CSU Maritime Academy – Institution-Wide Assessment Council (IWAC)

AY 2021-22

Annual Learning Results Institution Wide SLO (F): Information Fluency

Report on ILO F: Information Fluency

"Students will define a specific need for information; then locate, evaluate, and apply the needed information efficiently and ethically."

OBJECTIVES

- Measure the extent to which Cal Maritime students "define a specific need for information; then locate, evaluate, and apply the needed information efficiently and ethically."
- Give recommendations for improving assessment efforts.
- Give recommendations (where applicable) for improving program effectiveness.

METHODOLOGY

The Information Fluency ILO was assessed using the same rubric as in the 2013 and 2017 cycle (see Appendix B). The rubric uses a six-point scale from 1 (Initial) to 6 (Exemplary). The two dimensions assessed were Dimension 1: Location and Evaluation of Sources and Dimension 2: Citation/Attribution.

During the 2020-21 Academic Year, 334 artifacts were collected across all majors. In previous assessment cycles, artifacts were only collected from courses where students are expected to master the ILO. For the first time in this assessment cycle, artifacts were collected from courses where the ILO is introduced, reinforced, and mastered. Artifacts were collected from the following courses:

- **Introductory**
  - EGL 100: English Composition (102 artifacts)
  - EGL 102: Stretch English Composition II (11 artifacts)
- **Reinforced**
  - EGL 220: Critical Thinking (43 artifacts)
- **Mastery**
  - BUS 301: International Business II - Country Research Analysis and Global Marketing (33 artifacts),
  - GMA 460: Senior Thesis (23 artifacts),
  - HUM 310: Engineering Ethics (69 artifacts),
  - ME 349: Fluid/Thermal Lab (41 artifacts)
  - NAU 108: Operational Command at Sea (12 artifacts: Group Project).

RESULTS AND DISCUSSION

The benchmark was set for 70% of student artifacts to score 4 (Satisfactory) or higher for each dimension in a mastery-level course. The following discussion focuses on the results for each major by level. The full results are available in Appendix A. The results for the newly launched Oceanography major are not included in the following discussion because the sample size was too small.

Introductory

At the introductory level, the benchmark was not met by any of the majors (Figure 1). This result was expected and demonstrates that students are making progress towards achieving the benchmark at the mastery level through instruction in freshman-level courses. This result also suggests that Information Fluency instruction in freshman courses alone is not sufficient and supports previous recommendations to integrate Information Fluency throughout the curriculum.

