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Learning Achievement Results: A Summary Analysis of the 2024 Program Assessment Reports

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Executive Summary

The University of Hawai'i at Mānoa (UH Mānoa) is a public research university accredited by the Western Association of Schools and Colleges Senior College and University Commission (WSCUC) and conducts systematic assessment of student learning to improve teaching, strengthen curricula, and maintain its accreditation status. As such, these institutional accreditation standards require systematic investigations of student learning achievement for graduate and undergraduate degrees, with findings applied to improve curricula, pedagogy, and assessment methodology.

Program assessment reports are collected periodically by the Assessment and Curriculum Support Center (ACSC) from all academic degree programs and used to document Program Learning Outcome (PLO) assessment activities for the University. As of the latest assessment cycle spanning November 2022 to November 2024, the ACSC achieved full participation from all 94 undergraduate programs and received reports from all 139 continuing graduate programs, resulting in 100% submission rate. This report investigated students' learning achievement on Institutional Learning Objectives (ILOs) using the program learning outcomes (PLO) data from the 2024 assessment reports.

Each ILO's achievement result is the average of the achievement results for the PLOs aligned with that ILO across the programs. It can be interpreted as the average percentage of students who meet the faculty expectations for a PLO aligned with the ILO. The UH Mānoa's institutional benchmark is that 75% of the students meet faculty expectations.

The results showed that **every ILO achievement exceeds the institutional benchmark.**

Among the assessed graduate students, over 96% met faculty expectations on each Advanced Degree ILO

(<https://manoa.hawaii.edu/ovpae/institutional-learning-objectives/advance-degrees-ilo/>). We further disaggregated the results between the Masters and PhD level of programs. The findings show that PhD program's learning achievement on average was even higher (ranging between 98% to 99%) than the Master's programs (96%-97%) across all Advanced Degree ILOs.

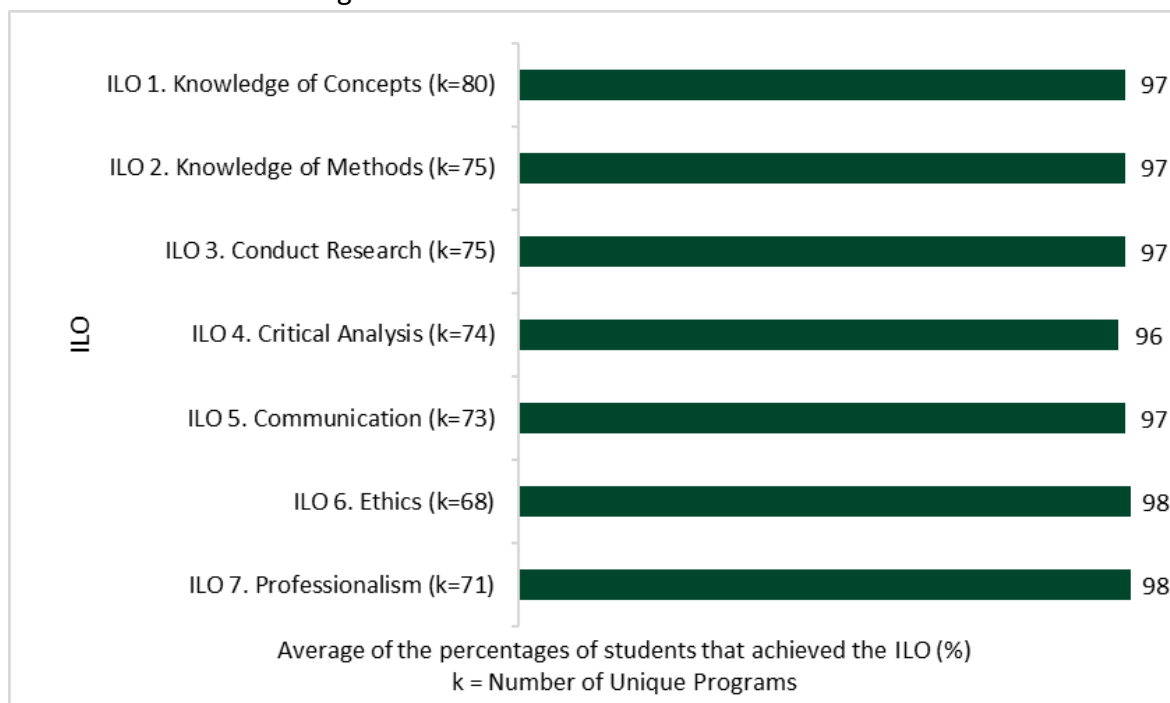
We have high confidence in the Advanced Degree ILO results because the data were sourced from 49% to 58% of graduate programs, with 68 to 80 out of a total of 139 programs.

Below are detailed results:

- **97%** of the assessed students achieved **Advanced Degree ILO 1. *Demonstrate comprehensive knowledge in one or more general subject areas related to, but not confined to, a specific area of interest.*** (Assessed in 80 programs)
- **97%** achieved **Advanced Degree ILO 2. *Demonstrate understanding of research methodology and techniques specific to one's field of study.*** (Assessed in 75 programs)
- **97%** achieved **Advanced Degree ILO 3. *Apply research methodology and/or scholarly inquiry techniques specific to one's field of study.*** (Assessed in 75 programs)

- **96%** achieved **Advanced Degree ILO 4. *Critically analyze, synthesize, and utilize information and data related to one’s field of study.*** (Assessed in 74 programs)
- **97%** achieved **Advanced Degree ILO 5. *Proficiently communicate and disseminate information in a manner relevant to the field and intended audience.*** (Assessed in 73 programs)
- **98%** achieved **Advanced Degree ILO 6. *Conduct research or projects as a responsible and ethical professional, including consideration of and respect for other cultural perspectives.*** (Assessed in 68 programs)
- **98%** achieved **Advanced Degree ILO 7. *Interact professionally with others.*** (Assessed in 71 programs)

The following figure (same as Figure 2 in the report) summarizes this data visually with the abbreviated Advanced Degree ILOs.



