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Aligning Assessment Processes to Meet Regional and Specialized Accreditation Standards

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Abstract: Regional and specialized accrediting bodies set assessment guidelines for program learning outcomes (PLOs), frequency of data collection, and type of data (i.e., direct or indirect). While faculty members focus their work on specialized accreditation requirements that govern academic majors, universities must also be attentive to institutional (formerly regional) accreditation requirements. Difficulties arise when the accreditation requirements differ across accrediting agencies. This paper reviews methods to align the assessment requirements of different agencies while ensuring data is useful for faculty to make curricular improvements.

Keywords: *assessment, accreditation, program learning outcomes*

Introduction

The United States educational system is divided into three levels specified by the federal government: elementary school, also known as primary, grammar, or grade school (i.e., kindergarten through grade 8), secondary school, also known as high school (i.e., grades 9 through 12), and postsecondary education, also known as college (i.e., bachelor’s, master’s, and doctoral) (Office of Elementary and Secondary Education, Department of Education (Ed), 2025; Office of Postsecondary Education, Ed, 2025). Students generally begin kindergarten at age 5 and complete high school at age 18. According to the National Center for Education Statistics (NCES), while 77% of elementary and secondary schools are public (Table 1/Figure 1), only 44% of postsecondary institutions are public (Table 2/Figure 2).

Table 1

Distribution of elementary and secondary schools by school type (NCES, 2025a)

School type	Number		Percentage	
	2011-12	2021-22	2011-12	2021-22
Traditional Public Schools	92,600	91,400	72%	71%
Public Charter Schools	5,700	7,800	4%	6%
Total Public Schools	98,300	99,200	77%	77%
Total Private Schools	29,700 (Est.)	29,700	23%	23%
Total Public and Private	128,000	128,900	100%	100%

Figure 1
Number of elementary and secondary schools by school type

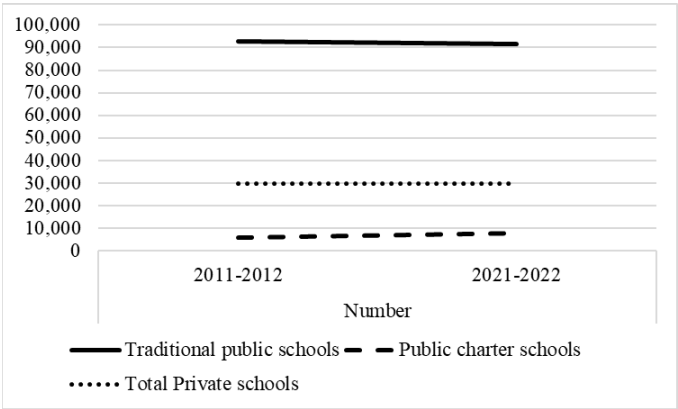
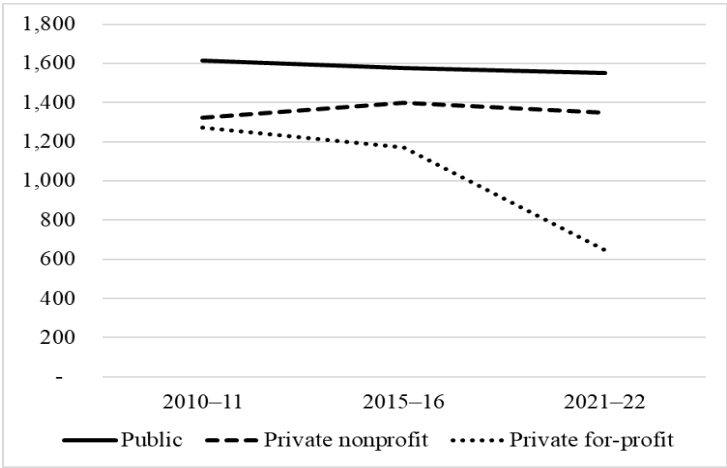


Table 2
Distribution of degree-granting postsecondary institutions by institutional level/control (NCES, 2025b)

	Academic Year					
	Number			Percentage		
	2010 – 11	2015 – 16	2021 – 22	2010 – 11	2015 – 16	2021 – 22
Public	1,614	1,578	1,550	38%	38%	44%
Private nonprofit	1,321	1,400	1,347	31%	34%	38%
Private for-profit	1,274	1,169	645	30%	28%	18%
Total	4,209	4,147	3,542	100%	100%	100%

Figure 2
Number of degree-granting postsecondary institutions by level and control of institution.