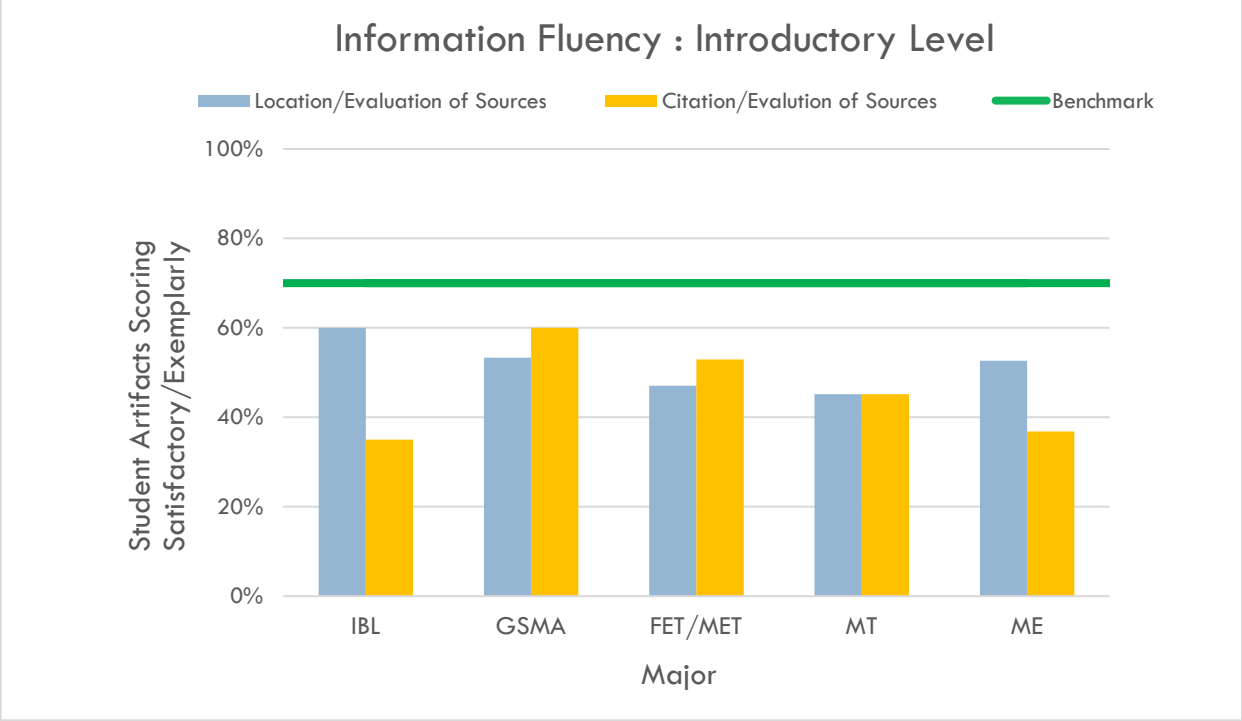

Figure 1. Comparison by Major for Artifacts Collected in Introductory-level Courses.

Reinforced

At the reinforced level, artifacts were collected from EGL 220: Critical Thinking. Not all sections of the course submitted artifacts due to not having an assignment suited to the Information Fluency Rubric. Scorers observed that the assignment prompt for artifacts submitted did not fully match the Information Fluency Rubric and the scores may not be totally indicative of student learning in Information Fluency.

Mastery

At the mastery level, the benchmark was met by some majors for both of the dimensions (Figure 2). For Dimension 1: Location and Evaluation of Sources, 85% of IBL student artifacts, 100% of GMSA student artifacts, 73% of FET/MET student artifacts, and 78% of ME student artifacts met or exceeded a score of 4 (Satisfactory) on the rubric. For Dimension 2: Citation/Attributions, 87% of GMSA student artifacts and 70% of ME student artifacts met or exceeded a score of 4 (Satisfactory) on the rubric. This is an

improvement over the last cycle of assessment for Information Fluency (2017), when the benchmark was only nearly met for Dimension 1 by 68% of GMSA student artifacts, 69% of FET/MET student artifacts, and 65% of MT student artifacts and for Dimension 2: Citation/Attributions by 64% of GMSA student artifacts and 67% of FET/MET student artifacts.

The benchmark was farthest from being achieved by MT student artifacts in both Dimension 1: Location and Evaluation of Sources (25% met or exceed) and Dimension 2: Citation/Attributions (8% met or exceeded) and by IBL student artifacts in Dimension 2: Citation/Attributions (15% met or exceed). It should be noted that the MT student artifacts were not ideal for assessment because they were a group project. The MT department has developed a capstone course that will provide individual artifacts in future assessment cycles.