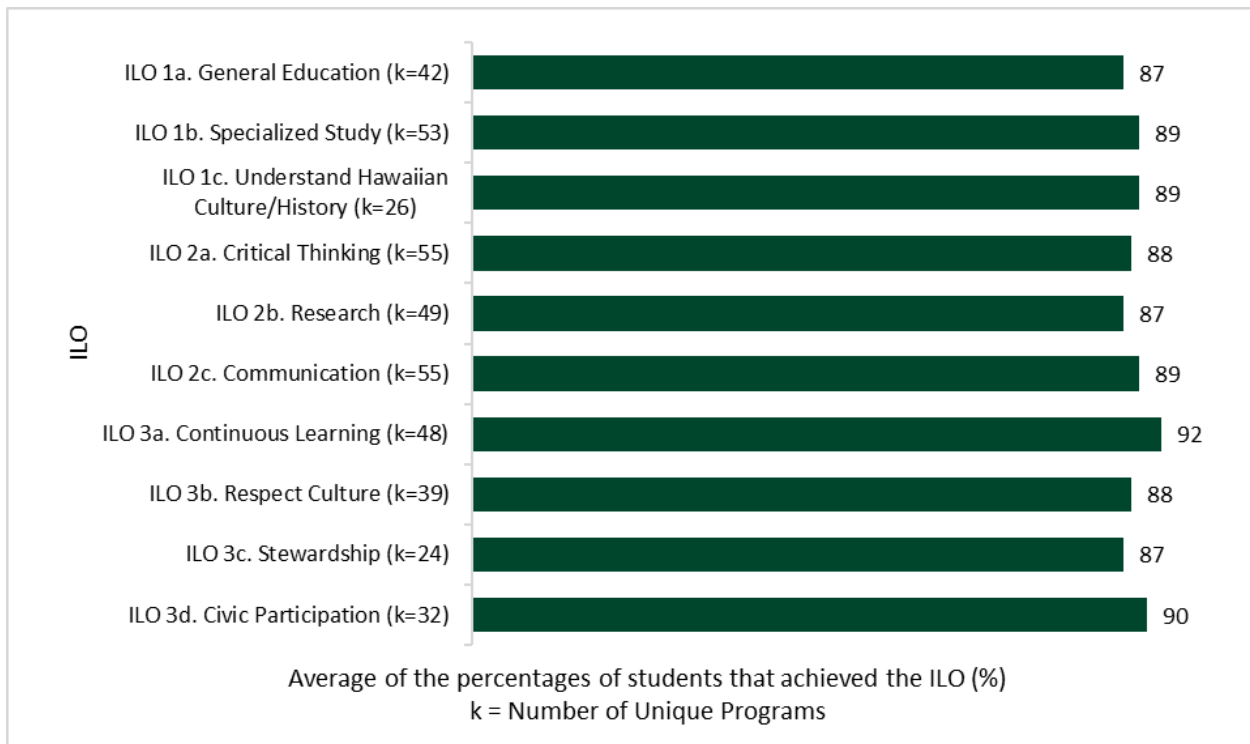
Among the undergraduate students assessed, over 87% met faculty expectations on an average PLO aligned with an undergraduate ILO, indicating that, on average, **over 87% of the assessed students achieved each undergraduate ILO** (https://manoa.hawaii.edu/ovpae/institutional-learning-objectives/_undergrad_ilo/).

Our confidence in the undergraduate ILO results is mixed because the number of programs that provided the source of data varied greatly among the ILOs, with *ILO 1c. Stewardship of the natural environment* being assessed in only 26% of the programs (k = 24), whereas Intellectual skills such as *ILO 2a. Think critically and creatively* and *ILO 2c. Communicate and report* were assessed in 58% (k = 55) programs.

Below are detailed Undergraduate ILO achievement results:

- **87%** of the assessed undergraduates achieved **Undergraduate ILO 1a. Broad knowledge of the cultural, social, physical, and natural world** (assessed in 42 programs)
- **89%** achieved **Undergraduate 1b. Specialized knowledge in an academic field** (assessed in 53 programs)
- **89%** achieved **Undergraduate 1c. Hawaiian culture and history** (assessed in 26 programs)
- **88%** achieved **Undergraduate 2a. Think Critically and Creatively** (assessed in 55 programs)
- **87%** achieved **Undergraduate 2b. Inquire and Conduct Research** (assessed in 49 programs)
- **89%** achieved **Undergraduate 2c. Communicate and Report** (assessed in 55 programs)
- **92%** achieved **Undergraduate 3a. Continuous Learning and Personal Growth** (assessed in 48 programs)
- **88%** achieved **Undergraduate 3b. Respect for People and Cultures, in Particular Hawaiian Culture** (assessed in 39 programs)
- **87%** achieved **Undergraduate 3c. Stewardship of the Natural Environment** (assessed in 24 programs)
- **89%** achieved **Undergraduate 3d. Civic Partnership in Communities** (assessed in 32 programs)

The following figure (same as Figure 4 in the report) summarizes this data visually with abbreviated ILOs.



Overall, the data revealed very strong and overall high achievement on average among all programs at UH Mānoa.

For the next reporting period, ACSC plans to collaborate more closely with individual programs and their assessment leaders to further strengthen their analysis. This will involve guiding programs on which data sources and results are most appropriate for measuring ILO achievement. By doing so, ACSC aims to increase the number of usable program submissions and produce a broader, even more representative sample of Institutional Learning Outcome achievement.

Background and Context

The University of Hawai'i at Mānoa (UH Mānoa) is a public, research-intensive, comprehensive university accredited by the Western Association of Schools and Colleges Senior College and University Commission (WSCUC). Faculty at UH Mānoa conduct learning assessment at both the program and institutional levels primarily to improve teaching and learning. These assessment efforts and their associated reporting also support the institution in maintaining accreditation requirements, as accreditation standards require systematic evaluation of student learning achievement across all programs and expect the use of these findings to inform the development and improvement of curricula, pedagogy, and assessment practices.

The primary mechanism for documenting program-level learning assessment activities is the program assessment report, which the Assessment & Curriculum Support Center (ACSC) periodically collects from all academic degree programs. Since 2015, the ACSC has shifted from an annual reporting cycle to a multi-year cycle (i.e., 2020-2022, 2022-2024) to reinforce that program learning assessment is a continuous, cyclical process and dispel the misconception that a program must complete the entire assessment cycle within a single year. The most recent reporting period spans November 2022 to November 2024.

At the institutional level, the ACSC summarizes and reports learning assessment results for the [Institutional Learning Objectives](#) (ILOs) across both undergraduate and advanced degree programs. As such, we examine ILO achievement by aggregating program-level learning achievement findings submitted through the 2024 assessment reports. For this cycle, we collected reports from all 94 undergraduate and 139 graduate (advanced) degree programs at UH Mānoa, representing 100% submission rate. Given that approximately 60% of both undergraduate and graduate programs provided usable data on student learning in the 2024 reports, it is reasonable to represent institution-level learning achievement through aggregated program-level results.

The following sections present a detailed analysis of student learning achievement results for each of the UH Mānoa degree program ILOs for the 2022-2024 reporting period, with findings reported separately for undergraduate and graduate programs. The report concludes with recommendations to strengthen program assessment of student learning achievement across both undergraduate and advanced programs.

ILO Student Learning Achievement Analysis

Methodology

To calculate institutional-level student learning achievement, we followed Stephens-Chu and Hill (2021) Learning Achievement Assessment Report in aggregating the PLOs to represent ILO achievement. However, our methodology differs in that we used the programs' self-claimed PLO alignment whereas the previous report used ACSC's manual alignment. As such, we applied the same three-step process to both graduate (advanced) and undergraduate degree programs, with results reported separately for each academic level. The steps from Stephens-Chu and Hill (2021) are as follows:

1. Align each PLO with the ILO that they address
2. Identify and record learning achievement results for the PLO
3. Calculate the average percentage of students meeting learning achievement expectations across all aligned PLOs for each ILO.

