ASSURANCE OF LEARNING:

CONTINUOUS QUALITY IMPROVEMENT IN HIGHER EDUCATION

A Comprehensive Workbook for Impacting and Demonstrating Learning Outcomes through Assessment, Analysis, and Improvement Strategies

20 YEARS PEREGRINE GLOBAL SERVICES

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PO Box 741

Gillette, WY 82717

(307) 685-1555

www.PeregrineGlobal.com

Info@PeregrineGlobal.com

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Applications

Assurance of Learning (AoL) is a systematic and ongoing process that assesses and evaluates student learning outcomes to guarantee educational excellence. This workbook comprehensively covers each aspect of the AoL process, offering valuable insights into best practices, reflection questions, independent exercises, and group activities.

Although every higher education institution (HEI) is unique, the basic principles and processes related to Assurance of Learning are universal. Officials from HEI should be able to apply the content of this workbook by customizing the processes and assessment-related services to their academic institution.

Within this workbook, we have included reflection questions, group activities, independent exercises, and helpful hints to create a well-rounded learning experience. Please review the purpose and application of each component below.

Reflection Questions: Reflection questions are prompts that encourage learners to think critically and introspectively about the content they have studied or engaged with. These questions are designed to promote deeper understanding, self-awareness, and the application of knowledge.

Group Activities: Group activities are collaborative tasks or exercises that require you to work in teams or small groups. These activities promote communication, teamwork, and the exchange of ideas. These are meant to give you ideas of how you can involve your teams in creating a culture of quality.

Independent Exercises: Independent exercises allow learners to apply their knowledge independently, test their understanding of the material, and develop their skills through practice.

Helpful Hints: Helpful hints are additional tips, suggestions, or guidance provided to support learners as they work through the workbook. These hints are meant to provide extra assistance or clarification on challenging concepts, processes, or instructions.

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Our Founder

Olin O. Oedekoven, Ph.D.

1958 - 2022

In 2024, as Peregrine marks its 20th anniversary, we seize this opportunity to honor the visionary behind it all, Olin O. Oedekoven, our late CEO and founder.

Dr. Oedekoven's original concept and authorship of the Assurance of Learning (AoL) Workbook laid the foundation for this resource and represents his dedication to providing value and helping higher education institutions impact quality.

Dr. Oedekoven left behind a vision of making a difference in the world. He took the company from a leadership seminar in a living room in 2003 to a globally recognized corporation serving more than 150 business and industry partners and over 500 higher education institutions.

As a retired Brigadier General, Dr. Oedekoven learned and practiced leadership over a 33-year military career with the U.S. Army, the Army Reserves, and the Wyoming National Guard. During that span, he completed several advanced programs on leadership, human resource management, international affairs, conflict management, and diplomacy, which helped forge his leadership path. He then translated his military leadership acumen into actionable insights for business professionals. He formed the Peregrine Leadership Institute, through which he delivered impactful workshops and seminars on a global scale, focusing on organizational and strategic leadership, among other areas.

His unwavering belief in the power of education drove him to address inefficiencies in accreditation processes while working as an adjunct professor in 2009. Identifying a need for more effective tools and processes, Dr. Oedekoven founded Peregrine Academic Services. Peregrine emerged as a global leader and thought-partner in higher education services, providing online assessment and instructional solutions to more than 500 higher education institutions worldwide.

At the heart of Peregrine Global Services, Dr. Oedekoven's leadership was characterized by his entrepreneurial spirit and deep-seated commitment to making a meaningful difference. His impact on higher education and countless leaders was profound.

Chapter 1: Understanding Assurance of Learning

What is Assurance of Learning or AoL?

Assurance of Learning (AoL) is a comprehensive approach that enables educational institutions to measure and demonstrate the effectiveness of their academic programs. It ensures that the assessment process is linked to the mission of the institution, supports strategy, assesses knowledge and improves student learning outcomes, results, program and/or course curricula, and teaching methodologies.

The many versions of AoL emphasize the same thing: provide evidence that your institution is doing what you say you are doing with respect to your mission, goals, objectives, and outcomes.

Although AoL is often dictated by national/international/specialized accreditors, the goal is for students to receive a high-quality education. Additionally, AoL helps educational institutions maintain competitiveness by showcasing knowledge, skills, and competencies achieved. By prioritizing AoL, institutions can ensure that students acquire the necessary skills and knowledge while continuously improving their programs and courses to meet market demands.

As seen in Figure 1, the AoL process involves several key components. First, establish clear and measurable learning objectives or outcomes derived from the institution's mission, for each academic program or course.

These outcomes reflect the knowledge, core competencies, and skills students should gain and develop during their studies.

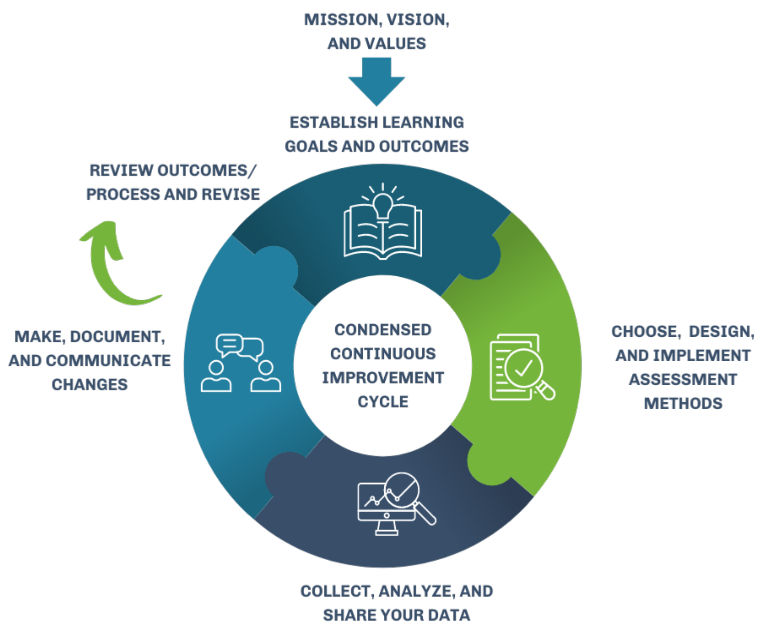


Figure 1: Simplified Assurance of Learning graphic.

Next, design assessment tools and methods to measure students' achievement of these outcomes and set targets. These tools may include exams, projects, presentations, portfolios, and surveys.

Once assessments are conducted and the data is collected, it must be analyzed and interpreted. This analysis provides valuable insights into the strengths and weaknesses of the curriculum and teaching methods. Based on these findings, if significant, institutions can implement necessary changes to improve teaching and learning. We will go through each part of AoL throughout this workbook.

Reflection Question

In what ways does the implementation of Assurance of Learning (AoL) programs enhance the educational experience and ensure that students are well-prepared for their future careers?

Why is Assurance of Learning Important?

Assurance of Learning is a powerful tool. By focusing on learning outcomes, assessing student achievement, and implementing improvements, institutions can continuously improve teaching and learning. Below is a breakdown of why AoL is important:

Enhancing Educational Quality

AoL plays a vital role in maintaining and enhancing educational quality. By regularly evaluating learning outcomes, institutions can identify areas that need improvement and make necessary adjustments to their programs. This leads to more effective teaching methods, updated curricula, and a better alignment with industry standards, ensuring students receive a high-quality education.