Educational institutions are required to obtain institution-wide accreditation to be eligible to access federal funding. At the elementary and secondary level, funding is provided to schools, school districts, or states, often based on enrollment. At the postsecondary level, funding is provided directly to students as grants and as subsidized student loans. Additional funding is provided occasionally to postsecondary institutions for special programs and projects. The federal government provides only a portion of funding for postsecondary institutions, but the institutions are usually unable to operate without this funding.

Besides institution-wide accrediting agencies, many agencies offer accreditation focused on specialized fields, such as engineering, business, education, or nursing. The specialized accreditations are not federally mandated, but they generally cover the same aspects of university operations that institution-wide accrediting agencies follow. However, each specialized accreditation has different requirements for the type, format, and frequency of data that universities must submit. These differences create difficulties for universities in determining how to align the requirements of the different accrediting agencies.

Accreditation Agencies

Federal Requirements

Title 34 of the United States federal law covers education (National Archives, 2025). Section 600.2 of the law indicates that postsecondary institutions must have accreditation if they intend to seek federal financial aid (i.e., loans and grants) for students (Ed, 2025a). The U.S. Federal Government does not provide accreditation to educational institutions, rather, Ed recognizes accrediting agencies which, in turn, provide accreditation (Ed, 2025b). These accrediting agencies must meet Ed guidelines. Many accrediting agencies choose to obtain recognition by a coordinating body, the Council for Higher Education Accreditation (CHEA), to demonstrate they meet federal guidelines (CHEA, 2025a). Ed has many resources available to guide institutions in meeting accreditation requirements. Some of these resources are shown in Table 3.

Table 3

Resources about federal accreditation requirements

Resource	URL
Accreditation in the U.S.	https://www2.ed.gov/admins/finaid/accred/accredus.html
Accreditation: Postsecondary Education Institutions	https://www.ed.gov/accreditation?src=rn
Accreditation and Quality Assurance	https://www2.ed.gov/about/offices/list/ous/international/usnei/us/edlite-accreditation.html
Part 602-Secretary's Recognition of Accrediting Agencies	https://www2.ed.gov/admins/finaid/accred/accreditation_pg5.html

Accreditor Federal Recognition Process	https://www2.ed.gov/admins/finaid/accred/accreditor-federal-recognition-process-steps.pdf
Overview of Accreditation in the United States	https://www2.ed.gov/admins/finaid/accred/accreditation.html

Institution-wide Accreditors

Institution-wide accreditors (formerly known as regional accreditors), provide accreditation at the institution level. Their accreditation standards adhere closely to the requirements in federal law (Ed, 2025b) so that the accredited institutions are eligible to seek financial aid (i.e., loans and grants) for students. The list of institution-wide accreditors is shown in Table 4.

Table 4

Institution-wide accreditors (formerly known as regional accreditors; CHEA, 2025b)

	Agency	URL
	Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges	https://accjc.org/
ACCJC		
HLC	Higher Learning Commission	https://www.hlcommission.org/
MSCHE	Middle States Commission on Higher Education	https://www.msche.org/
NECHE	New England Commission of Higher Education	https://www.neche.org/
NWCCU	Northwest Commission on Colleges and Universities	https://nwccu.org/
	Southern Association of Colleges and Schools	
SACSCOC	Commission on Colleges	https://www.sacscoc.org/
WSCUC	WASC Senior College and University Commission	https://www.wscuc.org/

Specialized Accreditors

Specialized accrediting agencies cover many professional fields such as nursing, education, business, and engineering. These agencies' standards generally cover the same topics that institution-wide accreditors cover, but they tend to focus on the standards related to faculty, students, and curriculum, and they sometimes omit standards that institution-wide accreditors monitor (e.g., finance). There are nearly 80 specialized accreditors in the United States (CHEA, 2025b). A list of several specialized accreditors is shown in Table 5.

Table 5

Sample of specialized accreditors (CHEA, 2025b).

	Agency	URL
ACBSP	Accreditation Council for Business Schools and Programs	https://acbsp.org/
ACPHA	Accreditation Commission for Programs in Hospitality Administration	https://www.acpha-cahm.org/
AVMA-COE	American Veterinary Medical Association, Council on Education	https://www.avma.org/

CCNE	Commission on Collegiate Nursing Education	https://www.aacnnursing.org/
CAEP	Council for the Accreditation of Educator Preparation	https://caepnet.org/
CAHME	Commission on Accreditation of Healthcare Management Education	https://cahme.org/
CIDA	Council for Interior Design Accreditation	https://cida.org/
CSWE-BoA	Council on Social Work Education, Board of Accreditation	https://www.cswe.org/
NASP	National Association of School Psychologists	https://www.nasponline.org/

Stevens Institute of Technology

Programs and Enrollment

Stevens Institute of Technology was founded in 1870 with programs in mechanical engineering. Today, the university has nearly 150 bachelor’s, master’s, and doctoral programs in engineering, business, and the humanities, arts, and social sciences (Table 6).

