

Information Literacy Assessment 24-25

HPU conducted its second assessment of the information literacy ILO over the 2024-2025 academic year. The ILO states:

Students will demonstrate the ability to recognize and articulate an information need, and to access, evaluate, and use relevant source material effectively, ethically, and legally in their academic pursuits at the associate or bachelor's degree level.

As in the first assessment in spring 2020, students at both the general education and upper-division levels took a series of three quizzes in a Blackboard course set up for this purpose. Students who were registered in a course that was part of this assessment were automatically also registered for the appropriate Blackboard course with the quizzes. Students took the quizzes online. They were informed about the assessment by emails from the AAPRC co-chairs and by their course instructors who were asked to encourage participation by incorporating the quizzes into their courses as an assignment. During the semester several reminders were sent to instructors, and the students' participation and scores were reported to the instructors at the end of the term. A new feature of this round of the information literacy assessment was that the Blackboard course also contained practice quizzes which covered the same skills and concepts in the same format but with different questions. Students had the option to try these practice quizzes on their own, and instructors also had the ability to assign the practice quizzes and review them in class. In the summer of 2024, the quiz questions from 2020 were reviewed by librarians for accuracy, clarity, and relevance, and they made suggestions for updating questions and adding new content reflecting the changing information landscape, particularly with the advent of AI. Thus, the quizzes of 2024-2025 are similar, but not identical, to those of 2020.

Assessment Method

Quiz design

The ILO was assessed through three 50-point quizzes, each focused on a different aspect of the ILO.

- Quiz 1: Student can access needed information with appropriate strategies.

Quiz 1 contains questions about different kinds of sources, databases and search tools, narrowing a topic, using Discovery, advanced search techniques and refining searches, retrieving sources, and searching online.

Compared to 2020, questions about Boolean searching, using field codes and limiters in databases, and locating print books have been reduced but not entirely eliminated, and new questions about using ebooks, online natural language searches, and AI search tools have been added.

Students are presented with 15 questions including True/False, Multiple Choice, Multiple Answer and Matching questions. There are a total of 40 possible questions with questions that test the same concept or skill grouped into questions sets from which each test taker receives a certain number of

randomly selected questions. Point value varies with the difficulty and complexity of the question set, and the entire quiz is worth 50 points.

- Quiz 2: Student can interpret and critically evaluate sources and apply information effectively.

Quiz 2 contains questions about how research gets disseminated and knowledge evolves over time, understanding the conclusions of a study from the abstract, interpreting a chart or table, understanding the point of a citation of previous research, evaluating sources, identifying the relevance of a source to a specific question, distinguishing between fact and opinion, and recognizing bias.

Aside from creating additional examples using more recent topics from the news, one major change from 2020, at the suggestion of the librarians, was to replace the CRAAP test questions with some referring to the SIFT model and add some questions about predatory journals, positive results bias, and issues to be aware of when using AI tools.

Students answer 12 questions. The first six questions involve a particular research case study and are the same for every student, and the rest are organized into question sets with 2-4 options related to specific concepts. Question types include ordering, multiple choice, multiple answer and matching.

- Quiz 3: Student can use information ethically and legally.

Quiz 3 focuses on avoiding plagiarism and distortion when quoting and paraphrasing, understanding what constitutes fair use, and practicing integrity while conducting research and in other academic situations.

Quiz 3 has the 3 “best use of source questions” that don’t change, but the other 9 questions are 1 of 7 on Fair Use, 6 of 18 on academic integrity, and 2 of 7 on using AI tools ethically. The use of source questions and the fair use questions are multiple choice. The others are right/wrong questions where students evaluate whether a particular scenario describes an ethical practice.

A key change from 2020 involved shortening the time needed to take the quiz by using three rather than four best use of source course questions and putting these questions first. These questions ask the student to read a short passage from a source and then evaluate which of four attempts to cite the source makes the best use of the source. The incorrect options typically involve some kind of plagiarism or distortion. With this change we hoped to reduce the “quiz fatigue” that may have suppressed scores on this quiz in 2020. When evaluating those results, we noticed that some students left those questions blank after answering the right/wrong questions that opened the quiz and others appeared to select an answer quickly without spending sufficient time to read the original passage and compare the different responses since they completed the entire quiz in under 5 minutes. We also added questions on using AI tools ethically in place of the points previously assigned to the 4th best use of source question.