Meeting Accreditation Standards

Many higher education institutions undergo rigorous accreditation processes to meet standards. AoL helps schools satisfy accreditation requirements by providing evidence of program and institutional effectiveness and continuous improvement. As a result, accreditation agencies view AoL as an important contributor to the quality and relevance of educational programs.

Responding to Stakeholder Expectations

Colleges and universities are responsible for meeting the expectations of various stakeholders, including students, parents, alumni, employers, and the broader community. AoL helps institutions understand and address these expectations by focusing on developing relevant knowledge and skills. In addition, by aligning the curriculum with industry needs and societal demands, institutions can prepare graduates to positively impact their chosen fields.

Supporting Student Success

AoL is ultimately about ensuring learner success. By assessing learning outcomes, institutions can identify students who may be struggling and provide them with the necessary support and resources. It also allows for early intervention and personalized learning experiences.

Continuous Improvement

Assurance of Learning places significant emphasis on continuous improvement. Through regular assessment and analysis, institutions can identify trends, measure progress, and make informed decisions to enhance the learning environment. In addition, AoL encourages a culture of quality, reflection, innovation, and adaptability, fostering a dynamic educational experience.

The Assurance of Learning Process

These are the major steps involved in the Assurance of Learning (AoL) process.

1. **Establishing Learning Goals and Outcomes:** Clearly define learning goals and outcomes. These should be aligned with the institution's mission.
2. **Choosing and Designing Assessments:** Develop assessment methods and tools aligning with the learning outcomes. These assessment tools should effectively measure student performance and demonstrate achievement of the desired outcomes using a variety of methods.
3. **Collecting Data:** Implement the assessments and collect relevant data on student performance. This data can be exam scores, portfolios, surveys, or other measures.
4. **Analyzing and Interpreting Data:** Analyze the collected data to identify patterns, trends, and areas of strength or weakness (improvement points) in student learning. Interpret the data to draw meaningful conclusions about the program's effectiveness.
5. **Using Results for Improvement:** Use the data and analysis to inform decision-making and drive improvements in curriculum, teaching methods, resources, or other areas. Implement changes and interventions based on the identified needs.
6. **Documenting and Communicating the AoL Process:** Document the AoL process, including learning goals and objectives, assessments, data collected, analysis, actions taken, and results. Communicate the process and results to stakeholders, such as faculty, administrators, students, and accrediting bodies.
7. **Review and Revision:** Regularly review the AoL process and results, seeking opportunities for improvement of these processes. Implement new tools, revise learning outcomes, assessments, or the AoL process to ensure continuous improvement.

Helpful Note

The AoL process is cyclical and iterative, with each cycle building upon the previous one. Revisit the steps periodically to ensure ongoing quality assessment and improvement in student learning outcomes.

Reflection Question

Reflecting on your knowledge and understanding of Assurance of Learning (AoL) at your institution, what areas do you feel confident in, and in what areas do you believe you could benefit from further support or clarification?

Service Spotlight:

Peregrine's Knowledge-Based Assessments

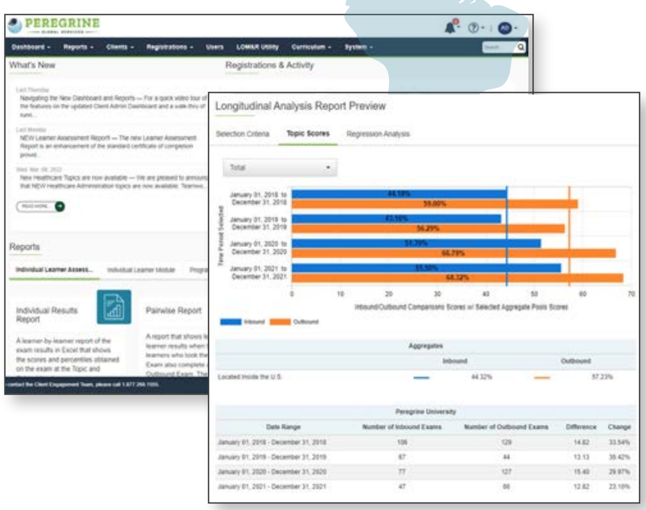
Peregrine's knowledge-based assessments provide you with customizable and efficient direct and indirect measures of student learning. The solution includes comprehensive reporting and an easy-to-use interface for managing your learners, reports, and data. Knowledge-based assessments are available for the following disciplines and programs:

- **Accounting and Finance**
- **Business Administration**
- **Criminal Justice**
- **Early Childhood Education**
- **General Education**
- **Healthcare Administration**
- **Public Administration**

Easy to Customize and Integrate

With a large selection of topics, you can build an assessment mapped to your learning outcomes. Peregrine also offers advanced and supplemental topics such as Accounting, Sport Management, Marketing, Homeland Security, Real Estate, and Human Resource Management to support programs with specialties and concentrations. We allow you the flexibility to combine topics from multiple assessments or create custom topics.

Integrating into your school's LMS is simple, secure, and provides learners with a seamless delivery. If integrating with your LMS is not a good option, we can also build a school-branded microsite to host your exam.



Reports and Data

We believe your data belong to you. Therefore, you have unlimited access to all data and reports through our easy-to-navigate Client Admin Site. Our team will provide you with training and guidance on running reports, managing student registrations, and using your data to impact quality in education.

Also, the Client Admin Dashboard allows you to preview your report, giving you a quick and easy way to view, analyze, and copy and paste your graphs and tables.

Scan the QR code to learn more about our knowledge-based assessment solutions on our website.

Chapter 2: The Assessment Plan

Assessment is the process of gathering and interpreting evidence to evaluate students' learning, skills, and knowledge, guiding instructional decisions and monitoring progress. It involves using various methods, tools, and strategies to measure and document the extent to which desired learning outcomes or objectives have been achieved. It plays a crucial role in evaluating and ensuring the effectiveness and quality of education and is essential to Assurance of Learning (AoL).

It's important to view assessment beyond a single exam and consider it as part of a larger assessment plan. An Assessment Plan is a strategic framework that guides the assessment activities within a program or institution. It outlines the specific assessment methods, timelines, responsibilities, and criteria for success.

In this section, we will learn how to create an assessment plan.

Please note that although the terms Assessment Plan and Assurance of Learning are closely related, they are different.

The Assurance of Learning (AoL) Process is a broad framework used to ensure that academic programs and institutions meet their intended learning outcomes and fulfill their mission and goals. It encompasses the systematic assessment and improvement activities carried out within a program or institution.

The Assessment Plan focuses on the specific assessment activities and processes implemented to measure student learning outcomes within a program. It helps ensure consistency, fairness, and effectiveness in assessing learning and provides a structure for collecting and analyzing data. The Assessment Plan is the first step in the AoL Process.