Table 6

Stevens’ programs and enrollment by school

School	Number of Programs	Percent of Students
Schaefer School of Engineering and Science	> 100	72
School of Business	> 30	26
School of Humanities, Arts and Social Sciences	< 10	2

Student Outcomes

Stevens has been quite successful in growing enrollment, retaining students, and maintaining a high graduation rate (Table 7). These positive student outcomes are due in part to Stevens’ focus on excellence, guided by accreditation standards.

Table 7

Stevens’ enrollment, retention, graduation

Datum	Year	Value
Undergraduate Headcount	Fall 2024	4,236
Graduate Headcount	Fall 2024	4,233
First-Year Student Retention Rate	Fall 2023 entering cohort	94%
Six-Year Graduation Rate	Fall 2018 entering cohort	87%

Accreditors

Stevens holds accreditation from the MSCHE and accreditation or recognition from five specialized accreditors, as shown in Table 8. The large number of agencies increases the difficulty of designing a campus-wide assessment strategy.

Table 8

Stevens' accrediting agencies

	Accrediting Agency	URL
MSCHE	Middle States Commission on Higher Education	https://www.msche.org/
ABET	N/A	https://www.abet.org/
AACSB	Association to Advance Collegiate Schools of Business	https://www.aacsb.edu/
ACS	American Chemical Society	https://www.acs.org/
NCAE-C	National Centers of Academic Excellence in Cybersecurity	https://www.nsa.gov/Academics/Centers-of-Academic-Excellence/
PMI	Project Management Institute	https://www.pmi.org/

Assessment Requirements of Accrediting Agencies

Each accreditor has different requirements for frequency of data collection, type of data, and program learning outcomes. The frequency metrics are frequency of reaffirmation and frequency of collecting assessment data. For reaffirmation (i.e., reaccreditation), each agency requires Stevens to complete a self-study every 5, 6, or 8 years, with the specialized accreditors requiring more frequent self-studies (Table 9). Therefore, the due dates of the self-studies do not coincide with each other, but the data from the specialized self-studies can be used for the institution-wide (i.e., regional) self-study (Table 9). Each agency requires a different number of data points (i.e., number of semesters or number of years) and requires a different cadence of data collection (i.e., annual, biannual, or triannual). Institution-wide accreditors generally require more data than specialized accreditors require.

Program Learning Outcomes (PLOs)

PLOs are the broad topics students learn in an academic program (i.e., major). At Stevens, each program has 3 to 12 PLOs, and undergraduate programs usually have more PLOs than graduate programs have.

PLO Specificity. Each accreditor has different specificity requirements for PLOs. Institution-wide accreditors generally limit PLO requirements to General Education programs. Specialized accreditors sometimes specify the PLOs and sometimes provide only broad guidelines for topics of PLOs.

PLO Mapping. Each accreditor generally specifies the type of PLO mapping that it requires. PLO mapping can be between PLOs and courses, between PLOs and Course Learning Outcomes (CLOs), or between PLOs and General Education PLOs. CLOs are the unique, very specific topics (e.g., wave dispersion) students learn in a course, as distinct from PLOs, which tend to be broad (e.g., critical thinking).

Institution-wide accreditors sometimes require a university to demonstrate that PLOs for academic majors (e.g., civil engineering) map to the General Education PLOs, as evidence that the academic majors support the university's mission.

Types of Data

Direct or Indirect Data. Types of data are direct and indirect. Direct data are gathered by measuring the amount of knowledge gained and measuring directly from students, such as with a test or term paper. Indirect data are gathered by measuring the outcomes achieved due to students learning the material, such as with student course evaluations, graduation rates, or employment outcomes.

Within the training and development literature, types of data can include reaction, learning, behavior, and results (Kirkpatrick, 1998). Reaction (indirect data) is how students feel about the course or how much knowledge students believe they learned. Learning (direct data) is the direct measurement of how much knowledge students learned. Behavior (indirect or direct data) is whether students attempted to use the knowledge in a different environment (e.g., using introductory material in an advanced-level course). Results (indirect data) are the long-term outcomes of students using the material (e.g., graduation rates). Of the four levels of data, learning is a direct measure, while reaction, behavior, and results are indirect measures.

Institution-wide accreditors generally require direct and indirect data. Some specialized accreditors require both direct and indirect data, while some specialized accreditors require only direct data.