These steps are described below, along with additional details relevant to both graduate and undergraduate degree programs.

Step 1: Align each PLO with the ILO that they address

In the program assessment report, each program was asked to indicate the ILO(s) addressed by each of its PLOs. UH Mānoa has **seven graduate degree ILOs** and **three undergraduate degree ILO categories including 10 ILOs**. These are listed below (abbreviations in parentheses).

Graduate ILOs:

1. Demonstrate comprehensive knowledge in one or more general subject areas related to, but not confined to, a specific area of interest. (***ILO 1. Knowledge of Concepts***)
2. Demonstrate understanding of research methodology and techniques specific to one's field of study. (***ILO 2. Knowledge of Methods***)
3. Apply research methodology and/or scholarly inquiry techniques specific to one's field of study. (***ILO 3. Conduct Research***)
4. Critically analyze, synthesize, and utilize information and data related to one's field of study. (***ILO 4. Critical Analysis***)
5. Proficiently communicate and disseminate information in a manner relevant to the field and intended audience. (***ILO 5. Communication***)
6. Conduct research or projects as a responsible and ethical professional, including consideration of a respect for other cultural perspectives. (***ILO 6. Ethics***)
7. Interact professionally with others. (***ILO 7. Professionalism***)

Undergraduate ILOs:

1. Know - Breadth and Depth of Knowledge
 - a. General education. (***ILO 1a. General Education***)

- b. Specialized study in an academic field. (***ILO 1b. Specialized Study***)
 - c. Understand Hawaiian culture and history. (***ILO 1c. Understand Hawaiian Culture/History***)
- 2. Do - Intellectual and Practice Skills
 - a. Think critically and creatively. (***ILO 2a. Critical Thinking***)
 - b. Conduct research. (***ILO 2b. Research***)
 - c. Communicate and report. (***ILO 2c. Communication***)
- 3. Value - Personal and Social Responsibility
 - a. Continuous learning and personal growth. (***ILO 3a. Continuous Learning***)
 - b. Respect for people and cultures, in particular Hawaiian culture. (***ILO 3b. Respect Culture***)
 - c. Stewardship of the natural environment. (***ILO 3c. Stewardship***)
 - d. Civic participation in their communities. (***ILO 3d. Civic Participation***)

Across programs, the achievement for each ILO was calculated as the average of all PLO results aligned with that ILO. Among the 139 graduate programs that submitted assessment reports, 98.6% (k = 137) provided PLO-ILO alignment, as did 100% of the 94 undergraduate programs. Programs may align one PLO with one or multiple ILOs. For example, the History PhD program aligned its PLO “*Students can conduct original research based on primary sources, analyze and interpret the data collected, and perform critical review of primary and secondary literature*” with *ILO 3. Conduct Research* and *ILO 4. Critical Analysis*.

Step 2: Identify and record program learning achievement results for each PLO

Using the PLO-ILO alignment provided by each program in the assessment report, we determine whether each program reported numerical student learning achievement results and, if so, what those results were. Numerical data were required to calculate the percentage of students who met expectations on each PLO.

Some programs reported information not directly related to student PLO achievement (e.g. completion of assessment products such as surveys, time to graduation, licensure pass rates, successful employment after graduation, etc.). Thus their data were not included in this analysis.

In other cases, some programs that claimed to have student achievement results for PLOs presented challenges. Among these, some of the claimed results were too general or vague to interpret (e.g. “*Students are meeting our desired learning outcomes*” or “*The majority of students achieved all PLOs*”). Other programs were not clear on the total number of assessed students (e.g. “*Students doing well on all SLOs*”). Additionally, some programs provided grades, rubric scores, or other performance indicators, but did not state the minimum acceptable score, or achievement standard. When the achievement standard could be reasonably inferred, we included the results in the analysis. When it was not clear, the results were excluded. See [Appendix B](#) for a summary of the types of challenging data encountered.

In our analysis, we only included programs that stated achievement results that aligned with the specific PLO (e.g. “75% of students met expectations [...] on [P]LO 1...”). Some results were stated more generally (e.g. “100% students met all the [P]LOs”). While the latter is not ideal, these results were included in the analysis because the program technically aligned the results with PLOs.

We recorded each PLO result as the **percentage of assessed students who met or exceeded acceptable minimum expectations**. When multiple sets of results were available for a single PLO, we generally prioritized data based on **direct evidence, culminating assignments/experience**, and/or the **most recent year** (see [Appendix B](#) for details).

Step 3: Calculate ILO learning achievement results

For each ILO, we calculated learning achievement as the average of all PLO results aligned with each specific ILO. For example, if 40 PLOs met the inclusion criteria for ILO 2, the ILO 2 result represents the average percentage of students meeting expectations across those 40 PLOs. Since many programs did not report the number of assessed students (e.g. “All students achieved PLO 4,” which would be recorded as 100% achievement even with an unknown number of students), we calculated simple averages without weighting by student count. In other words, PLO results that included more students were not weighted more when we calculated the ILO achievement since the total number of students (denominator) across all programs was unknown.

Results

We present the results below, first for the graduate (Master’s and Doctoral) programs and then for the undergraduate programs.

Graduate Programs

The results of our analysis of graduate programs are presented in [Figure 1](#) and [Figure 2](#).

First, we note that the most-assessed ILOs across all advanced degree programs were as follows:

- *ILO 1. Knowledge of Concepts*, assessed in 80 graduate programs (57% of the total number of graduate programs);
- *ILO 2. Knowledge of Methods*, in 75 programs (53%);
- *ILO 3. Conduct Research*, in 75 programs (53%)