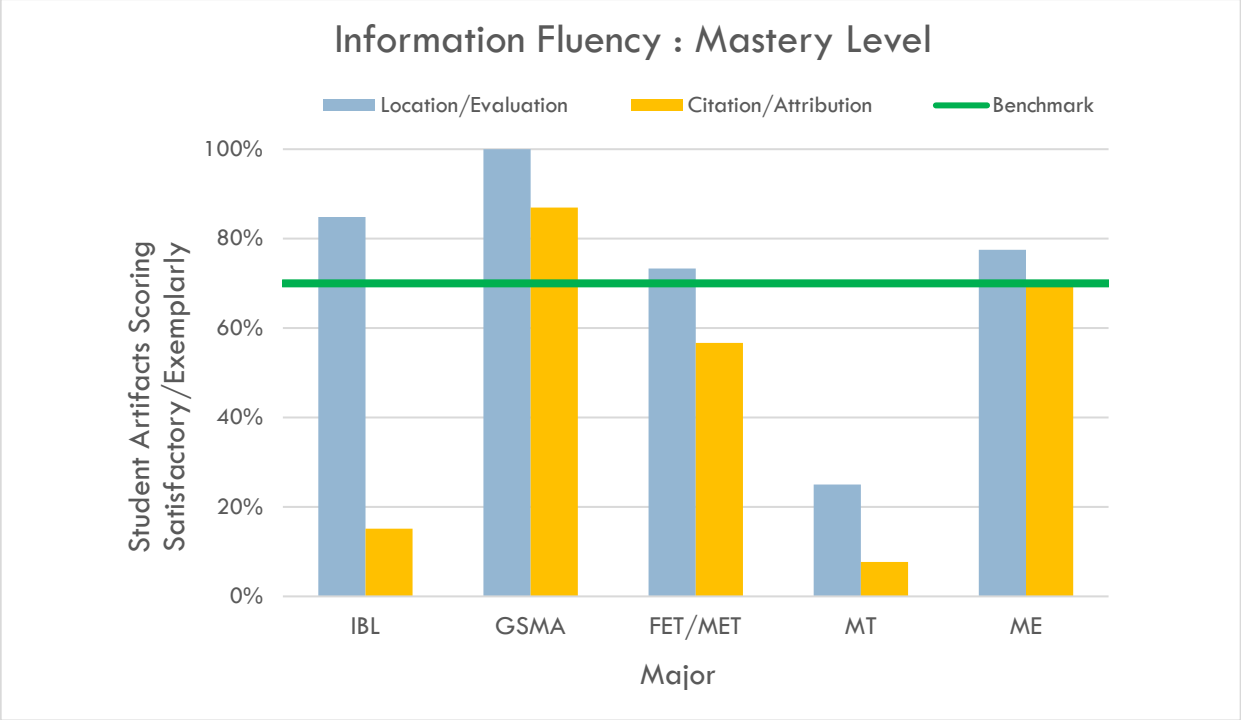

Figure 2. Comparison by Major for Artifacts Collected in Mastery-level Courses.

The two programs that met or exceeded the benchmark for both dimensions were GSMA and ME. These two programs received consistent, librarian-led instruction during the current assessment cycle. GSMA students received Information Fluency instruction in two credit-courses taught by library faculty. In the first semester of the program, students take a 2-unit course titled LIB 100: Information Fluency in the Digital Age. In their senior year, GSMA students take a 1-unit course titled GMA 460L: Senior Thesis Research Lab. ME students received Information Fluency instruction in targeted courses with scaffolded learning outcomes throughout the curriculum. ME students received librarian-led instruction related to specific assignments in EGL 120 and ENG 110 during their freshman year, in ME 339 and ME 490 in their junior year, and in ME 349, ME 492, ME 494, and HUM 310 in their senior year. In the ME Senior Capstone Project course sequence (ME 490, ME 492, ME 494), the Information Fluency instruction is accomplished through an embedded librarian model where a faculty librarian creates assignments, provides instruction, attends regular class sessions, and grades assignments.

Based on the success of the Information Fluency instruction in GSMA and ME, library faculty have been working with the MT department on a scaffolded Information Fluency program, to be implemented with their redesigned curriculum, effective starting Fall 2021.

RECOMMENDATIONS

Assessment Efforts

The following recommendations are meant to address the assessment process and should be implemented by IWAC.

- A consistent assignment should be identified to provide student artifacts for the reinforced level.
- The Library department should conduct an interim assessment for IBL and MT during the 2022-23 academic year to assess new Information Fluency instruction related to recent curriculum changes in both programs.

Program Effectiveness

The following recommendations are meant to address the Information Fluency program effectiveness and should be implemented by programs.