Internal, External, Formative, and Summative Data. Internal data is gathered with instruments developed within a university and is usually not directly comparable to data gathered at other universities. External data is gathered with instruments developed by outside organizations (e.g., Capsim, NSSE) and allows a university to benchmark its results against other universities (Capsim Management Simulations, Inc., 2025; Indiana University School of Education, 2025).

Formative data is gathered either at the beginning or middle of a program of study and allows a university to see students' progress over time. Summative data is gathered at the end of a program of study and allows a university to see students' level of knowledge just before graduation.

While accreditors sometimes specify whether data should be internal, external, formative, or summative, these metrics are not addressed in this paper.

Aligning Assessment Requirements

Each accrediting agency has different requirements for the type, format, and frequency of data that universities must submit. Usually, the data gathered for specialized accreditation can be used to meet institution-wide accreditation requirements, but it may be necessary to adjust the type and frequency of data collected to avoid duplication of effort. Universities are advised to consult with their accreditors to determine whether data collected for one accreditation is sufficient to meet the requirements of other accreditors. Table 9 contains Stevens' comparison of the assessment requirements of institution-wide and specialized accreditations. Please see Appendix A for sources.

Table 9

Assessment requirements of accreditors (see Appendix A for accreditors' requirements)

Accreditation		Assessment Data			PLOs	
Agency	Freq. (Yrs.)	# of data points/PLO	Minimum Frequency	Direct or Indirect	Specified	Mapping
MSCHE	8	4 years of data	Annual	Both	No • Programs Partial • Gen. Ed.	Gen. Ed. PLOs University mission CLO*
ABET	6	3	Biannual or Triannual	Both	Yes	CLOs*
AACSB	6	2 or 3	Annual, Bi- or tri-annual	Both	Partial	CLOs**
ACS	6	1	Annual or Biannual	Direct	Yes	CLOs*
PMI	5	2	Annual or Biannual	Both	Yes	CLOs*
NCAE-C	5	1	Annual or Biannual	Direct	Yes	CLOs*

Note. "*" = Topics students learn, "**" = tasks students perform.

Program Learning Outcomes

When designing assessment processes, universities should begin by specifying PLOs. The university should determine how the PLOs for specialized accreditors align with the PLOs for its institution-wide accreditor. The alignment will indicate the extent to which programs support the university's mission. A sample alignment is shown in Table 10. This alignment was developed by the author to demonstrate consistency in PLO requirements across accreditors. Institutions may wish to have teams of faculty and staff create alignments of the PLOs of their accreditors as a tool to increase campus-wide support for assessment.

Table 10*Comparison of PLOs across accreditors*

MSCHE (Required for Gen Ed)	ABET (Required for Bach. Programs)	AACSB (Suggested, not required)	ACS (Required)	PMI (Required)
1. Scientific and quantitative reasoning	1. Solve Using STEM	1. Specialized knowledge of major	1. Computational Skills	1. Technical Expertise: Management of projects to meet needs within constraints, with reference to professional standards and frameworks
2. Critical analysis and reasoning	2. Produce Solutions	2. Business core competencies	2. Connect Experiment to Theory	2. Strategic Awareness: Contextual awareness and knowledge of strategic, societal, and operational drivers required to inform decisions and deliver sustained competitive advantage
3. Oral and written communication	3. Communication	3. N/A	3. Construct Scientific Explanations & Arguments	3. Analytical, communicative, creative, and technical skills
4. Values, ethics, and diverse perspectives	4. Ethics and Professionalism	4. Ethics	4. N/A	4. Professional Behavior: Ethical and culturally aware stakeholder engagement, communication, leadership, and teamwork
5. N/A	5. Teams & Leadership	5. Leadership	5. N/A	5. N/A
6. Technological competency	6. Experiment	6. Current and emerging technology	6. Data & Analysis Skills	6. N/A
7. Information literacy	7. Apply Knowledge	7. Cultural norms across various regions	7. Experimental Design; Representation and Visualization of Data	7. Autonomy, accountability, adaptability, and judgment

Frequency

After determining the PLOs, a university should create its data collection schedules. Given that each accreditor requires a different cadence, specific schedules should be created to avoid duplication of work. Sample schedules are shown in Table 11. The schedules in Table 11 represent the minimum frequency of data collection that the accreditors require as interpreted in Table 10, see Appendix A for accreditor requirements.