Figure 1

Number of advanced degree programs with at least one PLO aligned with an ILO

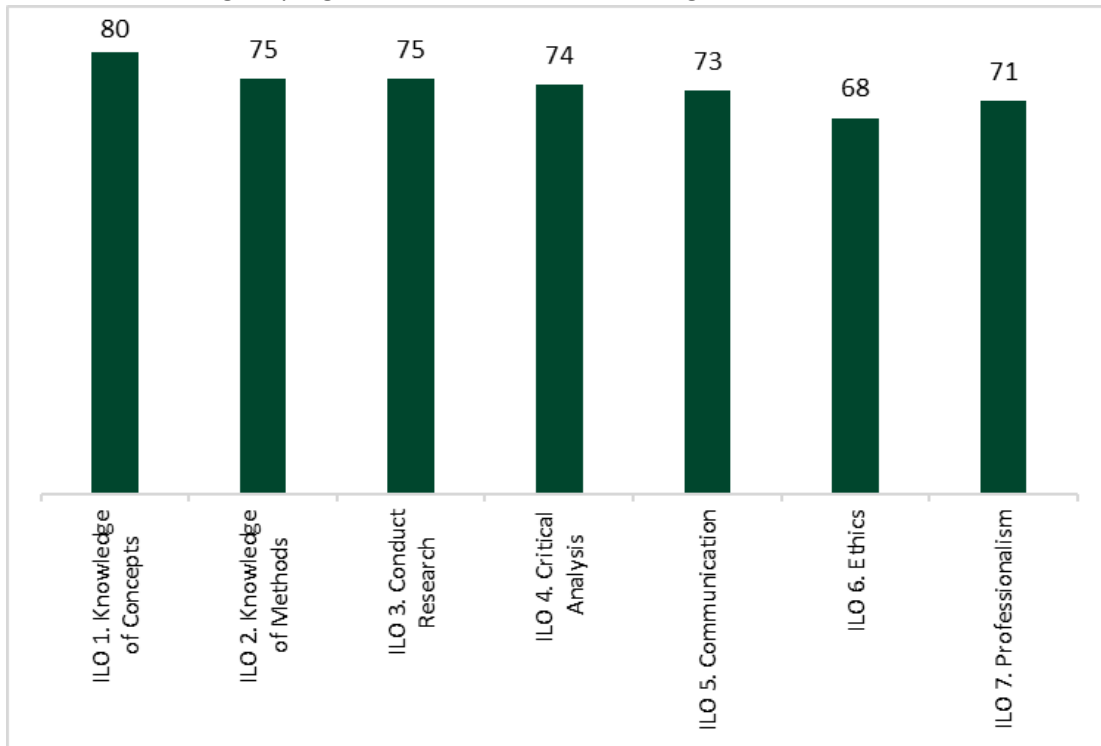
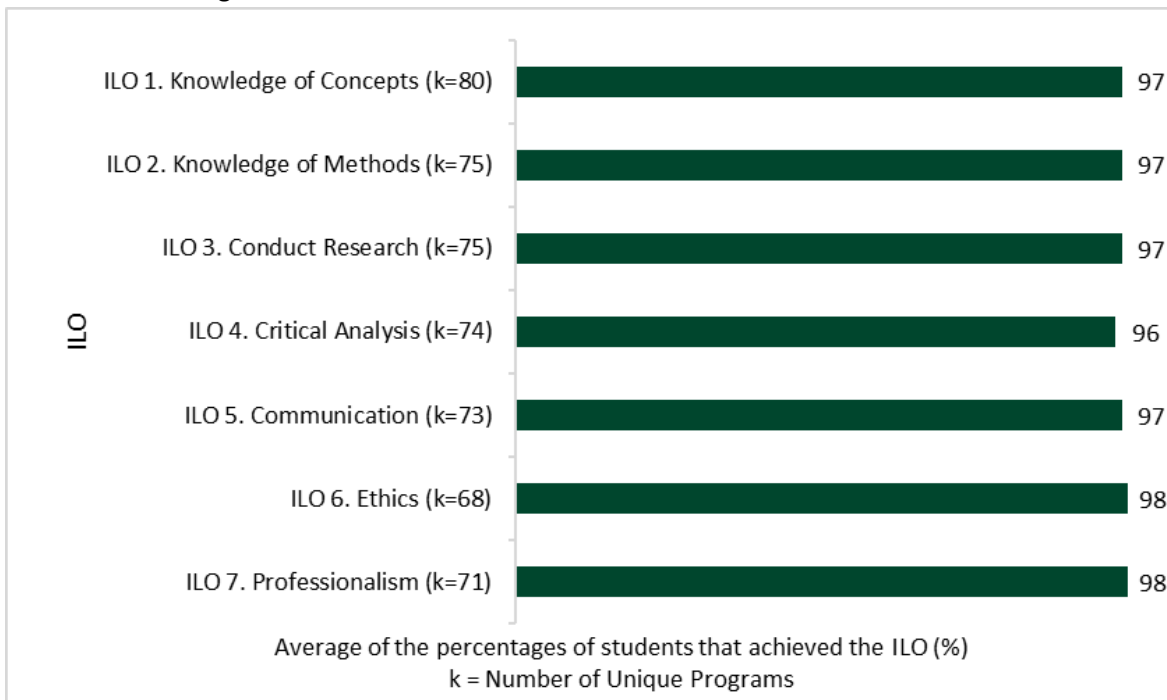


Figure 2

Advanced degree program ILO achievement results as the average of the percentages of students who achieved the PLOs aligned with each ILO



Our analysis also showed high average achievement for all Advanced Degree ILOs, with 96% to 98% of students on average achieving PLOs aligned with each ILO ([Figure 2](#)). Further, [Table 1](#) details the number of PLOs and number of programs used in the ILO achievement calculation. It also includes the minimum, maximum, median, and average student learning achievement percentages for each ILO-aligned PLO, with the averages as the ILO achievement indicator. For example, for *ILO 1. Knowledge of Concepts*, the student learning achievement results for 180 PLOs across 80 programs were included in the calculations. Of these 180 PLOs, the lowest percentage of students that achieved a particular PLO was 33%, the highest was 100%, the median was 100%, and the overall average at 97% achievement. To clarify, since the average percentage of students meeting/exceeding the minimum acceptable learning achievement for all aligned PLOs is the overall ILO results, therefore the average of 180 PLO achievement percentages was taken, resulting in 97% student learning achievement for this ILO.