Scoring

Under 17 points: Evidence of this skill is **not present**.

17-24.99 points: Student demonstrates an **initial** ability.

25-33.99 points: Student's skills are **emerging** but still not fully developed.

34-42.99 points: Student's skills are **developed**.

43-50 points: Student's skills are **highly developed**.

If the student took all three quizzes, we also calculated an overall score for the outcome by combining the three scores:

Under 51 total points: **Not Present**

51-73.99 total points: **Initial**

74-100.99 total points: **Emerging**

101-127.99 total points: **Developed**

128-150 total points: **Highly Developed**

Participants

Students in all Written Communication and Information Literacy II courses in Fall 2024, spring 2025 and summer 8A 2025 were invited to participate. 335 students (62% of all WC&IL students) took at least one quiz and 278 took all 3

WRI 1200 16-week F2F: 14 sections, 289 potential students 211/289 =73%

WRI 1250 16-week F2F: 2 sections, 39 potential students 37/39=95%. All F2F: 248/328=75.6%

WRI 1200 16-week online: 4 sections, 85 potential students 46/85=54% All 16 week: 294/413 = 71.2%

WRI 1200 8-week online : 4 sections, 80 potential students 22/80 = 27.5% All online: 68/165 = 41%

WRI 1200 8-week hybrid: 3 sections 44 potential students 19/44 = 43% All 8 week: 41/124 =33%

At the upper-division level, each major program was requested to choose at least one course (which could be a capstone course, another upper-division course that would capture program seniors, or an upper-division course in which information literacy is taught with respect to that academic discipline). If the chosen course was offered in multiple sections, all sections were included.

Courses included AL 4950, BIOL 4210, BIOL 4960, CHEM 4095, CHEM 4910, CJ 4900, COM 4900, CSCI 4911, CYBS 4900, ED 4510, ENGR 4500, ENGB 3001, ENGE 3006, ENGT 3100, ENVS 4100, ENVS 4400, HIST 3910, HRD 3120, HUM 3900, INTR 4900, MARS 4902, MARS 4910, MARS 4930, MATH 4470, MC 4900, MGMT 4001, MULT 4900, NUR 3710, PADM 3500, PMED 3910, PSCI 4900, PSY 3500, PSY 4900, SWRK 4960, WRI 3420.

16-week F2F: 34 sections

16-week hybrid: 3 sections

16-week online : 2 sections

8-week online: 10 sections but only 9 participated

8-week hybrid sections: 6 sections

General Education results

278 students took all three quizzes, 328 students took Quiz 1, 302 students took Quiz 2, and 288 students took Quiz 3.

The target was 85% of students would score at the initial level or higher and 60% of students would score at the emerging level or higher.

We expected the mean scores for general education students to be in the middle of the emerging range.

The results are summarized in Table 1

Table 1: Information Literacy General Education Result Summary

	% initial or higher Target ≥ 85	% Emerging or higher Target ≥ 60	Mean score Target ≥ 30
Quiz 1 Access Information	98	88	36.8
Quiz 2 Evaluate, Interpret & Apply	89	74	33.8
Quiz 3 Use Ethically	98	89	34.3
Sum of 3 quizzes	99	89	105 (Target ≥ 90)

Students exceeded expectations for the percentages of students scoring initial or higher in all categories. Students also exceeded expectations (by at least 14 percentage points) for students scoring emerging or higher in all categories. Means exceeded expectations by reaching the lower end of the developing range except for Q2 at 33.8, closely approaching the developing range that starts at 34.