An assessment plan typically includes the following components:

- **Goals and Objectives/Outcomes:** Clearly articulates the desired learning goals, objectives, and outcomes that will be assessed.
- **Assessment Methods:** Specifies the assessment methods used to measure learning outcomes. This may include exams, projects, portfolios, surveys, or other means of gathering evidence.
- **Targets:** Defines the standards that will be used to evaluate learner performance. These targets should be specific, measurable, and aligned with the learning goals.
- **Data Collection:** Describes how and when data will be collected. It outlines the procedures for data collection, such as who will collect the data and where it will be stored.
- **Responsibilities:** Identifies the roles and responsibilities of those involved in the assessment process, such as assessment coordinators, faculty members, or department chairs.
- **Data Analysis and Reporting:** Outlines the procedures for analyzing the assessment data, interpreting the results, and reporting the findings to stakeholders.
- **Use of Results:** Describes how assessment data will be used to inform decision-making, identify areas for improvement, and drive changes within an academic program.

Helpful Note

Over-assessing or setting too many targets can lead to an overwhelming and counterproductive learning environment, potentially diminishing the focus on meaningful learning and hindering students' overall progress.

An assessment plan should also be well-aligned with strategy, policy, structure, and resources/tools. These elements are central to establishing a solid foundation for the assessment process and contribute significantly to its overall effectiveness and success.

1. **Strategy:** Align the assessment plan to the strategy of the institution to evaluate student learning outcomes in a manner that reflects the institution's core values, mission, and goals.
2. **Policy:** Establish clear policies and guidelines for assessment planning and implementation. These policies set expectations for assessment practices, data collection, reporting, and results use, ensuring consistency, fairness, and adherence to guidelines.
3. **Structure:** Define clear lines of responsibility and accountability for assessment activities. Designate assessment coordinators, faculty, or committees to oversee and coordinate efforts, ensuring appropriate support, resources, and expertise.
4. **Resources/Tools:** Provide adequate resources and tools for effective assessment planning and management. This includes trained staff or faculty members to facilitate the process and technological resources for efficient data collection, organization, and analysis.

Alignment ensures purposeful and well-supported assessment efforts, leading to informed decision-making and improved education quality.

Reflection Question

How can effective assessment planning contribute to improving the overall quality of education?

Group Activity: Building a Quality Culture Canvas

Objective: To collaboratively create a "Quality Culture Canvas" that reflects the group's shared understanding and commitment to quality.

Materials Needed: Large piece of paper or poster board (the "canvas"), markers, sticky notes.

Instructions:

1. Introduction (5-10 minutes): Begin with a brief discussion of what a "culture of quality" means. Discuss the importance of shared values, continuous improvement, stakeholder engagement, accountability, and other key elements of a quality culture.
2. Brainstorming (15-20 minutes): Divide the canvas into four sections, titled: "Our Vision", "Our Values", "Our Practices", and "Our Goals". Have the group brainstorm ideas for each section. Encourage everyone to contribute and write all ideas on sticky notes.
    - Our Vision: What does "quality" look like in our context? What is our ultimate aspiration?
    - Our Values: What core values will guide our work? How do they support our commitment to quality?
    - Our Practices: What specific practices will we follow to uphold our values and achieve our vision? How will we demonstrate our commitment to quality in our daily work?
    - Our Goals: What specific, measurable goals will we set to drive continuous improvement? How will we know if we're successful in building a culture of quality?
3. Group Discussion (20-30 minutes): Now, have the group come together to discuss and refine the ideas. Aim to reach consensus on a vision, set of values, set of practices, and set of goals that reflect the group's shared commitment to quality. Write these on the canvas.
4. Action Planning (15-20 minutes): Finally, have the group brainstorm specific actions they can take to implement the practices and achieve the goals outlined on the canvas. Assign responsibility for each action and set a timeline.
5. Closing (5 minutes): Conclude the activity by reflecting on the importance of everyone's role in building a culture of quality. Discuss how the canvas can be used as a reference point in the group's ongoing work.

Discussion Questions:

- How can we hold ourselves accountable for upholding our values and practices?
- How can we ensure all stakeholders understand and support our culture of quality?
- How will we measure progress towards our goals? How will we celebrate successes?

This activity not only helps to clarify what a culture of quality looks like in your specific context, but also promotes shared ownership and commitment to quality. It's a starting point for ongoing conversations and actions to build a culture of quality.

Scan the QR code to download a template for a Quality Culture Canvas

Service Spotlight:

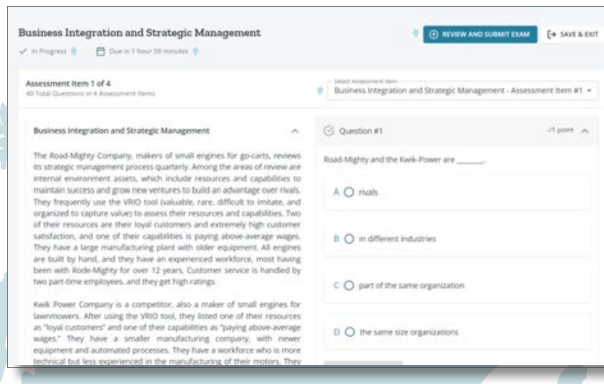
Peregrine's Critical Thinking Assessment

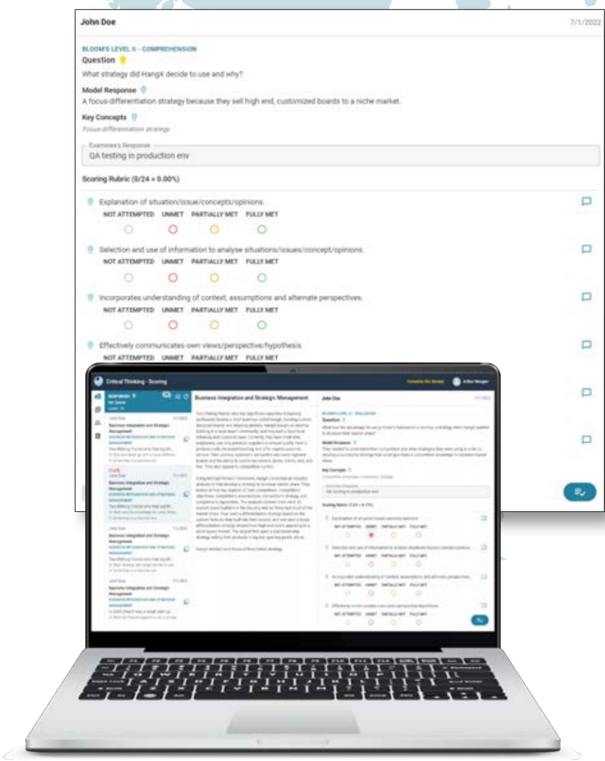
Critical thinking is a skill that supports and enhances problem-solving and decision-making. Objectively assessing this skill is essential for ensuring that academic programs and institutions effectively develop these capabilities in students, meet accreditation requirements, and satisfy industry demands.

The Critical Thinking Assessment is designed to provide comprehensive, data-driven insights into learners' critical thinking skills through a standardized yet customizable evaluation process that includes the assistance of AI.

Scenario-Based

The assessment utilizes scenarios to prompt learners to evaluate a short case to solve a problem. Learners are encouraged to skillfully analyze, assess, and reconstruct information to provide answers to a combination of multiple-choice and short-answer questions.





AI-Driven Scoring Across Bloom's Taxonomy

The assessment utilizes artificial intelligence to assist with scoring, ensuring an objective and consistent measure of critical thinking.