Table 1

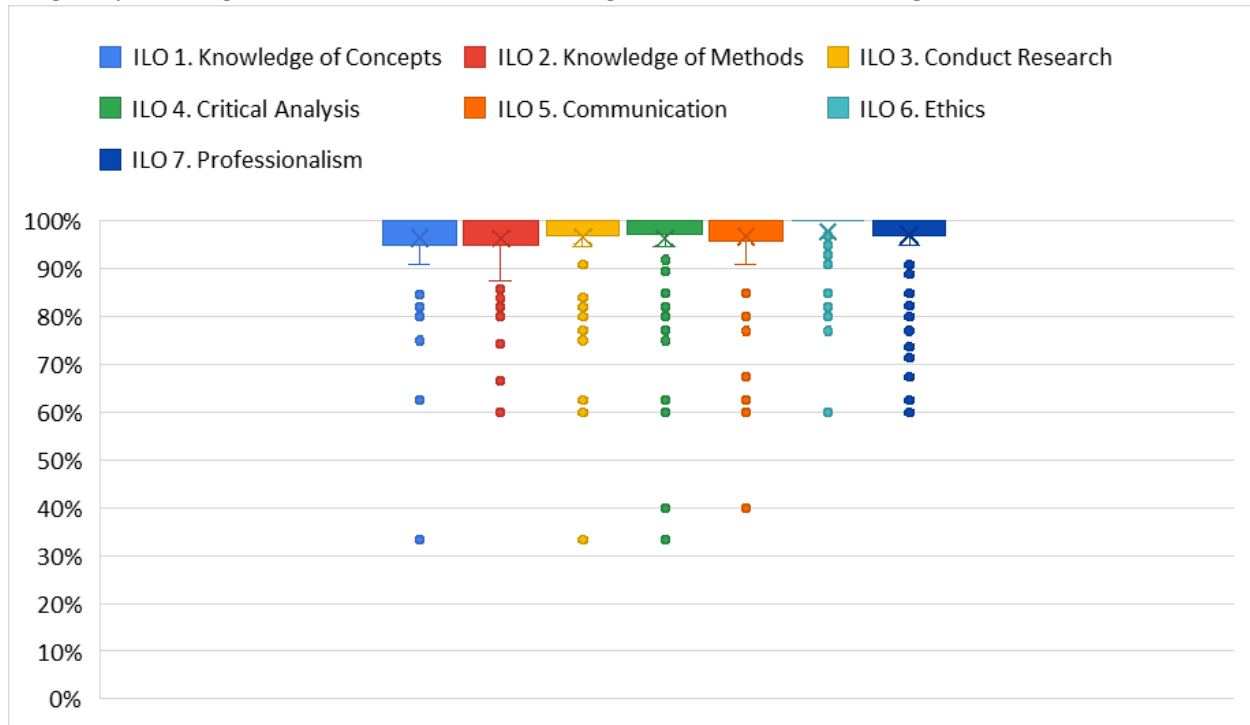
Summary of Graduate Student Learning Achievement results of PLOs aligned with ILOs

ILO	Number of PLOs (Number of Programs)	Lowest % of students that achieved a PLO	Highest % of students that achieved a PLO	Median % of students that achieved a PLO	ILO Achievement Results as the Average of PLOs Results	Standard Error
ILO 1. Knowledge of Concepts	180 (80)	33%	100%	100%	97%	0.0059
ILO 2. Knowledge of Methods	148 (75)	60%	100%	100%	96%	0.0060
ILO 3. Conduct Research	151 (75)	33%	100%	100%	97%	0.0072
ILO 4. Critical Analysis	176 (74)	33%	100%	100%	96%	0.0072
ILO 5. Communication	148 (73)	40%	100%	100%	97%	0.0066
ILO 6. Ethics	149 (68)	60%	100%	100%	98%	0.0049
ILO 7. Professionalism	158 (71)	60%	100%	100%	97%	0.0055

Upon initial review of the results, some of the minimum scores in [Table 1](#) potentially seem alarming (i.e. 33% of students achieving a PLO in the data). As such, we graphed the distribution using a box-and-whisker plot ([Figure 5](#)). The results indicate that all of the minimum results were outliers in the distribution of the results. In fact, the lower bounds (Q1) for each of the ILOs in advanced degree programs range from 95% to 100%, indicating that for each ILO, 75% of all aligned PLO achievement results were at least 95%. The lowest non-outlier PLO results was 88% (lower bound for ILO 2).

Figure 5

Range of percentages of Graduate Student Learning Achievement of PLOs aligned with ILOs



It is clear from the results that the overall level of achievement among graduate students at UH Mānoa is very high. This level of achievement could be attributed to the level at which assessment is conducted for these programs, where many of the results come from a dissertation proposal/defense or theses (culminating project) in which students subject to assessment have had multiple opportunities to revise and improve before the actual evaluation, and only students that have achieved throughout the program reach a stage to present their culminating project.

Among the advanced programs, it is valuable to disaggregate the data by Master's and Doctoral-level degrees to understand the results further. As such, we re-calculated the ILO achievement averages individually for each of the levels to compare, with the results presented in [Table 2](#). In this, we list out the average ILO achievement and number of programs used to calculate the averages, and see very similar results among both degree levels, with slightly higher achievement for Doctoral programs in all ILOs (indicated by the shaded results).

Table 2

Institution-level Student Learning Achievement by graduate program level

ILO	ILO Average Achievement			
	Master's	Number of Unique Master's Programs (k)	Doctoral	Number of Unique Doctoral Programs (k)
ILO 1. Knowledge of Concepts	96%	53	98%	27
ILO 2. Knowledge of Methods	96%	49	98%	26
ILO 3. Conduct Research	96%	50	98%	25
ILO 4. Critical Analysis	96%	49	98%	25
ILO 5. Communication	96%	50	99%	23
ILO 6. Ethics	97%	46	99%	22
ILO 7. Professionalism	96%	48	98%	23

Undergraduate Programs

The results of the undergraduate degree programs are shown in [Figures 3](#) and [4](#). For these programs, the most-assessed ILOs are below:

- *ILO 2a. Critical Thinking*, assessed in 55 undergraduate programs (59% of the total number of undergraduate programs);
- *ILO 2c. Communication*, in 55 programs (59%);
- *ILO 1b. Specialized Study*, in 53 programs (56%)

