communication purpose, audience, context, and ethics.
- Respond to messages consistent with the diversity of communication purpose, audience, context, and ethics.
- Utilize digital literacy skills expected of ethical communicators.

Writing

After completing course work in writing, students should be able to:

- Analyze and evaluate texts to identify their argumentative, credible and ethical elements; students should also be able to reflect on civic responsibility as it relates to written discourse.
- Develop and support a relevant, informed thesis or point of view that is appropriate for its audience, purpose and occasion.
- Demonstrate an understanding of writing as a series of steps involving invention, research, critical analysis and evaluation, and revision for audience, purpose and occasion.
- Effectively incorporate and document appropriate sources to support an argumentative thesis or point of view; exhibit control over surface conventions such as syntax, grammar, punctuation and spelling that are appropriate for the writer's audience, purpose and occasion.

Information Literacy

After completing the M-REST, JMU's information literacy test, and course work in critical thinking, human communication and writing, students should be able to:

- Recognize that information is available in a variety of forms including, but not limited to, text, images and visual media.
- Determine when information is needed and find it efficiently using a variety of reference sources.
- Evaluate the quality of the information.
- Use information effectively for a purpose.
- Employ appropriate technologies to create an information-based product.
- Use information ethically and legally.

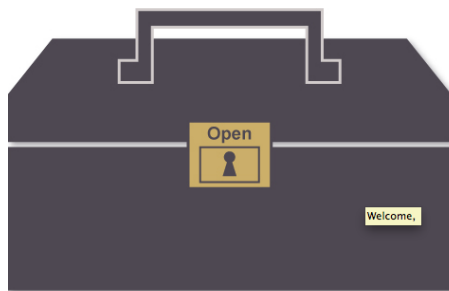
JMU's C1 Information Literacy Learning Outcomes

Taught via Tutorial

- [Madison Research Essential Skills Toolkit](#)
- Practice Exercises embedded in Comm courses (LMS)

Assessed via Test

- Madison Research Essential Skills Test (MREST)
- 55 item multiple choice test
- Proctored Lab
- Competency Test
- Deadline



BOTH DIRECTLY MAP TO THE LEARNING OUTCOMES

Fixed-Choice Tests

Benefits

Measure acquisition of facts

Inexpensive to score

Numerical data

Quickly gathered

Predictable, reliable, comparable

Adaptable to local outcomes

Limitations

Recognition vs. recall

Does not test of higher order skills

Inauthentic

Oversimplifies

Guessing rewarded

Require leadership & expertise to develop and use results

Traditional Score Reports

Objective	Items	% correct
Recognize that information is available in a variety of forms including but not limited to text, images and visual media	12	84%
Determine when information is needed and find it effectively using a variety of reference sources	22	75%
Evaluate the quality of information	11	86%
Use information effectively for a purpose	5	87%
Employ appropriate technologies to create an information-based product	2	73%
Use information ethically and legally	5	78%

Hazard, G. 2013-14 MREST Short Report.

And...

MREST Results		Met the Standard	
	N=	% of students	# of students
2013-2014	4042	98.9%	3999
2012-2013	3916	97.7%	3826

2013-2014 – 29% (1174) Passed at advanced
2012-2013 – 36% (1426) Passed at advanced

Hazard, G. 2013-14 MREST Short Report.

- Libraries' Strategic Plan Initiative: Increase % of students achieving proficient and advanced score on their *first* attempt at the MREST
- 2013-4: Establish baseline, analyze results by GenEd Info Lit objective
- 2014-5: Set target; analyze results

MREST – Score Setting

Fixed Choice Tests

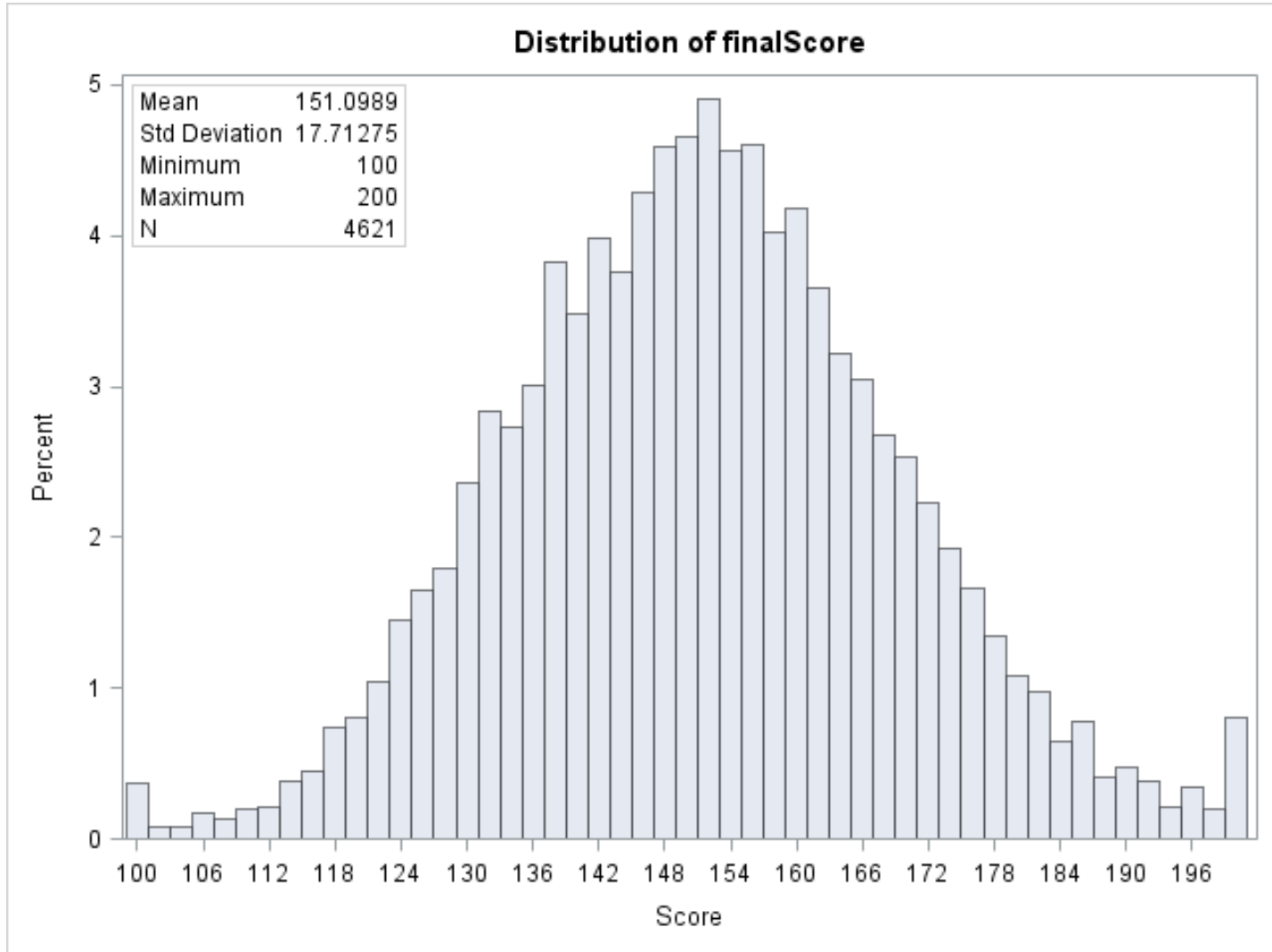
ITEM ID# **12209 objective: 2** answer 2