Table 2: Numbers of Students Scoring at Each Level

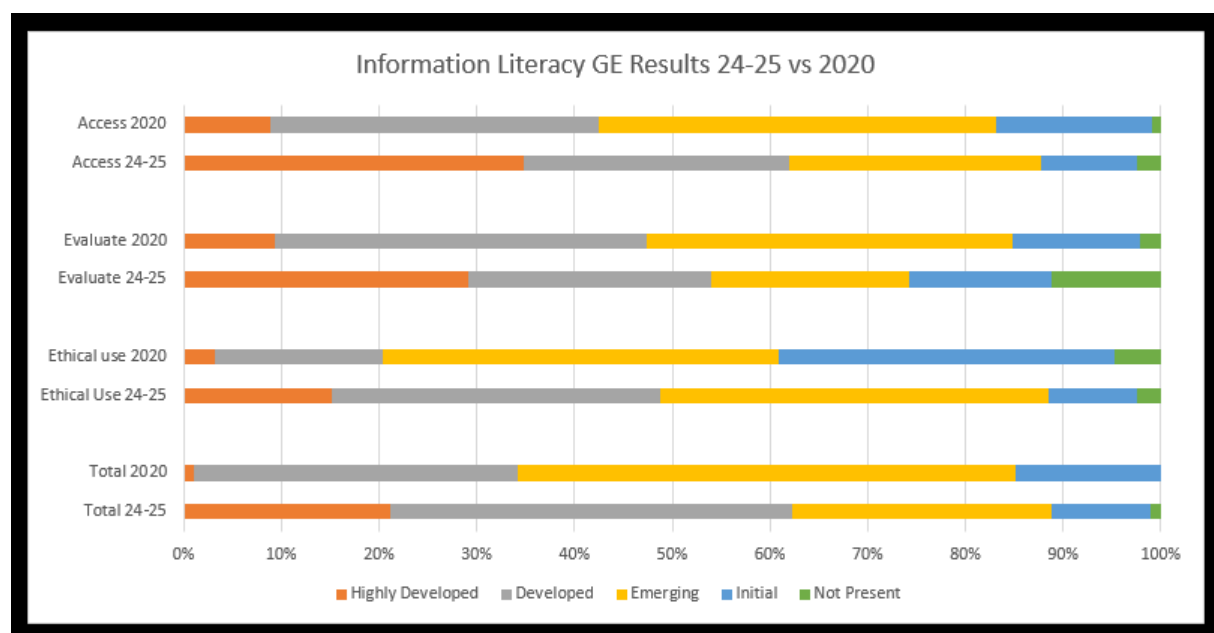
	Total on 3 Quizzes	Q1 Access information	Q2 Interpret, evaluate & apply	Q3 Use information ethically
Highly Developed	59	114	88	44
Developed	114	89	75	97
Emerging	74	85	61	115
Initial	28	32	44	26
Not Present	3	8	34	7

Table 3: Percentages of Students Scoring at Each Level

	Total on 3 Quizzes	Q1 Access information	Q2 Interpret, evaluate & apply	Q3 Use information ethically
Highly Developed	21%	35%	29%	15%
Developed	41%	27%	25%	34%
Emerging	27%	26%	20%	40%
Initial	10%	10%	15%	9%
Not Present	1%	2%	11%	2%

Comparison to previous assessment.

We increased the sample size from 191 in 2020 to 302 in 2024-2025 by collecting data from both semesters and inviting all WC&IL II sections to participate. All targets were met both times, but the 24-25 results have larger percentages at the developed and highly developed levels.

Figure 1 comparison of GE results 24-25 vs 2020

The percentages of students scoring at the initial level or higher were strong in both rounds with all categories meeting the target, but the 2020 students scored better on quiz 2, while the 2024-2025 students scored better on Quiz 3. The percentage of students scoring not present was high in 24-25 for quiz 2 at 11%. Although there was no goal set for the emerging level or higher in 2020, students strongly exceeded the 60% threshold on the sum of the three quizzes, and on quizzes 1 and 2, and scored 61% on quiz 3. In terms of percentages reaching the emerging level or higher, 2024-2025 GE students scored slightly higher than 2020 students on the sum of the three quizzes and on quiz 1, lower on quiz 2 and much higher on quiz 3. We can also note that while fewer than 10% scored in the highly developed range on the individual quizzes in the 2020 assessment and only 1% reached that level overall, in 2024-

2025 39% reached highly developed on quiz 1, 29% on quiz 2, 15% on quiz 3 and 21% overall on the sum of the three quizzes.