Figure 3

Number of undergraduate programs with at least one PLO aligned with an ILO

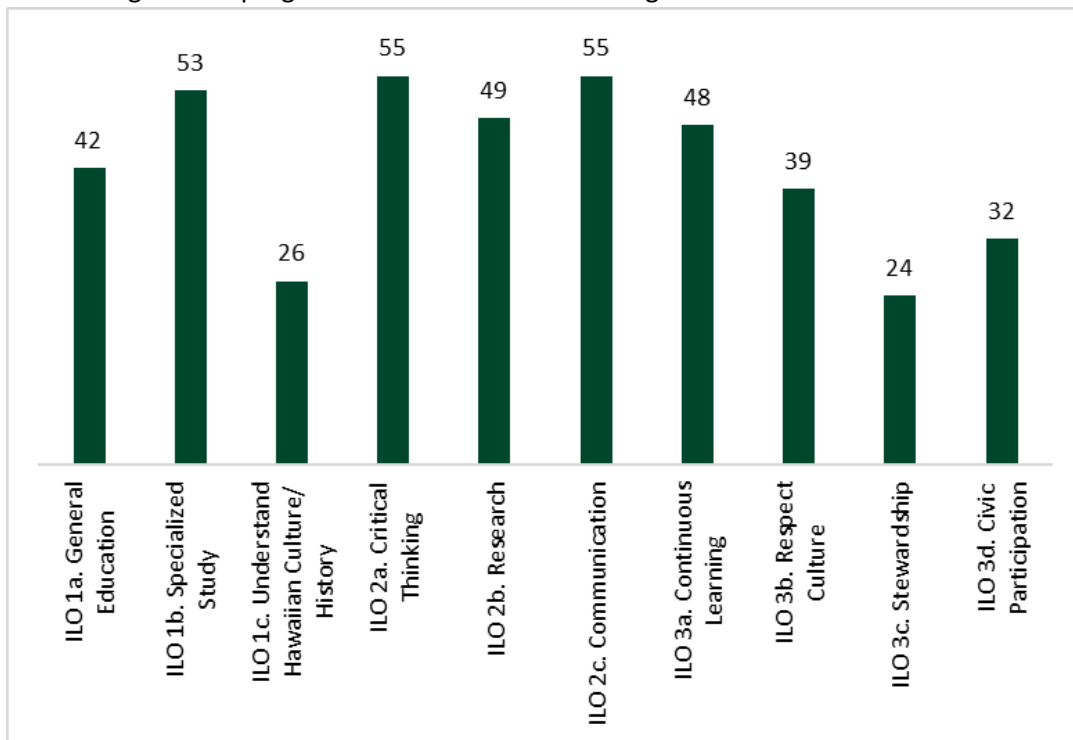
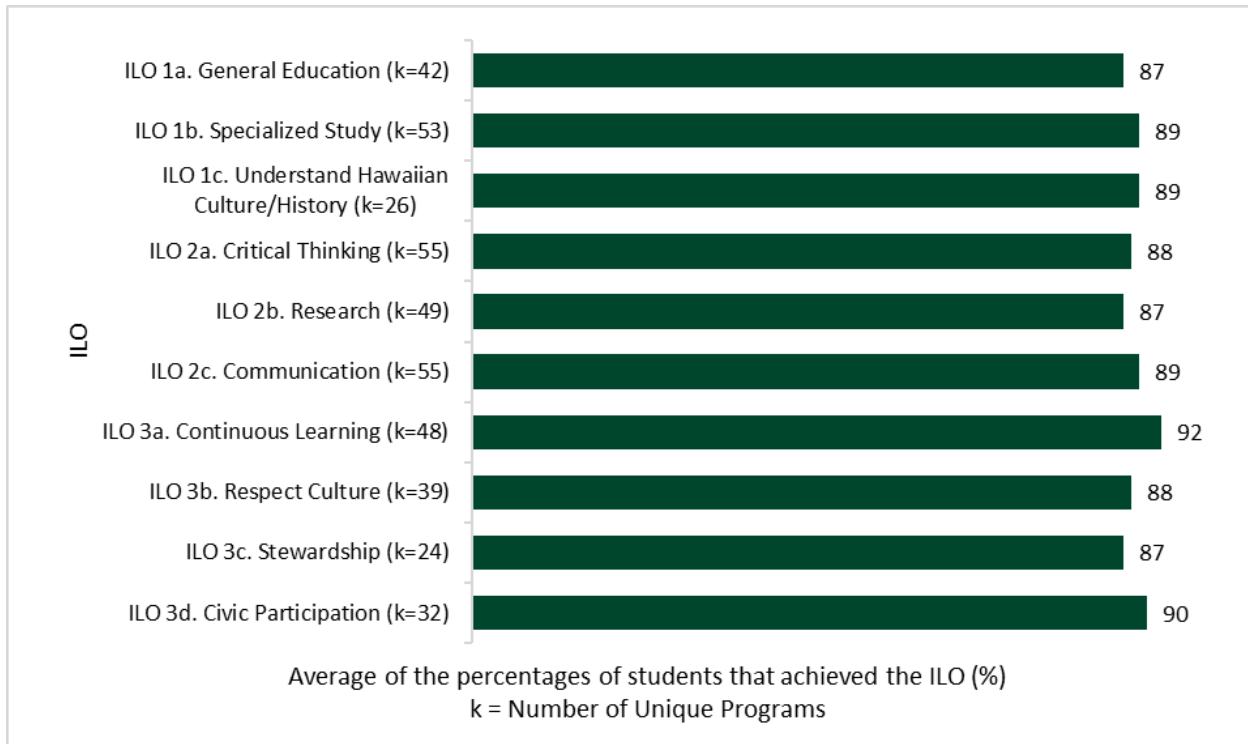


Figure 4

Undergraduate degree program ILO achievement results as the average of the percentages of students who achieved the PLOs aligned with each ILO



[Figure 4](#) presents the average achievement of PLO-ILO aligned outcomes for undergraduate programs, where the averages range from 87% to 92%. For greater detail, Table 3 presents the minimum, maximum, median, and average percentages of student learning achievement for each ILO-aligned PLO, along with the number of unique programs assessed. For example, for *ILO 3a. Continuous Learning*, there are 154 PLO achievement results throughout 48 undergraduate programs. The minimum level of achievement for an individual PLO is 10%, the maximum was 100%, the median ranges between 92% and 96%, and the overall averages range between 87% and 92% achievement.

Table 3

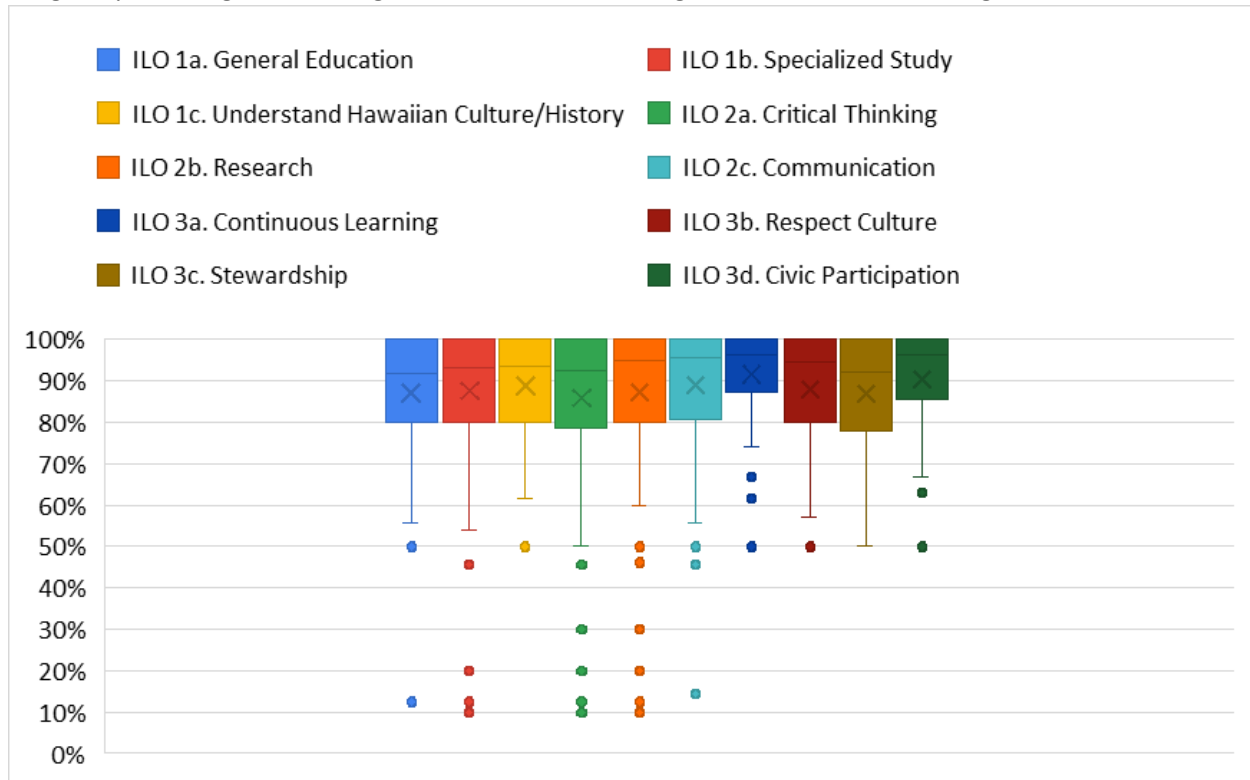
Summary of Undergraduate Student Learning Achievement results of PLOs aligned with ILOs