Jason is doing a presentation for GCOM and has to find one thing about JMU he would like to change and he has to use library resources and research to support his claims. He decides that he wants to talk about how he can't use his dining hall punches the way he wants to. He should:

- (a) Look for sources on the JMU website that discuss punches
- (b) Look in Research Databases for articles that discuss college dining options
- (c) Collect information from current JMU students about dining preferences
- (d) Change his topic to something else



Test Data: Cut Score Data



Test Data: Passers vs. Non on First Test Attempt

Objective	# items	Passers Mean % Correct
1	12	45%
2	32	51%
3	11	73%
4	10	76%
5	2	79%
6	5	82%

Objective	# Items	Non-Passers Mean % Correct
1	12	37%
2	32	40%
3	11	61%
4	10	67%
5	2	65%
6	5	73%

Bashkov & Horst, 2013-14 Item Analysis.

Data Tells Us...

ITEM ID# 12408 objective: 4 answer B

Jessica lives in a noisy residence hall and wants JMU to build a quiet study space in each hall. She has been asked to present her ideas to the University President.

Jessica should:

- (a) Bring the residents of her hall that agree with her to the presentation
- (b) Research the benefits of quiet study spaces for university students
- (c) Hire a noise expert to document the sound of the residence halls
- (d) Create a model of what a sound-proof study space would look like

Data indicates that this item is too easy...

Students who do well on the test AND students who don't do well on the test do about the same on this item, and distractor C isn't fooling anyone.

% of First-Time Examinees Who Chose Each Option by Passing Status:

Status	A	B	C	D
Non-Passers	2%	94%	0%	3%
Passers	1%	98%	0%	2%

Better Item Behavior

Objective 4 = Use information effectively for a purpose

Item #13401 Objective 4 Answer: A

Christie is writing a paper about food economics using materials she has been given in class to read by her professor. She has read all the readings carefully, has enjoyed the class and wants to do well on the assignment. She has a first draft of a paper, but it is “all over the place and needs focus” according to her professor. What should Christie do?

A: Mine her paper for her strongest points and revise from there

B: Do more research and reading on the topic to add information

C: Ask another student in her class for help her be more focused

D: Throw out her draft and start completely over

“Better” performing items make a distinction between students who do well on the test vs. those who do not. So....And again, throw out option D.

Or

% of First-Time Examinees Who Chose Each Option by Passing Status:

Status	A	B	C	D
Non-Passers	89%	8%	3%	0%
Passers	96%	3%	1%	0%

Objective Mapping/Backwards Test Translation

Item originally mapped to Objective 1:

Recognize that information is available in a variety of forms

Center for Assessment Studies (CARS) Graduate Assistants thought this item mapped better to Objective 2:

Determine when information is needed and find it efficiently using a variety of formats.

ITEM ID# 12108 objective: 1 answer B

Heather is writing a paper for her GHIST class on the Cuban Missile Crisis. She has spent hours searching databases looking for journal articles but they all seem too narrow to help her understand why the crisis was such a big deal. What could she do to move forward?

- (a) Browse Rose Library for books
- (b) Search the libraries website for a book on the subject
- (c) Keep looking for articles
- (d) Consider changing to a more familiar topic

Toolkit Changes – Summer 2014

- 1: Much tighter alignment between Toolkit and Information Literacy Outcomes
- 2: Make clearer connections to Information Literacy Student Learning Outcomes in tutorial content.
- 3: Remove Toolkit content not covered by the MREST
- 4: Make obvious the connection between Toolkit and MREST.



NSA Data Center, Utah. AP Images 2, 13, 2013, Rick Bowmer

Bodhisattva Ruyilun. Artstor Retrieved 2/21/2014.

Lots of Data or Truly Enlightened?

Clarke, James Madison University Libraries