Peregrine's Critical Thinking Assessment measures all Bloom's levels, focusing on abilities to explain, evaluate, draw conclusions, defend views, and communicate effectively.

It is an essential tool for understanding and enhancing problem-solving capabilities in students, providing comprehensive data analyses that identify knowledge and skills gaps and curriculum effectiveness, thereby ensuring the development of critical thinking skills and satisfying accreditation requirements for learning outcomes.

Scan the QR code to learn more about our Critical Thinking Assessment on our website.

Chapter 3: Learning Goals, Outcomes, Objectives, and Targets

Developing clear and meaningful learning goals and outcomes at the institutional, program, and course levels is a fundamental aspect of educational planning and assessment. These goals and outcomes provide a framework for designing and delivering effective education, aligning curriculum and instruction, and assessing student learning. In this section, we will explore the process of developing institutional, program, and course goals and outcomes.

Definitions

> **Learning Goals:** Broad statements that describe the overall aspirations and intentions of what students will achieve or gain from a program or course. They provide a general direction for learning and may encompass a range of learning outcomes. Learning goals are often more overarching and reflect the larger aims of the educational experience.
>
> **Learning Outcomes:** Clear and measurable statements that define what students should know, understand, and be able to do upon completing a program or course.
>
> **Learning Objectives:** Specific statements that outline the intended goals of a particular learning activity or lesson. They provide specific and measurable targets that guide the design and delivery of instruction. Learning objectives are typically more detailed and concrete than learning outcomes.

Often these three terms are used interchangeably in higher education, but there are distinctions between each of the terms.

Institutional Goals and Outcomes

Institutional goals are broad statements defined by the overall mission and purpose of the higher education institution. These goals typically include the institution's commitment to academic excellence, research, community, and other core values. Institutional outcomes, on the other hand, are specific statements that describe expected results.

Developing institutional goals and outcomes must include partnering with key stakeholders, including industry, administrators, faculty, staff, and students. This process may entail conducting a comprehensive analysis of the institution's mission, strategic priorities, and accreditation requirements, as well as conducting a needs assessment. Institutional goals and outcomes serve as a guiding framework for program and course development, ensuring alignment and coherence across different areas.

Example of Institutional Goals and Outcomes:

Institutional Goals		Institutional Outcomes
To provide a high-quality education that prepares students for success in their chosen careers.	↔	Graduates demonstrate the knowledge, skills, and competencies required in their respective fields.
To foster a culture of innovation and research excellence.	↔	Faculty and students engage in research and contribute to knowledge creation in their disciplines.
To promote community engagement and social responsibility.	↔	Students actively participate in community service and demonstrate a commitment to social and ethical responsibilities.

Program Goals and Outcomes

Program goals and outcomes are specific to academic programs and should be closely aligned with the institutional goals. Program goals communicate the overall purpose and direction of the program, while outcomes describe the specific knowledge, skills, or competencies that learners are expected to demonstrate upon completion of the program. These outcomes should be measurable and assessable to ensure effective evaluation of student learning.

The process of developing program goals and outcomes typically involves an analysis of the program's purpose, identifying the knowledge, skills, and competencies that students should acquire, and considering industry trends and best practices.

Example of Program Goals and Outcomes:

Program Goals		Program Outcomes
To develop graduates who possess a strong theoretical foundation in their field of study.	↔	Graduates demonstrate knowledge of key theories, concepts, and principles in the discipline.
To cultivate critical thinking and problem-solving skills.	↔	Graduates use critical thinking to analyze problems, evaluate evidence, and develop effective solutions.
To enhance communication and collaboration abilities.	↔	Graduates can effectively communicate ideas, work collaboratively in diverse teams, and present information professionally.

Course Goals and Outcomes

Course goals and outcomes are specific to individual courses or modules. They should be derived from and aligned with both the institutional goals and program goals to ensure coherence and consistency.

Course goals guide instructional planning and help instructors determine the content, activities, and assessments necessary to support student learning.

Course outcomes outline specific knowledge, skills, or competencies that students should acquire as a result of completing the course. These outcomes should be specific, measurable, and observable to facilitate assessment and evaluation of student performance. Refer to Figure 2 for information on how to write S.M.A.R.T Goals.

Helpful Note

Be S.M.A.R.T when setting learning objectives. Make sure they are Specific, Measurable, Achievable, Relevant, and Time-bound.

Course goals and outcomes communicate expectations to students. They also guide instructors in designing effective instruction, selecting appropriate resources and assessments, and providing timely feedback to support student learning and development.

Example of Course Goals and Outcomes:

Course Goals		Course Outcomes
To introduce fundamental concepts and theories in [course subject].	↔	Students identify and distinguish between key concepts and theories in [course subject].
To develop practical skills in [specific skill area].	↔	Students acquire and apply [specific skill] to solve real-world problems in [course subject].
To foster analytical thinking and problem-solving abilities.	↔	Students analyze complex problems, identify relevant information, and propose effective solutions.

Figure 2: How to write S.M.A.R.T. Goals.

Formula for Writing Learning Outcomes

A commonly used formula for writing learning outcomes is the ABCD method:

Audience: Identify the target audience for the learning outcome, usually the students or learners.

Behavior: Describe the observable behavior or action that the learners should be able to demonstrate. Bloom's Taxonomy allows you to select an outcome verb for behaviors at each cognitive level.

Condition: Specify any conditions or constraints under which the behavior should be performed, if applicable.

Degree: Indicate the level of performance expected or the criteria for success.

Given the formula, let's create a learning outcome for a course on public speaking:

- Audience: Students in a public speaking course
- Behavior: Deliver a persuasive speech
- Condition: Using appropriate visual aids and rhetorical devices
- Degree: With clarity, coherence, and effective use of body language

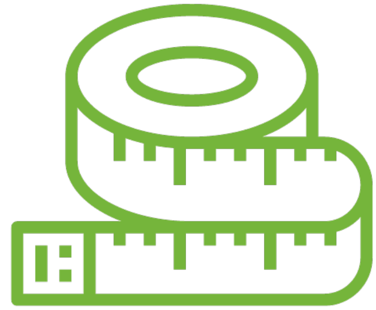
Learning Outcome: "Students will deliver a persuasive speech using appropriate visual aids and rhetorical devices, demonstrating clarity, coherence, and effective use of body language."

By following this formula, you can create learning outcomes that are specific, measurable, and aligned with the desired learning objectives. These outcomes provide a clear guide for both instruction and assessment, allowing educators to measure student achievement accurately. Below are some additional examples of learning outcomes using the ABCD methodology.

Learning Outcome	Audience	Behavior	Condition	Degree
Students will analyze literary texts for thematic elements.	Students	Analyze	Literary texts	Thematic elements
Learners will apply mathematical concepts to real-life problems.	Learners	Apply mathematical concepts	Real-life problems	Mathematical concepts
Students will compose a persuasive essay on a given topic.	Students	Compose a persuasive essay	Given topic	Persuasive essay
Learners will identify and assess ethical dilemmas in business	Learners	Identify and assess	Ethical dilemmas in business	Ethical dilemmas

Remember, learning outcomes should be reviewed and refined regularly to ensure they remain relevant and reflect the evolving needs of the course and program.