Table 4: Comparison of Mean Scores

	Total on 3 Quizzes	Q1	Q2	Q3
2020	85.01	29.97	30.21	24.80
2024-2025	105.75	36.84	33.77	34.35

Mean scores improved from the middle of the emerging range in 2024-2025 to the lower end of the developed range overall and on quiz 1. On Quiz 2 the Improvement was smaller with the 2024-2025 mean just under the developed level. On Quiz 3 the improvement was greater. The 2020 level was approaching but just under the bottom of the emerging range while the 2024-2025 result was at the bottom of the developed range

Comparing modalities and course lengths

The committee recommended that scores be broken out by modality and course length in this round. This analysis is provided below in Table 5.

Table 5: Comparison by Modality and Course Length GE Information Literacy Results

	ALL GE	16-week	8-week	OL	HYB	F2F
	Mean/N	Mean/N	Mean/N	Mean/N	Mean/N	Mean/N
Q1 Access Information	36.84/328	36.07/287	42.28/41	42.11/68	42.21/19	34.93/241
Q2 Interpret, evaluate and apply	33.77/302	33.13/271	39.36/31	38.27/62	40.21/11	32.24/229
Q3 Use information ethically	34.34/288	34.05/258	36.93/30	37.23/61	35.98/10	34.93/217
Combined score if all three quizzes taken.	105.75/278	104.19/249	118.67/30	118.22/59	119.09/10	101.51/208
Percent scoring initial or higher on sum of all 3 quizzes	99%	99%	100%	98%	100%	99%
Percent scoring emerging or higher on sum of all 3 quizzes	89%	88%	100%	98%	100%	86%

Here we do see some differences. F2F and 16-week classes are similar with means scores in the lower end of the developed range overall and for quizzes 1 and 3 and near the top of the emerging range for quiz 2. 99% scored initial or higher across the three quizzes and 88% (16 week) to 86% (F2F scored emerging or higher. These are very impressive scores. However, the students in 8- week, online and hybrid classes scored even higher with 98-100% scoring emerging or higher when the three quizzes are combined and with mean scores approaching highly developed on quiz 1, in the upper end of the developed range for quiz 2. Quiz 3 means scores were close to those for 16 week and F2F students but still slightly higher.

We note that because the majority of students were in 16-week F2F classes those rates are very close to the overall results. We do not think the reason that online, 8-week and hybrid students scored higher is

related to the mode or length of instruction. Participation rates were much lower in those classes. While 76% of students in F2F classes and 71% of students in 16-week classes participated, only 33% of students in 8-week classes participated, 41% of online students and 43% of hybrid students. When there are lower participation rates, there is a greater chance that the pool of participants is weighted toward the more motivated and better prepared students. Secondly, by analyzing the class level of the students who took the quizzes in conjunction with online classes we noticed that there are proportionally more juniors and seniors and fewer freshmen and sophomores in the 8-week, online and hybrid sections. Since students' skills improve with time spent in an academic environment, we would expect populations with more upper-classman to do better.

Table 6: Breakdown of Participants by Class Level

	ALL GE	16 week	8 week	OL	HYB	F2F
Freshman	68%	76%	10%	41%	10.5%	79.4%
Sophomore	16%	15%	26%	21%	31.5%	13.3%
Junior	11%	6%	46%	26%	37%	5.3%
Senior	5%	3%	18%	12%	21%	2%

In conclusion, the results show that students in WC&IL II classes are largely performing at or very close to the developed level in all areas regardless of course length or modality.

Upper-division results

278 students took all three quizzes, 308 students took Quiz 1, 285 students took Quiz 2, and 285 students took Quiz 3.

The target was 85% of students would score at the emerging level or higher and 60% of students would score at the developed level or higher.

We expected mean scores to be near the middle of the developed range.