ILO	Number of PLOs (Number of Programs)	Lowest % of students that achieved a PLO	Highest % of students that achieved a PLO	Median % of students that achieved a PLO	ILO Achievement Results as the Average of PLOs Results	Standard Error
ILO 1a. General Education	175 (42)	13%	100%	92%	87%	0.0123
ILO 1b. Specialized Study	264 (53)	10%	100%	96%	89%	0.0099
ILO 1c. Understand Hawaiian Culture/ History	54 (26)	50%	100%	94%	89%	0.0178
ILO 2a. Critical Thinking	226 (55)	10%	100%	94%	88%	0.0116
ILO 2b. Research	154 (49)	10%	100%	95%	87%	0.0153
ILO 2c. Communication	169 (55)	14%	100%	96%	89%	0.0111
ILO 3a. Continuous Learning	154 (48)	50%	100%	96%	92%	0.0091
ILO 3b. Respect Culture	113 (39)	50%	100%	94%	88%	0.0133
ILO 3c. Stewardship	64 (24)	50%	100%	92%	87%	0.0176
ILO 3d. Civic Participation	85 (32)	50%	100%	96%	90%	0.0138

Again, upon observing the minimum scores in [Table 3](#) there are some results that warrant further investigation (i.e. only 10% of students achieving PLOs 1b, 2a, and 2b as a minimum). Therefore we used the box-and-whisker method to graph the distribution ([Figure 6](#)) to help alleviate the concerns. The results indicate that all of the minimum results were outliers in the data, with the lower bound (Q1) for each of the ILOs ranging from 78% to 88%. Of course, comparing this to the advanced degree achievement of ILOs, the undergraduate programs have a wider distribution of results.

Figure 6

Range of percentages of Undergraduate Student Learning Achievement of PLOs aligned with ILOs



Although the minimums of achievement results are shown to be outliers, it is useful to understand which programs they come from and whether there are explanations for this based on the method of analysis. First, given that an individual PLO can be aligned with multiple ILOs, a minimum observed will show up multiple times. For example, in a Bachelor of Science (BS) program, PLO 3 “Student will be able to apply the scientific method to generate new hypotheses, formulate experimental approaches, and outline potential outcomes, applying appropriate logical and quantitative methods” had a 10% achievement rate, but it is aligned to ILO 1b. Specialized Study, ILO 2a. Critical Thinking, and ILO 2b. Research. Thus, the 10% minimum appears for all three ILOs in the undergraduate program.

Further, while there were multiple results for this BS degree’s PLO 3 (direct evidence from an assignment and indirect evidence from student self-assessment surveys), the data selection criteria directs us to use only direct evidence and the assessment conducted at the most advanced stage (senior-level course, culminating project, etc.) when multiple sources were available to evaluate the results objectively and consistently across programs. In this specific case, we considered only the direct assessment associated with the assignment in the senior-level course, in which one out of ten seniors met the standard, thereby achieving PLO 3 at a 10% rate. While other evidence would likely improve that achievement rate, it is either indirect or unusable by our established methodology. Thus, understanding the specific

minimum achievement rate helps alleviate concerns about low-achievement outliers in the data.

Given the results, ACSC notes the overall level of achievement among undergraduate programs at UH Mānoa is high, with averages across all ILOs above 87%.

Conclusion and Next Steps

Program- and institution-level student learning assessment is a vital tool for improving teaching and learning at UH Mānoa. Program assessment is an iterative process that occurs over multi-year cycles and includes collecting data, analyzing results, and using findings to implement program improvements. As such, this report presents the program-level achievement results for both the undergraduate and advanced degree (Master's and Doctoral) programs during the 2022-2024 assessment cycle. This analysis of achievement results highlighted strong achievement of Institutional Learning Outcomes (measured by aggregate Program Learning Outcomes) across many programs. The average percentage of student learning achievement for each ILO was between 87% to 92% for undergraduate and 96% to 98% for advanced degree programs, thereby indicating that all ILOs are associated with high levels of achievement.

As a next step for the subsequent reporting period, ACSC has determined it can work with individual programs and their assessment leaders further with regard to enhancing their assessment procedure and analysis. This can be done through communicating and consulting with the individual programs about the kinds of data sources and results that the institution considers most appropriate for calculating ILO achievement. Hence, can use this to increase the number of usable program results for our analysis and achieve an even larger representative sample of the Institutional Learning Outcomes.

References

Stephens-Chu, M. and Hill, Y. Z. (2021). *Learning Achievement in Advanced Degree Programs: A Summary Analysis of the 2020 Graduate Program Assessment Reports*.
<https://scholarspace.manoa.hawaii.edu/server/api/core/bitstreams/94174be1-4775-4bef-a07b-edcbad979c5d/content>

Appendix A. Institutional Learning Objectives (ILOs)

Advanced Degree ILOs

Approved by the Mānoa Faculty Senate May 10, 2017

Knowledge and Understanding

1. Demonstrate comprehensive knowledge in one or more general subject areas related to, but not confined to, a specific area of interest.
2. Demonstrate understanding of research methodology and techniques specific to one's field of study.

Intellectual and Applied Skills

3. Apply research methodology and/or scholarly inquiry techniques specific to one's field of study.
4. Critically analyze, synthesize, and utilize information and data related to one's field of study.

Communication Skills

5. Proficiently communicate and disseminate information in a manner relevant to the field and intended audience.

Professional Responsibility

6. Conduct research or projects as a responsible and ethical professional, including consideration of and respect for other cultural perspectives.
7. Interact professionally with others.