Best Practices for Writing Learning Outcomes



Be specific and clear. Learning outcomes should clearly state what learners are expected to know, understand, or be able to do. Use concise and specific language to avoid ambiguity.

Focus on measurable outcomes. Learning outcomes should be measurable, allowing for assessment and evaluation of student achievement. Avoid vague terms that cannot be objectively measured, such as “appreciate” or “understand.”

Use action verbs. Begin each learning outcome with an action verb that describes the observable behavior or action that students should demonstrate. Action verbs such as “analyze,” “synthesize,” “evaluate,” or “apply” are examples of specific verbs that indicate higher-order thinking skills. Also, consider the sample of verbs organized by level of Bloom’s Taxonomy in the table below.

Remember	Understand	Apply	Analyze	Evaluate	Create
Arrange	Classify	Change	Breakdown	Argue	Change
Define	Defend	Generalize	Calculate	Assess	Combine
Describe	Discuss	Illustrate	Compare	Critique	Compose
Duplicate	Estimate	Interpret	Contrast	Decide	Devise
Find	Explain	Manipulate	Deduce	Interpret	Document
List	Give Examples	Operate	Diagram	Judge	Originate
Recognize	Paraphrase	Prepare	Differentiate	Justify	Produce
Relate	Predict	Show	Experiment	Recommend	Revise
Reproduce	Summarize	Solve	Infer	Validate	Write

Consider the level of learning. Learning outcomes should reflect the appropriate level of learning for the course or program. Consider Bloom’s Taxonomy, featured in Figure 3, to guide the selection of appropriate action verbs.

Bloom’s Taxonomy is a widely recognized framework. Developed by Benjamin Bloom and his colleagues, this taxonomy provides a hierarchical structure that organizes learning objectives based on the complexity of cognitive skills required. The taxonomy consists of six levels, ranging from lower-order thinking skills (remembering and understanding) to higher-order thinking skills (applying, analyzing, evaluating, and creating).

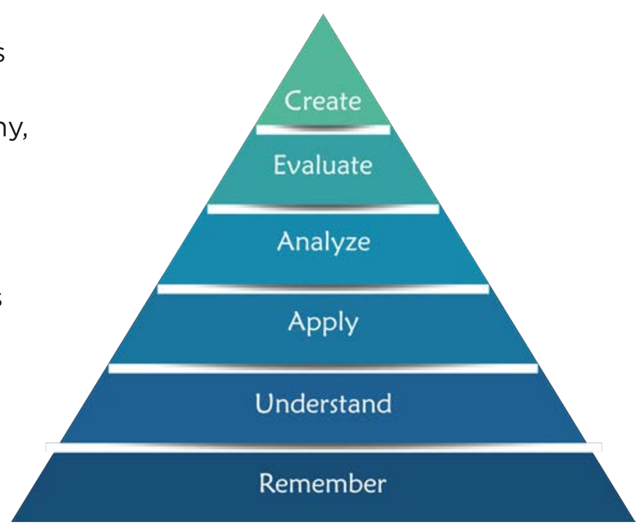


Figure 3: Bloom’s 2001 Revised Taxonomy

Forming a Holistic Assessment Picture

Creating a holistic assessment picture that brings together course-level, program-level, and institutional-level learning outcomes requires a layered, integrated approach. Here's a strategy to tie it all together succinctly:

- Institutional-Level Outcomes: These are the overarching competencies that the institution expects all its graduates to possess, regardless of their specific program of study. They should align with the program-level outcomes of all programs within the institution.
- Program-Level Outcomes: These are broader competencies that students should develop by the end of a specific program, which should align with the outcomes of the individual courses within that program.
- Course-Level Outcomes: These are the specific skills, knowledge, and abilities that students should acquire in each course.

Institutional-Level Outcomes (ILOs):

1. Critical Thinking and Problem Solving
2. Effective Communication
3. Ethical Reasoning and Decision Making
4. Global and Cultural Competence

Program-Level Outcomes (PLOs):

1. Demonstrate fundamental knowledge of core business principles and practices.
2. Apply marketing strategies to real-world scenarios.
3. Understand and use financial accounting principles.
4. Exhibit knowledge of legal aspects of business.
5. Develop and implement strategic business plans.

Course-Level Outcomes (CLOs):

1. Introduction to Business (Course 1)
2. Marketing Principles (Course 2)
3. Financial Accounting (Course 3)
4. Business Law (Course 4)
5. Strategic Management (Capstone Course)

Using the outcomes listed on the previous page, let's create a two-tiered mapping matrix. This will provide a visual of how institutional, program, and course level outcomes can be mapped to show their relationship with each other.

Matrix 1: Course-Level to Program-Level Mapping

Courses/CLOs	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
Introduction to Business	X				
Marketing Principles		X			
Financial Accounting			X		
Business Law				X	
Strategic Management (Capstone)	X	X	X	X	X

Matrix 2: Program-Level to Institution-Level Mapping

PLOs	ILO 1	ILO 2	ILO 3	ILO 4
Demonstrate understanding of core business principles and practices	X	X		X
Apply marketing strategies to real-world scenarios	X	X	X	X
Understand and use financial accounting principles	X	X	X	
Exhibit knowledge of legal aspects of business	X	X	X	
Develop and implement strategic business plans	X	X	X	X

In both matrices, an "X" indicates alignment between the respective outcomes.

These matrices give a clear picture of how outcomes are mapped from the institutional, program, and course levels. It ensures that every course in your program is contributing to your overall institutional goals.

Reflection Question

How can learning outcomes serve as a communication tool between instructors or trainers and learners? Reflect on strategies for effectively sharing and discussing learning outcomes with students.

Group Activity: Mapping Outcomes to the Institution's Mission and Values

The objective of this activity is to align the learning outcomes of the institution's programs and courses with its mission and core values. By mapping the outcomes to the mission and values, the group can ensure that academic programs are aligned with the institution's overarching goals and philosophies.

Materials Needed:

- Flipchart or whiteboard
- Markers
- Copies of the institution's mission statement and core values

Instructions:

1. Provide an overview and distribute copies of the institution's mission and core values. Discuss the significance of aligning learning outcomes with the mission and values.
2. Divide the participants into small groups (3-5 people per group) to facilitate discussion and collaboration.
3. Each group should be assigned a specific academic program. Provide them with the program's goals, objectives, and existing learning outcomes, if available.
4. In their groups, instruct participants to review the assigned program's goals, objectives, and learning outcomes. Encourage them to think critically about how these outcomes align with the institution's mission and values. Participants should identify any areas where there may be alignment gaps or opportunities for improvement.
5. Provide the groups with flipcharts or whiteboards and markers. Instruct them to create a visual representation (e.g., a chart or diagram) that maps the program's learning outcomes to the institution's mission and core values. They should clearly indicate the connections and alignment between the outcomes and the mission/values.
6. After a designated amount of time, ask each group to present their visual representation to the larger group. Participants should explain the rationale behind their mapping choices and discuss any insights or challenges they encountered during the activity.
7. Facilitate a group discussion to reflect on the presented mappings. Encourage participants to share their observations, ask questions, and provide feedback to each other.
8. As a collective group, discuss strategies for further aligning learning outcomes with the institution's mission and values. Encourage brainstorming and collaboration to identify potential improvements or revisions to the outcomes.
9. Conclude the activity by summarizing key insights and next steps. Emphasize the importance of regularly revisiting and refining learning outcomes to ensure continuous alignment with the institution's mission and values.