- Programs that have achieved the benchmark should continue providing Information Fluency instruction at the same level that they currently provide.
- In recent curriculum revisions, the MT department added Information Fluency learning outcomes to courses throughout the curriculum. The MT department and Library department should continue working together to develop the courses identified as introductory, reinforced, and mastery level with Information Fluency learning outcomes and instruction.
- The IBL department and Library department should continue working together to consistently include Information Fluency learning outcomes and instruction in the curriculum at the introductory, reinforced, and mastery levels, notably those related to citations/attribution.
- In addition, MT and IBL should work with the Library Department to determine if adding a credit course or embedded librarian course can address their shortfall in Information Fluency achievement.

APPENDIX A: SUMMARY OF DATA

Introductory

Information Fluency 1: Location and Evaluation of Sources						
Major	**IBL**	**GSMA**	**FET/MET**	**MT**	**ME**	**OCN**
% Met/Exceeded	60%	53%	47%	45%	53%	64%
Number Met/Exceeded	12	8	8	14	10	7
Total Artifacts Collected	20	15	17	31	19	11
Gender	**M**	**F**				
% Met/Exceeded	51%	57%				
Number Met/Exceeded	47	12				
Total Artifacts Collected	92	21				
Ethnicity	**Asian**	**Black**	**Hisp**	**Two +**	**Unknown**	**White**
% Met/Exceeded	14%	33%	45%	53%	33%	52%
Number Met/Exceeded	1	1	14	9	1	26
Total Artifacts Collected	7	3	31	17	3	50
Institution Wide						
% Met/Exceeded	52%					
Number Met/Exceeded	59					
Total Artifacts Collected	113					

Information Fluency 2: Citation and Attribution of Sources						
Major	**IBL**	**GSMA**	**FET/MET**	**MT**	**ME**	**OCN**
% Met/Exceeded	35%	60%	53%	45%	37%	9%
Number Met/Exceeded	7	9	9	14	7	1
Total Artifacts Collected	20	15	17	31	19	11
Gender	**M**	**F**				
% Met/Exceeded	37%	62%				
Number Met/Exceeded	34	13				
Total Artifacts Collected	92	21				
Ethnicity	**Asian**	**Black**	**Hisp**	**Two +**	**Unknown**	**White**
% Met/Exceeded	14%	33%	45%	53%	33%	40%
Number Met/Exceeded	1	1	14	9	1	20
Total Artifacts Collected	7	3	31	17	3	50
Institution Wide						
% Met/Exceeded	42%					
Number Met/Exceeded	47					
Total Artifacts Collected	113					

Reinforced

Information Fluency 1: Location and Evaluation of Sources						
Major	**IBL**	**GSMA**	**FET/MET**	**MT**	**ME**	
% Met/Exceeded	100%	80%	71%	75%	89%	
Number Met/Exceeded	2	8	10	6	8	
Total Artifacts Collected	2	10	14	8	9	
Gender	**M**	**F**				
% Met/Exceeded	80%	75%				
Number Met/Exceeded	28	6				
Total Artifacts Collected	35	8				
Ethnicity	**Asian**	**Black**	**Hisp**	**Two +**	**Unknown**	**White**
% Met/Exceeded	86%	100%	62%	60%	N/A	92%
Number Met/Exceeded	6	3	8	3	0	12
Total Artifacts Collected	7	3	13	5	0	13
Institution Wide						
% Met/Exceeded	79%					
Number Met/Exceeded	34					
Total Artifacts Collected	43					

Information Fluency 2: Citation and Attribution of Sources						
Major	**IBL**	**GSMA**	**FET/MET**	**MT**	**ME**	
% Met/Exceeded	0%	70%	29%	0%	33%	
Number Met/Exceeded	0	7	4	0	3	
Total Artifacts Collected	2	10	14	8	9	
Gender	**M**	**F**				
% Met/Exceeded	26%	63%				
Number Met/Exceeded	9	5				
Total Artifacts Collected	35	8				
Ethnicity	**Asian**	**Black**	**Hisp**	**Two +**	**Unknown**	**White**
% Met/Exceeded	29%	100%	31%	20%	N/A	31%
Number Met/Exceeded	2	3	4	1	0	4
Total Artifacts Collected	7	3	13	5	0	13
Institution Wide						
% Met/Exceeded	33%					
Number Met/Exceeded	14					
Total Artifacts Collected	43					