Table 7: Information Literacy Upper-Division Results Summary

	% Emerging or higher Target ≥ 85	% Developed or higher Target ≥ 60	Mean score Target ≥ 37
Quiz 1 Access Information	98	86	42.4
Quiz 2 Evaluate, Interpret & Apply	91	81	40.4
Quiz 3 Use Ethically	92	67	37.3
Sum of 3 quizzes	96	84	120.29 (Target ≥ 111)

Students exceeded expectations for the percentages of students scoring emerging or higher in all categories. Students also exceeded expectations (by at least 20 percentage points) for students scoring

developed or higher in all categories except using sources ethically, where they met expectations at 67%. The mean for this quiz, while in the developed range, was slightly below the midpoint.

Table 8 : Numbers of UD Students Scoring at Each Level

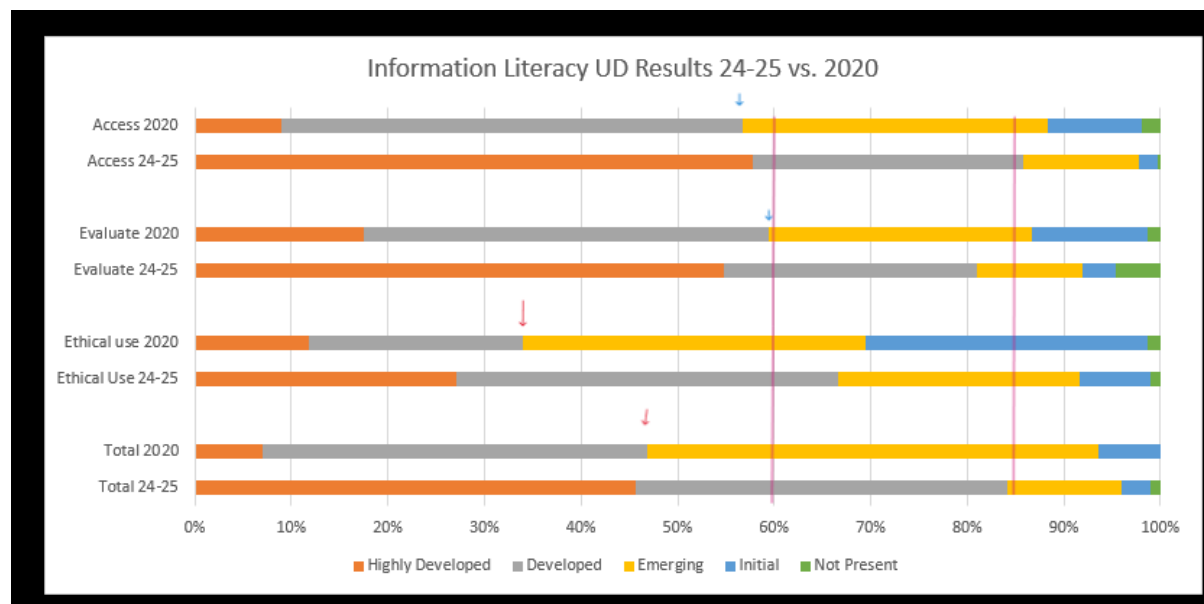
	Total on 3 Quizzes	Q1 Access information	Q2 Interpret, evaluate & apply	Q3 Use information ethically
Highly Developed	127	178	156	77
Developed	107	86	75	113
Emerging	33	37	31	71
Initial	8	6	10	21
Not Present	3	1	13	3

Table 9: Percentages of UD Students Scoring at Each Level

	Total on 3 Quizzes	Q1 Access information	Q2 Interpret, evaluate & apply	Q3 Use information ethically
Highly Developed	46%	58%	55%	27%
Developed	38%	28%	26%	40%
Emerging	12%	12%	11%	25%
Initial	3%	2%	4%	7%
Not Present	1%	0%	5%	1%

Comparison to previous assessment.

Figure 2 Comparison of Upper-Division Results 24-25 vs. 2020



Blue arrow approached target within 5 percentage points, red arrow missed target by more than 5 percentage points.

If we compare the 24-25 results with the results from five years earlier, we see a clear improvement. First, we should note that only 141 students participated in 2020 as opposed to 308 in 2024-25. We were able to increase the sample size by using both semesters and specifically targeting every major program.