Table A1

Potential Indicators/Evidence for the Advanced Degree ILOs

Learning Outcome	Potential Indicator/Evidence (i.e., may be used in assessment and evaluation)
1. Comprehensive knowledge	<ul style="list-style-type: none">● Comprehensive exam● Gallery exhibit● Oral defense● Portfolio or collection of performances● Written review of the literature
2. Understanding of research methodology	<ul style="list-style-type: none">● Course exam● Comprehensive exam● Research proposal● Written review of the literature● Thesis/dissertation, oral defense

<p>3. Research methodology/scholarly inquiry techniques</p>	<ul style="list-style-type: none"> • Original research project • Written and oral critiques of journal articles (e.g., journal clubs) • Research or grant proposal
<p>4. Critically analyze and synthesize information and data</p>	<ul style="list-style-type: none"> • Written review of the literature • Written analysis and discussion of data • Policy paper
<p>5. Communicate appropriately</p>	<ul style="list-style-type: none"> • Written projects • Oral presentations • Online communications • Television and film productions • Photo, image, picture projects • Recitals and performances
<p>6. Responsible, ethical, professional conduct of research</p>	<ul style="list-style-type: none"> • Observation of students' adherence to timelines, ability to set appropriate priorities, ability to follow through on commitments • Written description of ethical considerations in students' research, approval of students' proposals to conduct research • Critique of research designs' adherence to ethical principles • Appropriate conclusions drawn from data; appropriate use of data and treatment of participants • Written policy of and application of the ethical responsibilities of authors, including issues concerning ghost authorship, collaborative research, and conflicts of interest • Completion of formal training in responsible conduct of research (e.g., CITI or related training) • Observation of students' sensitivity to cultural values (such as kuleana and aloha).
<p>7. Interact professionally</p>	<ul style="list-style-type: none"> • Observation of student performance during conference/poster presentation Q&A • Supervisor/director evaluation of professional performance • Evaluation of students' cultural competence during professional interactions • Observation of students' sensitivity to cultural values (such as kuleana and aloha).

Undergraduate Degree ILOs

Approved by the Mānoa Faculty Senate May 2, 2012

1. Know - Breadth and Depth of Knowledge.
Students develop their understanding of the world with emphasis on Hawai'i, Asia, and the Pacific by integrating:
 - a. General education (Arts and humanities, biological sciences, languages, physical sciences, social sciences, technology)
 - b. Specialized study in an academic field
 - c. Understand Hawaiian culture and history

2. Do - Intellectual and Practical Skills
Students improve their abilities to:
 - a. Think critically and creatively
 - b. Conduct research
 - c. Communicate and report

3. Value - Personal and Social Responsibility
Students demonstrate excellence, integrity, and engagement through:
 - a. Continuous learning and personal growth
 - b. Respect for people and cultures, in particular Hawaiian culture
 - c. Stewardship of the natural environment
 - d. Civic participation in their communities

Table A2

Potential Indicators/Evidence for the Undergraduate Degree ILOs

Learning Outcome (abbr.)	Potential Indicator/Evidence (i.e., may be used in assessment and evaluation)
1a. General education	i.e., Foundations, diversification, focus, and Hawaiian/second language
1b. Specialized study	i.e., The major
1c. Understand Hawaiian culture/history	i.e., Course work and co-curricular experiences related to Hawaiian culture and history
2a. Critical Thinking	<ul style="list-style-type: none"> • Solving challenging and complex problems • Applying questioning and reasoning • Generating and exploring new questions • Being information literate—knowledge, procedures, processes, or products to discern bias and arrive at reasoned conclusions

	<ul style="list-style-type: none"> • Negotiating the terrain of the technological world • Reasoning with numbers and other mathematical concepts (numeracy) • Developing financial literacy
2b. Research	<ul style="list-style-type: none"> • Conceptualizing problems and asking research questions • Analyzing research data • Applying research designs • Engaging in self-directed inquiry • Using library and information systems
2c. Communication	<ul style="list-style-type: none"> • Written and oral communication • Working cooperatively and collaboratively • Technology/computer-based communication • Non-verbal communication • Listening
3a. Continuous Learning	<ul style="list-style-type: none"> • Life-long learning • Self-assessment/reflection/discipline • Ethical behaviors and judgments • Intellectual curiosity • Habits of scholarly inquiry • Personal health
3b. Respect	<ul style="list-style-type: none"> • Respect for differences in cultural and personal identity • Social justice • Cultural awareness • International engagement • Culture/language immersion
3c. Stewardship	<ul style="list-style-type: none"> • Respect for natural resources • Sustainability
3d. Civic Participation	<ul style="list-style-type: none"> • Campus organizations • Community service • Service learning • Civic engagement/citizenship

Appendix B. Methods for Determining PLO and ILO Learning Achievement Results

Table B1

Student Learning Assessment Results Reporting Issues

Issue	Example(s)	Number of Programs
PLO results are available but unspecific	<ul style="list-style-type: none"> • Program provided qualitative description of student learning experiences but no specific, usable assessment results • Program reported using rubrics/surveys to assess but rubric scores and/or student achievement rates not present • Program mean scores overall, not percentage of students achieving SLOs 	17
Assessment results alignment with PLOs is unclear	<ul style="list-style-type: none"> • Program reports number of students passing milestones (qualifying exam, dissertation defense, etc.) but unclear to which PLOs the results are aligned • Program reports the results of assessment activities, but unclear to which PLO the results are aligned 	12
PLO results available but standards unclear	<ul style="list-style-type: none"> • Rubric scores reported, but minimum acceptable score unclear¹ • Exam scores reported, but minimum acceptable score unclear¹ • Survey results reported, but minimum acceptable score unclear¹ <p>¹While some programs did not explicitly state the minimum acceptable score, the results were included if ACSC could reasonably infer the cutoffs</p>	5
PLO results available but only vaguely specified	<ul style="list-style-type: none"> • Results reported as “The majority of students” achieved the PLOs • Results reported as students “Are meeting PLOs” • Results reported students “Improved in” SLO achievement 	5
Incomplete data	<ul style="list-style-type: none"> • Combined programs (i.e., BA and BFA in the same field) only reported results for one of the programs • Total number of students assessed not reported, only number of students who achieved acceptable outcomes (not percentage achieved) • Reported only only some of the PLOs 	21

Method for Determining Student Learning Achievement Results if a PLO had Multiple Results or a Range of Results

We used the following checklist when judgment/inference was used in determining achievement results for this analysis:

- If programs provided both direct and indirect evidence of learning achievement for a given PLO, we use direct evidence to determine the results. Ex. Culminating project scores evaluated with a rubric (direct evidence) and self-reported survey evidence of achievement (indirect evidence) were both reported, we used only the direct evidence.
- If programs provided multiple types of direct evidence (or multiple types of indirect evidence if no direct was available) for a given PLO, we use the evidence from the most advanced coursework or culminating assignment available. Ex. Assessment was conducted for an undergraduate PLO in both a sophomore and senior level course, we used the results of the senior level course to represent learning achievement.
- If a program reported student PLOs over multiple cohorts/years, we evaluated the size of the cohort. If large enough ($n \geq 30$), we only use the most recent cohort results. If the cohort size was small, we used the results of the two most recent cohorts.
- If a program reported a range of achievement results (i.e., 70% - 80% achievement), we used the lowest reported number in the range for that particular outcome.