Note: Depending on the size of the institution and the number of programs or departments, you may need to adjust the activity logistics accordingly.

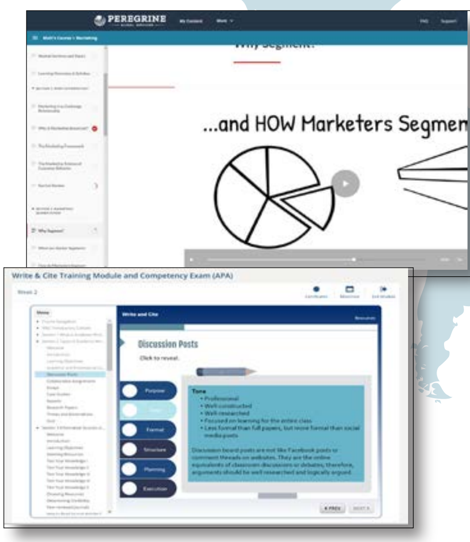
Service Spotlight:

Peregrine's Academic Leveling Modules

Academic Leveling is a process in which learners build the foundational knowledge necessary to succeed in their program. Peregrine's Academic Leveling Modules offer online educational content, combined with interactive quizzing to promote learning in each of the core subjects common within business and healthcare management programs.

The content's modular nature ensures that schools can pick the topics important to their program while keeping content broken into smaller chunks that are more digestible for learners. Each module requires approximately 4-6 hours to complete. The following modules are available:

- **Accounting**
- **Business Ethics**
- **Business Communications**
- **Business Finance**
- **Business Integration and Strategic Management**
- **Business Leadership**
- **Global Dimensions of Business**
- **Human Resource Management**
- **Information Management Systems**
- **Legal Environment of Business**
- **Marketing**
- **Macroeconomics**
- **Microeconomics**
- **Operations/Production Management**
- **Organizational Behavior**
- **Quantitative Research Techniques and Statistics**
- **Write & Cite®**



Effective Learning Model

Academic Leveling Modules use embedded formative assessment to help students master the foundational content needed to succeed in their graduate business program. Using results from the pre-test and post-test, academic officials can demonstrate that their incoming students are prepared.

Learners have access to their modules for 2 years. Therefore, they can reference the material throughout their program.

Academic Leveling Modules were developed to help graduate programs ensure their incoming students are prepared, particularly important for students whose undergraduate degree was earned in a non-business field or for learners who return to earn a graduate degree after years away from college. Reinforcing key concepts at the beginning of a graduate course of studies helps students apply that knowledge in more advanced ways.

Scan the QR code to learn more about our Academic Leveling Modules

Chapter 4: Choosing and Designing Assessments

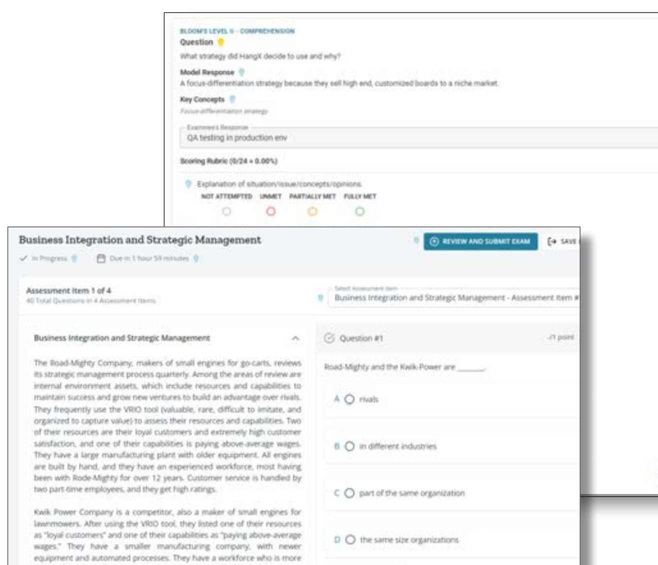
Assessments offer valuable insights into students' knowledge, skills, and understanding, enabling educators to evaluate learner progress and make informed instructional decisions. In this section, we will provide an overview of the key factors and steps involved in choosing, designing, and implementing effective assessments.

Types of Assessments

Examinations: Traditional written or online assessments that test students' knowledge, comprehension, and application of course material. They can include multiple-choice, short-answer, or essay questions.

Online assessments allow you to streamline the assessment and data collection process. For example, **Peregrine's Critical Thinking Assessment** is a customizable assessment solution that effectively measures all levels of learning according to Bloom's Taxonomy.

Projects: Assignments that require students to apply their knowledge and skills to complete comprehensive tasks or projects. Projects may involve research, analysis, problem-solving, creativity, and presentation of findings.



Portfolios: A collection of student work that demonstrates their growth, progress, and achievement over time. Portfolios can include a variety of artifacts, such as essays, projects, reflections, and presentations.

Presentations: Oral or multimedia presentations where students showcase their knowledge and skills on a specific topic or subject. Presentations often involve research, critical thinking, and effective communication.

Case Studies: In-depth analysis of real-world scenarios or situations that require students to apply their knowledge and problem-solving abilities to identify solutions or make recommendations.

Simulations: Immersive and interactive activities replicating real-life situations or environments, allowing students to use their knowledge and skills in a realistic and controlled setting.

Fieldwork/Internships: Hands-on experiences in professional settings that will enable students to apply theoretical knowledge and gain practical skills. Students may be required to complete reports, reflections, or presentations based on their experiences.

Capstone Projects: Culminating projects or experiences integrating knowledge and skills acquired throughout a program. Capstone projects often require students to demonstrate mastery of the program's learning outcomes through research, analysis, and presentation of findings.

Surveys/Questionnaires: Instruments used to gather feedback and data from students, faculty, or external stakeholders to assess program effectiveness, satisfaction, or perception of learning outcomes.

> *One way to increase the response rate on surveys is to attach the survey to a required exam. Peregrine's knowledge-based assessment allows you to add a customizable student survey to an assessment at no additional charge, for an indirect measure of learning.*

Direct and Indirect Measures

Assessment tools can be categorized into two types: direct measures and indirect measures.

Direct measures assess student performance or demonstration of specific knowledge, skills, or abilities related to the intended learning outcomes. These measures provide tangible evidence of learning. Examples of direct measures include:

- Exams or tests assessing knowledge, comprehension, application, or higher-order thinking skills.
- Performance assessments require students to demonstrate skills or abilities in real-world or simulated scenarios. Examples include lab experiments, presentations, or simulations.
- Portfolios are collections of student work that showcase their achievements, growth, and mastery of specific skills or competencies.
- Capstone projects, culminating projects, require students to integrate and apply knowledge and skills acquired throughout their academic program.
- Field evaluations include assessments conducted in professional settings, such as internships, clinical placements, or field experiences.

Indirect measures gauge perceptions, attitudes, or self-reported data about learning experiences or outcomes. While indirect measures do not directly assess student performance, they provide valuable insights into experiences and perceptions. Examples of indirect measures include:

- Questionnaires or surveys are administered to students or internship coordinators to gather information about their perceptions, attitudes, or satisfaction related to their learning experiences, program effectiveness, or support services.