We more than doubled the percentage of students scoring at the highly developed level for all three criteria, while decreasing the percentages scoring at the initial level or below (Few students scored not present in both assessments; however, there was an increase in students scoring not present on quiz 2 in the 2024-2025 results). We did not set a target for the developed or higher level in 2020, but had an 85% target for emerging or higher, which we met for quizzes 1 and 2 but not for quiz 3. For quiz 1 the percentage scoring at developed or higher and emerging or higher respectively were 57% and 89% in 2020 versus 84% and 96% in 2024-2025. For quiz 2 the percentage scoring at developed or higher and emerging or higher respectively were 59% and 87% in 2020 versus 81% and 91% in 2024-2025. For quiz 3 the percentage scoring at developed or higher and emerging or higher respectively were 34% and 69% in 2020 versus 61% and 92% in 2024-2025. For the sum of all three quizzes, the percentage scoring at emerging or higher was the same in both assessments at 96%, but the percentage scoring at developed or higher increased from 47% in 2020 to 84% in 2024-2025.

Comparing modalities and course lengths

The committee recommended that scores be broken out by modality and course length in this round. A few students were enrolled in more than one class and if the classes were in different modes or different lengths, the scores were counted for both.

Table 10: Comparison by Modality and Course Length UD Information Literacy Results

	ALL UD	16 week	8 week	OL	HYB	F2F
	Mean/N	Mean/N	Mean/N	Mean/N	Mean/N	Mean/N
Q1 Access Information	42.4/308	42.1/217	43.26/91	37.12/90	42.41/32	42.13/192
Q2 Interpret, evaluate and apply	40.46/285	40.31/199	40.79/86	41.43/85	39.45/31	40.46/175
Q3 Use information ethically	37.13/285	37.27/196	36.83/87	43.07/86	36.58/31	37.23/172
Combined score if all three quizzes taken.	120.29/278	120.04/194	120.85/84	121.59/83	118.72/31	119.78/170
Percent scoring emerging or higher on all 3 quizzes	96%	96%	96%	96%	100%	95%
Percent scoring developed or higher across rubric	84%	82%	88%	89%	84%	82%

The means for the combined scores on all three quizzes across each modality and course length were consistent, ranging from 118.72 to 121.59. These are all around the upper third of the developed category which encompasses scores of at least 101 but below 128. While the differences were not large, the hybrid students scored the lowest, F2F students scored slightly higher, and online students scored highest. 8-week students very slightly edged out 16-week students. Nevertheless, among the hybrid students 100% of students who took all three quizzes scored at emerging or higher while the other modes were at 95% or 96%. The online sections had the highest percentage scoring at developed or higher across all three quizzes at 89%, and the F2F sections had the lowest with 82% at that level. But all the results were well above the target of 60%. There were some other minor differences. Hybrid and in-person students did best on quiz 1 and worst on quiz 3, while online students did worst on quiz 1 and best on quiz 3. We conclude that we are reaching our targets across different modes and modalities.