Table 11

Sample schedule for frequency of data collection (data collected in “X” year/PLO)

Sample schedule for frequency of data collection (data collected in Year 1-20)								
MSCHE								
PLO	Year 1	Year 2	Year 3	Year 4				
1. Scientific and quantitative reasoning	X	X	X	X				
2. Critical analysis and reasoning	X	X	X	X				
3. Oral and written communication	X	X	X	X				
4. Values, ethics, and diverse perspectives	X	X	X	X				
6. Technological competency	X	X	X	X				
7. Information literacy	X	X	X	X				
ABET								
PLO	Year 1	Year 2	Year 3	Year 4				
1. Solve Using STEM	X		X					
2. Produce Solutions		X		X				
3. Communication	X		X					
4. Ethics and Professionalism		X		X				
5. Teams & Leadership	X		X					
6. Experiment		X		X				
7. Apply Knowledge	X		X					
AACSB								
PLO	Fall	Spr.	Fall	Spr.	Fall	Spr.	Fall	Spr.
1. Specialized knowledge of major	X				X			
2. Business core competencies	X				X			
4. Ethics		X				X		
5. Leadership		X				X		
6. Current and emerging technology			X				X	
7. Cultural norms across various regions			X				X	

Mapping

Universities should prepare curriculum maps of courses to PLOs to determine which courses to include in the assessment process. Ideally, each required course should map to at least one PLO and each PLO should map to at least one required course. A sample curriculum map is shown in Table 12. This map format is used by Stevens for MSCHE, ABET, ACS, and AACSB.

Table 12*Curriculum map of courses to PLOs*

Course		PLOs						
		PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
ABC 101	Introduction to Alphabets		X	X	X			
ABC 202	Comparative Global Alphabets	X						
ABC 401	Seminar on Alphabet Creation	X		X		X	X	X
ABC 304	Calligraphy		X					X
ABC 305	Old German Alphabets	X	X	X	X			
ABC 306	Simplified Chinese Alphabet					X		

Ideally, universities should also produce maps of CLOs to PLOs. These detailed maps guide faculty members in deciding what data to collect each semester. A sample CLO to PLO map is shown in Table 13. This map format is used by Stevens for MSCHE, ABET, ACS, and AACSB.

Table 13*Map of CLOs to PLOs for BIO 484 Molecular Genetics*

	Scientific Foundations	Basic Science	Experiment	Produce Solutions	Solve using STEM
I know the components of the eukaryotic DNA replication apparatus.					x
I can describe common genetic motifs that control development.	x				
I can analyze group data and determine allele and genotype frequencies.			x		
I can perform a Chi-squared data analysis.		x			
I can describe the advantages of using <i>S. cerevisiae</i> as model system in genetics.					x

Sample Data

After a university gathers direct data from professors of student performance on the CLOs, the scores can be averaged by course and by PLOs. This data can be submitted to institutional and specialized accreditors.

Stevens also gathers indirect CLO data from students by including questions on the student course evaluations. The direct and indirect scores are shared with departments via tables and figures, which enable professors to determine whether curriculum changes are warranted. Sample data is shown in Table 14, Figure 3, and Figure 4.

Table 14

Sample scores by courses and PLOs (scale of 0 to 5)

Courses	Semester	Score Type	PLOs				
			Solve Using STEM	Produce Solutions	Communication	Ethics	Teamwork, Leadership
ABC 101 Introduction to Alphabets	F23	Direct	5.00	5.00		5.00	
		Indirect	4.80	4.90		4.60	
	S24	Direct	5.00	5.00		3.00	
		Indirect	4.54	4.62		4.31	
ABC 202 Comparative Global Alphabets	F23	Direct	4.00	4.13		4.45	4.30
		Indirect	4.64	4.63		4.45	4.58
ABC 401 Seminar in Alphabet Creation	S24	Direct	3.88		4.43		4.24
		Indirect	4.51		4.65		4.58