- Course evaluations are completed by students at the end of a course to assess teaching quality, course design, and learning experiences.
- Focus groups or interviews are conducted with students to explore their experiences, learning outcomes, or suggestions for program improvement.
- Self-reflection or self-assessment prompts students to reflect on their learning progress, goals, or areas of strength and improvement. This can be in the form of written reflections, learning journals, or self-assessment questionnaires.
- Alumni surveys are administered to program graduates to gather information on their career outcomes, application of knowledge and skills, and perceptions of program effectiveness.

A comprehensive assessment plan combines direct and indirect measures to paint a complete picture of student learning outcomes. Also, most accreditors require both measures as a best practice. However, it is up to the HEI to determine the methods and measures they choose to implement.

Reflection Question

How do direct and indirect assessment methods complement each other in providing a comprehensive understanding of student learning outcomes?

Choosing Assessment Methods

Selecting the most suitable assessment methods involves careful consideration of numerous factors. Here are some tips to guide your decision-making process:

1. **Align with Learning Outcomes and Objectives:** Choose assessment methods that directly assess your course or program's desired learning outcomes and objectives. Ensure the selected methods effectively measure the knowledge, skills, or competencies you want students to demonstrate.

2. **Emphasize Authenticity and Real-World Application:** Opt for assessment methods that mirror real-world scenarios or tasks relevant to the subject matter. Incorporate case studies, simulations, projects, or problem-solving tasks that require students to apply their knowledge and skills in practical contexts.

3. **Balance Cognitive Levels:** Consider the cognitive complexity of the assessed learning outcomes. Employ a mix of assessment methods targeting various cognitive levels, ranging from lower-order to higher-order thinking, to provide a well-rounded evaluation.

4. **Ensure Validity and Reliability:** Ensure the chosen assessment methods are valid and reliable. Assessments should measure what they intend to measure (validity) and produce consistent and accurate results (reliability). Consult established assessment principles and seek input from colleagues or experts to enhance validity and reliability.

For Peregrine's knowledge-based assessments, exam difficulty is relative. The exam assesses retained knowledge at the program level using a nationally normed instrument.

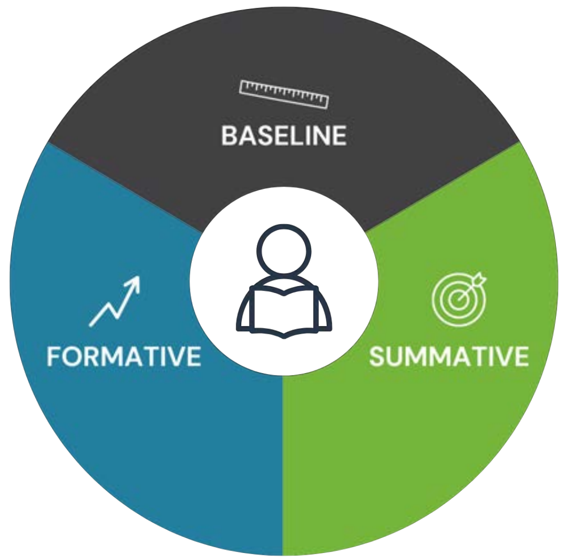
Peregrine places a high priority on ensuring the validity and reliability of our assessment solution, including a system for validating and peer reviewing test questions, psychometric analyses of the test banks, and regular reliability testing.

5. **Foster Diversity and Inclusion:** Design assessments that accommodate diverse student backgrounds and learning needs. Employ a variety of assessment methods to cater to different learning styles and preferences. Provide options for students to demonstrate their understanding and skills through written, oral, visual, or practical formats.

6. **Consider Time and Resource Constraints:** Consider the available time and resources for assessment. Some methods, such as exams or projects, may require more time and effort to administer and evaluate. Ensure that the chosen assessment methods are feasible within the constraints of your course or program.

7. **Consider Practicality and Scalability:** Consider the practicality and scalability of assessment methods, particularly in larger classes or online settings. Ensure that the selected methods can be effectively administered, evaluated, and provide meaningful feedback to students.

8. **Align with Assessment Criteria and Rubrics:** Ensure that the assessment methods align with the criteria and rubrics used for evaluation. The chosen methods should allow for consistent assessment criteria application and facilitate student performance interpretation.



9. **Include a Baseline Measure:** Establish a starting point—a benchmark against which progress can be measured. A baseline assessment is an initial evaluation conducted at the beginning of a course, program, or training initiative to gauge the current knowledge, skills, and abilities of learners. The primary purpose of a baseline assessment is twofold: to provide instructors or trainers with valuable insights into the existing knowledge and capabilities of their learners, and to enable learners themselves to reflect on their strengths, areas for improvement, and learning goals.

10. **Balance Formative and Summative Assessment:** Strike a balance between formative and summative assessments. Utilize formative assessments to provide feedback and guide learning throughout the course while incorporating summative assessments to evaluate overall achievement at crucial milestones. We will define formative and summative assessment in the next section.

11. **Promote Student Engagement and Motivation:** Choose assessment methods that actively engage students and motivate their participation. Incorporate interactive elements, such as group discussions, presentations, or multimedia projects, to foster student involvement and ownership of their learning.

How Peregrine Promotes Student Engagement and Motivation

With our knowledge-based assessment, you can elect to automatically provide learners with a Learner Assessment Report upon exam completion. The report helps learners interpret their total score and percentile rank.

When a learner completes multiple exams (Inbound and Outbound), a comparison is provided that demonstrates their growth in learning from beginning to end. Additionally, learners will receive a view of the topics in which they expressed their greatest strengths and recommendations for improvement. You can incentivize the exam by tapping into learners' intrinsic motivation related to mastery.

By considering these factors, you can make informed decisions about the assessment methods that best suit your unique needs and promote meaningful evaluation of student learning.

Balancing Formative and Summative Assessment

Formative and summative assessments are two distinct types of assessment that serve different purposes in measuring student learning. Here's a closer look at formative and summative assessment and how to strike a balance between the two:

Formative Assessment: Formative assessment provides feedback and guides student learning during the instructional process. It is designed to monitor student progress, identify areas of strength and weakness, and inform instructional decisions. Formative assessments are typically low-stakes and may occur throughout the learning experience. Examples of formative assessments include class discussions, quizzes, practice exercises, homework assignments, and peer feedback.

Summative Assessment: Summative assessment evaluates student learning outcomes at the end of a unit, course, or program. It focuses on measuring the achievement of learning objectives and assigning grades or determining competency levels. Summative assessments are usually high-stakes and may include exams, final projects, presentations, or comprehensive evaluations.

To strike a balance between formative and summative assessments, consider the following strategies:

1. Learning Reflection: Encourage students to reflect on their learning and use formative assessment feedback to set goals and plan their next steps.
2. Ongoing Monitoring: Continuously monitor student progress through various formative assessment activities, allowing for timely intervention and instructional adjustments.
3. Use of Rubrics: Develop clear assessment criteria and rubrics that align with learning objectives. Communicate these to students to ensure transparency and consistency in evaluation.
4. Periodic Summative Assessments: Implement regular summative assessments to evaluate students' mastery of learning outcomes. These assessments provide a comprehensive view of achievement.
5. Formative Assessment as Practice: Design formative assessments that resemble the format and expectations of summative assessments, providing students with practice and familiarity with the final evaluation.
6. Feedback Integration: Encourage students to incorporate formative assessment feedback into their summative assessment preparation, allowing them to improve and demonstrate growth.