Mastery

Information Fluency 1: Location and Evaluation of Sources						
Major	**IBL**	**GSMA**	**FET/MET**	**MT**	**ME**	
% Met/Exceeded	85%	100%	73%	25%	78%	
Number Met/Exceeded	28	23	22	3	62	
Total Artifacts Collected	33	23	30	12	80	
Gender *MT artifacts excluded (group project)	**M**	**F**				
% Met/Exceeded	78%	97%				
Number Met/Exceeded	107	28				
Total Artifacts Collected	137	29				
Ethnicity *MT artifacts excluded (group project)	**Asian**	**Black**	**Hisp**	**Two +**	**Unknown**	**White**
% Met/Exceeded	73%	100%	83%	79%	67%	85%
Number Met/Exceeded	16	2	30	11	6	67
Total Artifacts Collected	22	2	36	14	9	79
Institution Wide						
% Met/Exceeded	78%					
Number Met/Exceeded	138					
Total Artifacts Collected	178					

Information Fluency 2: Citation and Attribution of Sources						
Major	**IBL**	**GSMA**	**FET/MET**	**MT**	**ME**	
% Met/Exceeded	15%	87%	57%	8%	70%	
Number Met/Exceeded	5	20	17	1	56	
Total Artifacts Collected	33	23	30	13	80	
Gender *MT artifacts excluded (group project)	**M**	**F**				
% Met/Exceeded	56%	72%				
Number Met/Exceeded	77	21				
Total Artifacts Collected	137	29				
Ethnicity *MT artifacts excluded (group project)	**Asian**	**Black**	**Hisp**	**Two +**	**Unknown**	**White**
% Met/Exceeded	64%	0%	67%	64%	56%	56%
Number Met/Exceeded	14	0	24	9	5	44
Total Artifacts Collected	22	2	36	14	9	79
Institution Wide						
% Met/Exceeded	55%					
Number Met/Exceeded	98					
Total Artifacts Collected	178					

APPENDIX B: INFORMATION FLUENCY RUBRIC

This rubric is designed to assess student work such as papers, reports, presentations, and other projects for the following CSU Maritime Institution-Wide SLO:

Define a specific need for information; then locate, evaluate, and apply the needed information efficiently and ethically.

	N/A Not Applicable	**1 Initial 2**	**3 Emerging**	**4 Satisfactory**	**5 Exemplary 6**
Location and Evaluation of Sources	Assignment not applicable • Assignment instructions did not require sources	Sources do not contribute to assignment. • No exploration of outside sources or only non-authoritative or tertiary sources • Very limited awareness of universe of evidence which could strengthen argument	Sources lack variety/depth • Over relies on one source or type of source • Uses some non-authoritative or outdated sources	Sources are authoritative • Explores outside sources but missing some important sources • Overall source selection may be one-sided	Sources demonstrate thorough, sophisticated research and evaluation • Uses variety of authoritative sources • Kind and type of source match the goal of the argument • Provides reasoned rationale for use of sources
Citation/Attribution	Assignment not applicable • Assignment instructions did not require citation of sources	Use of evidence and citation so poor it is impossible to identify or evaluate sources. • Little or no attribution or citation • Fundamental errors in in-text citation or bibliography	Attribution present but incomplete and incorrect. • Citations frequently missing or incorrect • May cite common knowledge • Sources may be mischaracterized (poor summary/paraphrase) • May overuse quotes	Attribution present and complete but with some errors or inconsistencies	Sources cited consistently and correctly • Bibliography (if required) formatted according to consistent style • Paraphrases, summarizes, and quotes appropriately