Figure 3

Sample data of PLO scores by course

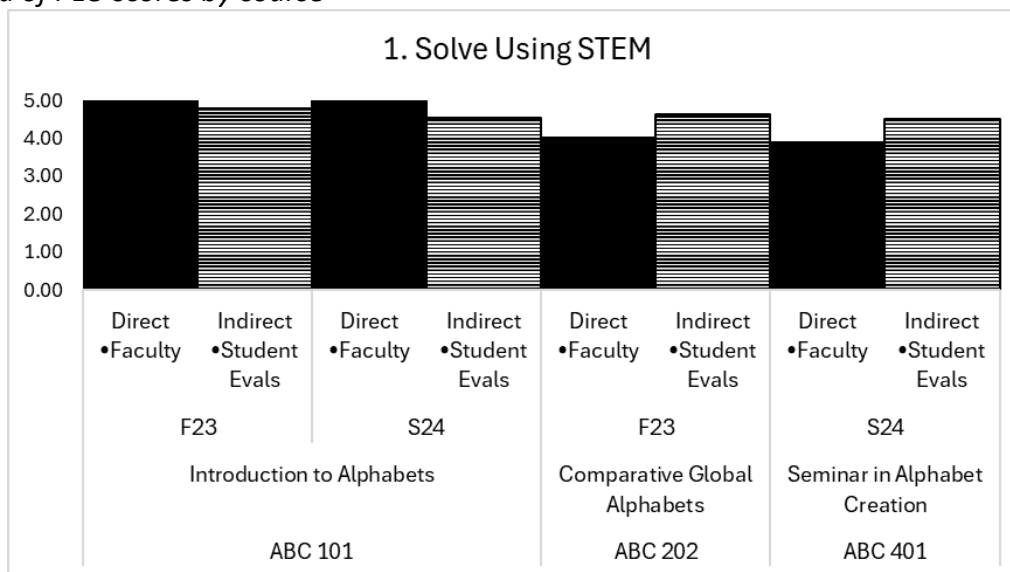
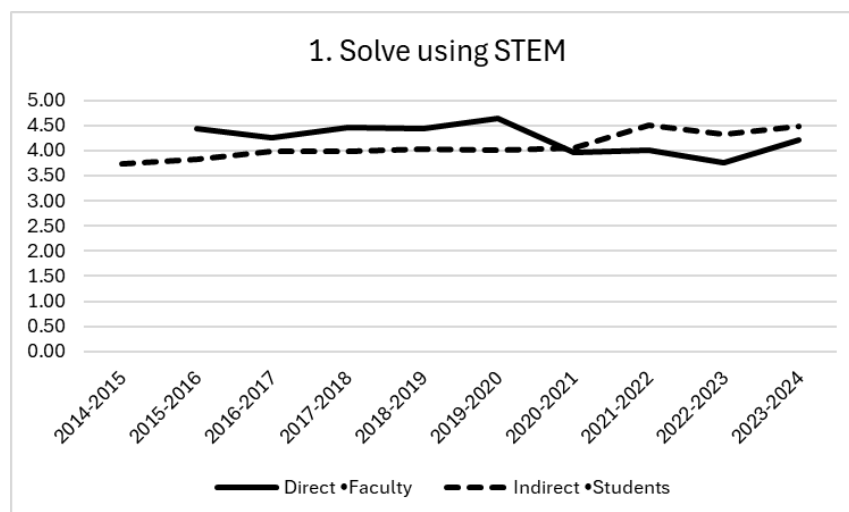


Figure 4*Sample longitudinal PLO scores by data type*

Conclusion

While assessment is often viewed as being conducted strictly for compliance, and accreditation is often viewed as being the concern of the administration and not the faculty, it is possible to use accreditation standards as guidelines to develop assessment processes that minimize duplication of effort and provide useful information for faculty members to revise curriculum. Many institution-wide and specialized accreditors require similar information, and taking the time to align these requirements can demystify the accreditation and assessment processes for faculty and staff alike.

Reflections

At the 2025 AALHE conference, there was significant interest in accreditor assessment requirements. Nineteen members from twelve institutions that are accredited by four regional accredited organizations pre-registered for the session, and approximately two dozen members attended the session.

Attendees particularly appreciated seeing the alignment of requirements across agencies, as shown in Table 9. There seemed to be a sense of relief that assessment requirements of programmatic and institutional accreditation agencies are highly compatible with each other. Attendees were pleased to know that it is often possible to create one assessment process that can be used to meet the requirements of multiple accrediting agencies, and that would be useful for professors to propose curriculum changes.

The session also presented sample data. Participants appreciated seeing how data that is used for compliance can be formatted in tables and charts in a manner that facilitates faculty member analysis and curriculum improvement.

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Appendix A

The appendix contains excerpts of details of accreditation requirements for the agencies included in Table 9.

MSCHE

MSCHE provides extensive guidance for assessment in two documents (MSCHE, 2023a; MSCHE, 2023b). The guidance includes criteria and evidence expectations for PLOs, curriculum maps, types of data, and frequency of assessment.

General Education PLOs

- 5 at institutions that offer undergraduate education, a general education program, free standing or integrated into academic disciplines, that:
 - a. offers a sufficient scope to draw students into new areas of intellectual experience, expanding their cultural and global awareness and cultural sensitivity, and preparing them to make well-reasoned judgments outside as well as within their academic field
 - b. offers a curriculum designed so that students acquire and demonstrate essential skills including at least oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competency, and information literacy.
- Consistent with mission, the general education program also includes the study of values, ethics, and diverse perspectives; (MSCHE 2023a, pages 9-10).
- Student learning outcomes both institution-wide (e.g., general education) and for individual programs and matrix showing their relationship to each other (MSCHE 2023b, page 21).