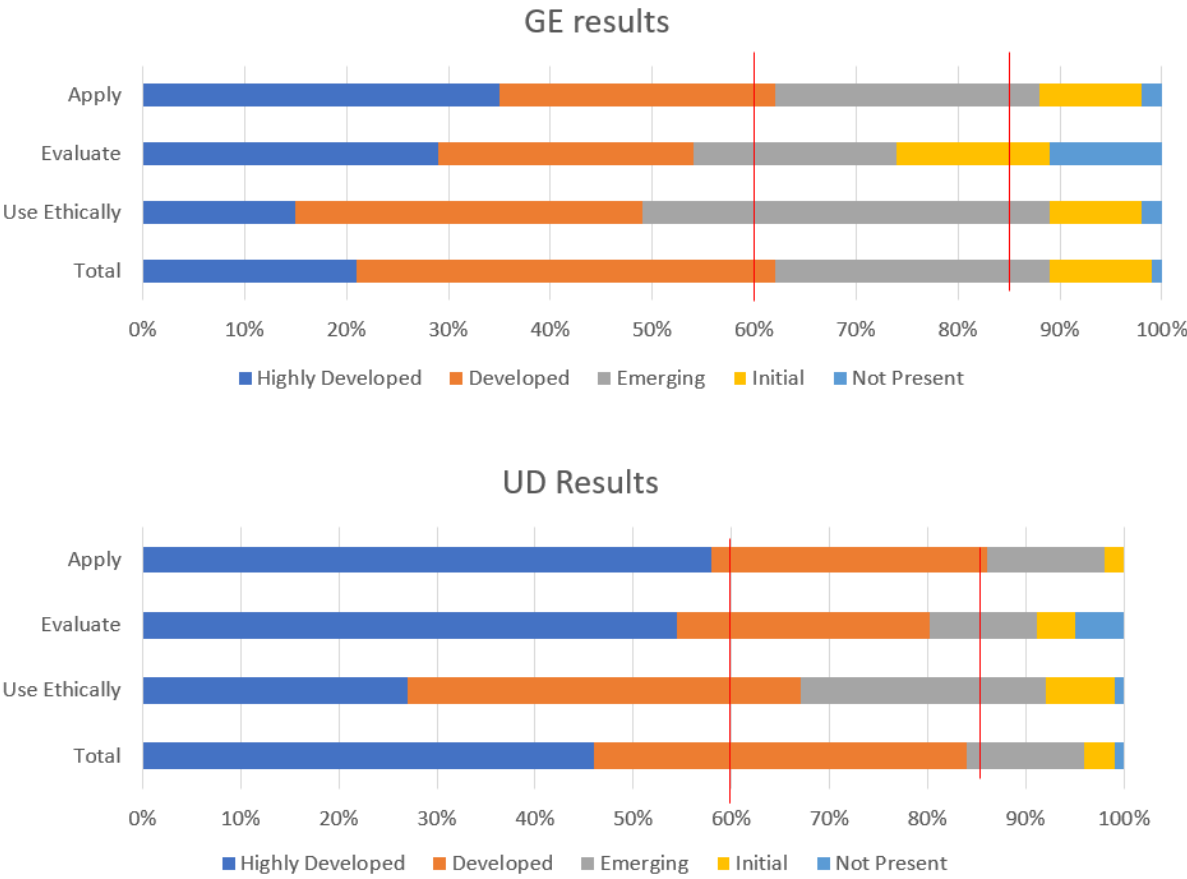
How do General Education Results compare to Upper-Division results?

Table 11: GE results versus UD results

	ALL GE	ALL UD
	Mean/N	Mean/N
Q1 Access Information	36.84/328	42.4/308
Q2 Interpret, evaluate and apply	33.77/302	40.46/285
Q3 Use information ethically	34.34/288	37.13/285
Combined score if all three quizzes taken.	105.75/278	120.29/278
Percent scoring initial or higher on sum of all 3 quizzes	99%	99%
Percent scoring emerging or higher on sum of all 3 quizzes	89%	96%
Percent scoring developed or higher on sum of all three quizzes	62%	84%
Percent scoring highly developed on sum of all three quizzes	21%	46%

We see that the means increased on all three quizzes between the general education and the upper-division level with the largest increase on quiz 2. There is a greater difference between the general education and the upper-division level as we move toward higher levels of achievement. Both groups have 99% scoring at least initial on the combined scores of the three quizzes, but by the developed and highly developed levels there is a difference in achievement of more than 20 percentage points.

Figure 3: GE versus UD Information Literacy Results 2024-2025.



Statistical analysis reveals that UD students performed significantly better than GE students and that male students out-performed female students at both the GE and upper division levels. At the GE level only, as discussed earlier, 8-week students outperformed 16-week students, and hybrid and online students outperformed in-person students. Also, at the GE level only, first-generation students outperformed non-first-generation students.

Table 12: Mean Information Literacy Scores (Mean + Standard Deviation) as a function of student demographic data and course attribute

		GENERAL EDUCATION		UPPER DIVISION	
		mean ± stddev	n	mean ± stddev	n
Overall*		105.8 ± 23.7	278	120.3 ± 21.0	278
Gender	Female	103.2 ± 24.2*	189	118.3 ± 20.5*	179
	Male	111.3 ± 21.9	89	123.9 ± 21.5	99
Under-represented minority	YES	105.0 ± 24.9	115	119.9 ± 21.8	169
	NO	106.3 ± 22.9	163	120.9 ± 19.8	109
First-generation student	YES	110.2 ± 25.1*	69	120.3 ± 21.0	278
	NO	104.3 ± 23.1	209	121.3 ± 21.0	195
Semester term	8-week	118.7 ± 19.7*	30	120.9 ± 19.1	84
	16-week	104.2 ± 23.7	248	120.0 ± 21.8	194
Course modality	Face-to-face	101.5 ± 23.6*	208	120.1 ± 22.2	166
	Hybrid	119.1 ± 18.4	10	119.1 ± 19.6	26
	Online	118.2 ± 19.5	60	121.4 ± 19.3	80
Pell eligible	YES	104.9 ± 24.0	113	119.8 ± 21.9	96
	NO	106.3 ± 23.6	165	120.5 ± 20.6	181

Discussion

- How accurately do we think these findings reflect the actual level of competence of our students?

We increased the number of GE participants by 81% and the number of upper-division participants by 118%, which gives us greater confidence in these results compared to 2020.

We consulted with both the faculty who teach in the WC&IL II area and with university librarians to review and update the specific questions and concepts covered. Question analyses run after the assessment was over found that a majority of questions were good discriminators and that general education students had difficulty with more of the questions than the UD students, as should be expected. We may want to analyze the results in more detail before the next round to determine whether we should remove some questions that were answered correctly by 100% of the students.

We acknowledge that there were changes in the quizzes that could account for some of the improvement on quiz 3, but we are confident that this year's results are more accurate. It seemed clear that many students in 2020 did not attempt or rushed through the questions that asked them to evaluate the use of a source, and thus their lower scores on quiz 3 did not necessarily reflect a lack of ability. By moving those questions to the start of the quiz and reducing the number of questions from 4 to 3, we were able to address this problem. This is a difficult skill, and post quiz analyses rated those questions as either moderately difficult (with 50-69% of students answering correctly) or difficult (with fewer than 50% answering correctly) but we didn't see large numbers of students leaving them blank this time. 15% of the gen ed students scored highly developed on quiz 3 and only 11% initial or not present.

- Were there any problems with the process?

The process worked very well, and it was gratifying to have such a large sample size and see such strong results. We would like to see greater participation from certain majors so that the results can provide meaningful information to those programs. We would also like to improve participation from 8-week courses, especially online courses.

We are fully aware that these objective quizzes are not the only kind of assessment that needs to be done for information literacy. We also need insight into students' actual research processes which can only be observed by classroom instructors and through review of artifacts such as annotated bibliographies. We also need to observe students' use of source material and whether they are able to effectively and accurately incorporate research findings into their own projects. Given the difficulty of assessing process from a product and of evaluating work from other disciplines or recognizing plagiarism from unfamiliar sources, we think these kinds of assessments are best done as part of PLO assessments or writing program assessments and by classroom instructors who are familiar with the topics and sources that students are using.

- How shall we use these findings?

- Results will be shared as part of Assessment Day and posted on our website.
- Faculty who participated will be notified that the results are posted after Assessment Day.
- Results will be shared with the library staff and the General Education Learning and Assessment Committee.
- UD Results broken down by major (or by college when there was insufficient participation by major) have been shared with the deans for dissemination to program chairs for use in program assessment of aligned PLOs and for use in five-year self-studies.

- Are we satisfied with the results?

Yes, the results are very strong, showing the WC&IL II classes do an excellent job of preparing students in this area, bringing over 85% of the students to the emerging level. Having a two-semester sequence, making practice quizzes and teaching materials available, and involving the library staff are important factors in these results. The upper-division results are also very strong and show that students continue to practice and improve these skills during their academic careers, particularly on the concepts tested in quizzes 1 and 2.

- What is the plan for future assessments?

We would like to continue using this method; however, we will need to once again review and update the quiz questions as the information literacy field continues to change. In the meantime, we would encourage instructors of WC&IL II classes and of upper division courses that teach information literacy in the discipline to continue to use the practice quizzes and other resources. The library also is continuing to update its resources. For example, they plan to introduce some modules on using AI that instructors can incorporate into their classes during the 2025-2026 academic year.