Programmatic PLO and Mapping

- A candidate or accredited institution possesses and demonstrates the following attributes or activities:
 - 1 clearly stated student learning outcomes at the institution and degree/program levels, which are interrelated with one another, with relevant educational experiences, and with the institution's mission; (MSCHE 2023a, page 12).
- Documentation of curriculum maps by degree/program levels (MSCHE 2023b, page 21).

Frequency of Data Collection and Type of Data

- Analysis of four years of student achievement data, disaggregated by relevant populations, to help interpret educational effectiveness assessment results/summaries (MSCHE 2023b, page 21).
- Where applicable, post-completion job placement rates, disaggregated by program (MSCHE 2023b, page 21).

ABET

ABET provides extensive guidance for assessment (ABET, 2025a). The guidance includes criteria and evidence expectations for PLO, curriculum maps, types of data, and frequency of assessment.

PLO Requirements

- The program must have documented student outcomes that support the program educational objectives. Attainment of these outcomes prepares graduates to enter the professional practice of engineering. Student outcomes are outcomes (1) through (7), plus any additional outcomes that may be articulated by the program.
 1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
 2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
 3. an ability to communicate effectively with a range of audiences.
 4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
 5. an ability to function effectively on a team whose members together provide leadership, create a collaborative environment, establish goals, plan tasks, and meet objectives.
 6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
 7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies. (ABET, 2025a, pages 6-7).
- Each field has additional topics that should be covered in the curriculum. For example, the curriculum for Bioengineering and Biomedical and Similarly Named Engineering Programs should include the following topics:
 - a. Applying principles of engineering, biology, human physiology, chemistry, calculus-based physics, mathematics (through differential equations) and statistics;
 - b. Solving bio/biomedical engineering problems, including those associated with the interaction between living and non-living systems;
 - c. Analyzing, modeling, designing, and realizing bio/biomedical engineering devices, systems, components, or processes; and
 - d. Making measurements on and interpreting data from living systems.
 (ABET, 2025a, page 19).

Mapping

- Desired performance is mapped to curricular practices and/or strategies (e.g., courses/teaching methodology) (ABET, 2025b, page 1).

Type of Data

- Effective assessment uses relevant direct, indirect, quantitative and qualitative measures as appropriate to the outcome being measured. (ABET, 2025a, page 4).

Frequency of Data Collection

ABET provides guidance on the program outcomes improvement assessment process including sample tables of how the process can be planned and data collected, with examples of data collected bi- and tri-annually for each outcome.

- In program assessment planning, processes should be established that
 - a) capitalize on what is already being done and
 - b) complement the work of the faculty.
- Decisions will need to be made; just as faculty cannot teach the universe of all concepts and skills related to a single course, programs cannot assess everything that they believe students should know or be able to do by the time of graduation. As decisions are made and as assessment and evaluation processes are developed, planning should support the continuous improvement process (ABET 2025c, page 1)

ACS

ACS provides extensive guidance for assessment (ACS 2023a). The guidance includes criteria and evidence expectations for PLO, curriculum maps, types of data, and frequency of assessment.

PLO Requirements

- Effective departments train students to communicate effectively, including using relevant technology and information management, work collaboratively, and engage in the ethical conduct of science ... Furthermore, students must know that science is a collaborative endeavor and requires the collective, equitable, and fair participation of everyone in the scientific community. (ACS, 2023b).

Type of Data

- Data are collected in a way that allows for a continuous process of evaluation, analysis, and improvement.
- Thoughtful and thorough self-evaluation has led to improved or modernized course content or pedagogy identification of areas in which the curriculum may be strengthened, and student outcomes improved.
- Program evaluation provided a strong infrastructure to support the educational and scientific missions of the program (ACS, 2023c)

AACSB

AACSB provides extensive guidance for assessment (AACSB, 2022, 2025). The guidance includes criteria and evidence expectations for PLO, curriculum maps, types of data, and frequency of assessment.

PLO Requirements

- There are definitive core competencies that a business school graduate with either a generalized or specialized degree should be expected to have. (AACSB, 2022, page 27)
- All business degree programs include an understanding of, and appreciation for, cultural norms across various regions and countries and how such differences impact managerial decision-making.
- Curriculum should reflect current and innovative business theories and practices.
- Normally, business degree programs at the bachelor's level include learning experiences that address core competencies characteristic of a successful business graduate of an AACSB-accredited school, as well as content from business disciplines, such as accounting, economics, finance, management, management information systems, marketing, and quantitative methods. (AACSB, 2025, page 41)
- General business master's degrees ordinarily include preparation for leading an organization, managing in a global context, thinking creatively, making sound decisions and exercising good judgment under uncertainty, and integrating knowledge across fields. (AACSB, 2025, page 42.)

Types of Data

- The school identifies learning competencies for each business degree program as well as appropriate direct and indirect measures that are systematically assessed to demonstrate that learning competencies are achieved across degree programs. (AACSB, 2025, page 45).

Frequency of Data Collection

AACSB indicates data to be “typically” collected either biannually or tri-annually, and provides a series of tables demonstrating how assessment can be scheduled:

- One observation with respect to AoL is that schools sometimes gather data on every course, every semester, and on every learner. This practice is not the intent of AoL and is not appropriate. Sampling is entirely appropriate, keeping in mind the principles of sampling related to gathering a representative sample across the sample frame. (AACSB, 2022, page 32)
- Either way, in a system of direct assessment, competency goals are typically measured twice in a five-year cycle with improvements launched between the two measurement cycles in order to facilitate the curriculum improvement. (AACSB, 2022, page 32).
- AACSB does not “Prescribe how many times a competency goal must be assessed in order to constitute “regular” assessment.” (AACSB, 2022, page 32)

NCAE-C

NCAE-C provides extensive guidance for assessment (NCAE, 2023, 2024), including sample tables of curriculum maps. The guidance includes criteria and evidence expectations for PLO, curriculum maps, types of data, and frequency of assessment.

PLO Requirements

- Foundational:
 - IT Systems Components (ISC)
 - Cybersecurity Foundations (CSF)
 - Cybersecurity Principles (CSP)
- Technical core:
 - Basic Scripting and Programming (BSP)
 - Basic Networking (BNW)
 - Network Defense (NDF)
 - Basic Cryptography (BCY)
 - Operating Systems Concepts (OSC) programmatic mapping
- Non-technical core:
 - Cyber Threats (CTH)
 - Policy, Legal, Ethics and Compliance (PLE)
 - Security Program Management (SPM)
 - Security Risk Analysis (SRA)
 - Cybersecurity Planning and Management (CPM) (NCAE, 2024 page 28)

Mapping

- Provide evidence for the Program-Level Learning Outcomes Curriculum Map and Plan that identified the PoS courses where the outcomes are assessed (NCAE, 2024, page 8).
- For each Program-Level Learning Outcome indicated in the Curriculum Map and Plan, a defined set of student work elements will be identified, associated rubrics developed to score them defined, and a desired standard of student achievement defined (NCAE, 2024, page 26).

Type of Data

- For each Program-Level Learning Outcome, “Assessment of Indicators” documentation provided should include:
 - (a) The stated Program-Level Learning Outcome;
 - (b) Course used for the assessment;
 - (c) Program outcome assessment indicator(s) used to assess the Program-Level Learning Outcome (assessment metric(s));
 - (d) Performance expectations;
 - (e) Average assessment score for the assessed students;
 - (f) overall performance rating of assessed students (NCAE, 2024, page 8).

Frequency of Data Collection

NCAE-C requires data to be collected tri-annually.

- A minimum of one, preferably two assessment items (i.e. the Program-Level Learning Outcome assessment indicator(s)) shall be chosen to measure each Program-Level Learning Outcome. These assessment indicator(s) will be graded at least once every three years (NCAE, 2024, page 26).

PMI

PMI provides extensive guidance for assessment (PMI, 2023, 2024), including sample tables of curriculum maps. The guidance includes criteria and evidence expectations for PLO, curriculum maps, types of data, and frequency of assessment.

PLO Requirements

- D.2.1: Description of the academic degree or award including:
D.2.2: List the program learning outcomes reflecting the academic degree or award level and the knowledge, skills, and/or competencies acquired throughout the program (PMI, 2025, page 27).

For all the following areas of focus, programs are required to demonstrate student achievement of learning outcomes for each academic degree or award that reflect appropriate levels of academic achievement in higher education.

Area of Focus 1: Technical Expertise

Management of projects* to meet needs within constraints, with reference to professional standards and frameworks

Area of Focus 2: Professional Behavior

Ethical and culturally aware stakeholder engagement, communication, leadership, and teamwork

Area of Focus 3: Strategic Awareness

Contextual awareness and knowledge of strategic, societal, and operational drivers required to inform decisions and deliver sustained competitive advantage (PMI, 2025, pages 26- 27).

Mapping

- D.2.3: A chart for each degree or award that cross-references the program learning outcome with the GAC core areas of focus
- D.2.4: A chart for each degree or award that cross-references each course or subject with the program learning outcomes (PMI, 2025, page 27).

Types of Data

- D.2.11: Description and evidence provided in a chart of how the achievement of program learning outcomes are assessed for each academic degree or award using direct and indirect measures of assessment (PMI, 2025, page 27).