Helpful Note

Automate data collection where possible. Consider using online platforms or learning management systems that can gather and organize assessment data for you.

Remember, the balance between formative and summative assessments may vary based on the context, degree level, and specific learning goals. Therefore, flexibility and adaptability in assessment strategies are essential to meet the diverse needs of students and promote meaningful learning experiences.

Developing Assessment Criteria and Rubrics

Assessment criteria establish the specific standards or benchmarks against which students' work will be evaluated. Rubrics provide a clear and consistent framework for assessing student performance, outlining the criteria and levels of achievement for each assessment task.

Example Rubric:

Criteria	Exceeds Expectations (4 points)	Meets Expectations (3 points)	Approaches Expectations (2 points)	Below Expectations (1 point)
Content Knowledge	Demonstrates exceptional depth and breadth of knowledge, integrating complex concepts and providing insightful analysis.	Shows proficient understanding of the subject matter, accurately applying key concepts and providing relevant analysis.	Displays developing understanding of the subject matter, with some inaccuracies or gaps in knowledge.	Demonstrates limited understanding of the subject matter, with significant inaccuracies or misconceptions.
Critical Thinking	Consistently demonstrates sophisticated critical thinking skills, effectively analyzing information, evaluating arguments, and generating innovative solutions.	Demonstrates consistent use of critical thinking skills, analyzing information, evaluating arguments, and generating logical solutions.	Displays some use of critical thinking skills, but with occasional inconsistencies or limitations in analysis and evaluation.	Shows limited use of critical thinking skills, with significant gaps or inconsistencies in analysis and evaluation.
Research and Evidence	Demonstrates exceptional ability to gather and analyze high-quality evidence from a wide range of credible sources, effectively supporting arguments and integrating multiple perspectives.	Shows skill in gathering and analyzing evidence from credible sources, providing adequate support for arguments, and incorporating multiple perspectives.	Displays a developing ability to gather and analyze evidence, but with limitations in quality, relevance, or integration of perspectives.	Demonstrates limited ability to gather and analyze evidence, with significant deficiencies in quality, relevance, or integration of perspectives.
Organization and Structure	Presents ideas in a highly organized and coherent manner, with a well-developed and logical structure that enhances clarity and flow.	Presents ideas in a well-organized and coherent manner, with a clear structure that supports understanding and progression.	Demonstrates some organization and coherence, but with occasional disruptions to the logical flow or structure.	Shows limited organization and coherence, with significant challenges in maintaining a logical flow or structure.

Determining Targets

Once you establish your learning outcomes and selected your assessment methods, the next step is setting your assessment targets.

Determining targets in the context of assessment refers to setting specific criteria or benchmarks that indicate the level of achievement or performance expected from students. Targets provide a clear reference point against which student performance can be assessed and evaluated. Here are some critical steps to consider when determining targets for assessment:

- Review the learning outcomes or objectives for the program or course. These learning outcomes should be specific, measurable, achievable, relevant, and time-bound (SMART).
- Consider any specific program expectations, external standards, national or international regulations, or industry requirements students are expected to meet. These expectations may include competencies, skills, or knowledge areas in which students should demonstrate proficiency by the program's end.
- Engage relevant stakeholders, such as faculty members, program coordinators, industry professionals, and accreditation bodies, in determining targets. Seek their input and insights regarding the desired student achievement and performance level.
- Utilize benchmarking data from comparable programs, institutions, or industry standards to establish targets. This can provide insights into the average or exemplary performance levels expected in a given field or discipline.

Figure 4 shows an example of benchmarking using Peregrine's knowledge-based assessments. The assessment solution allows you to compare your exam scores with up to five aggregate groups. These groups are determined based on demographic and institutional information, such as accreditation, geography, and institution type.

In this example, the red circles in the figure represent the institution's scores within two specific topics: Business Communication and Accounting.

By analyzing the figure, we can see that the institution achieved higher scores in Business Communication than all aggregate groups. However, when it comes to Accounting, the institution slightly underperformed compared to all the aggregate groups. This suggests an opportunity for improvement in this particular topic area.

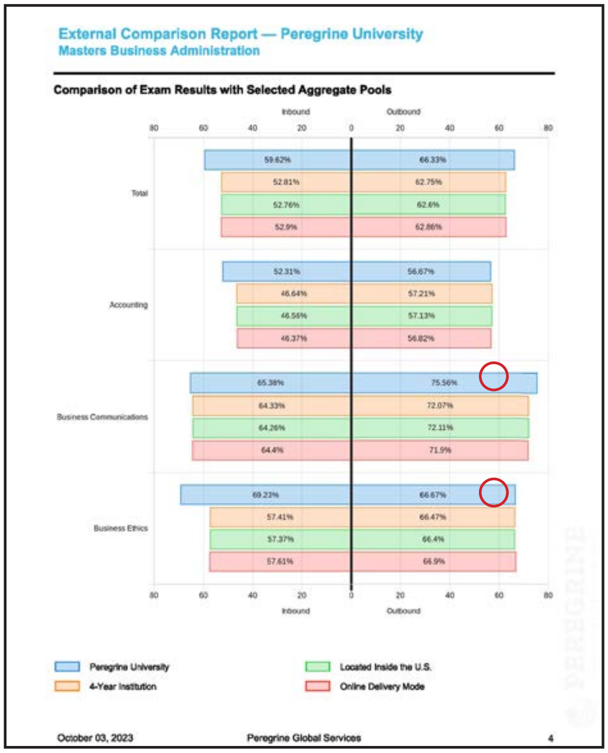


Figure 4: External Comparison Report

More to consider when determining targets:

- Set realistic and attainable targets, considering students' capabilities and prior knowledge. At the same time, ensure that the targets are challenging enough to motivate students and drive their continuous improvement.
- Align the targets with the grading or assessment scales used in the institution or program. Ensure that there is clarity on the performance levels or descriptors associated with different target levels, such as "exceeds expectations," "meets expectations," or "needs improvement."
- Consider the diversity of students within the program and account for different starting points and learning needs. Tailor the targets to accommodate individual differences and provide opportunities for all students to succeed.
- Communicate the targets to students, providing them with a clear understanding of the expected performance levels. This promotes transparency and helps students to focus their efforts and track their progress.
- Review and Revise: Regularly review and revise the targets as needed. As educational programs evolve and external expectations change, it is essential to ensure that targets remain relevant and reflect current requirements and standards.

Reflection Question

How can setting specific and measurable targets for your assessment plan contribute to the effectiveness and success of your educational program?

Independent Exercise: Creating an Assessment Plan

Below is a fictitious academic program and set of learning outcomes. Review the list of learning outcomes for the Bachelor of Science in Environmental Studies program and follow the instructions listed below.

Academic Program:

Bachelor of Science in Environmental Studies

Learning Outcomes:

- Apply ecological principles to analyze and address environmental challenges.
- Interpret and apply environmental policy and regulations.
- Conduct field research to collect and analyze environmental data.
- Communicate scientific findings effectively to diverse audiences.
- Evaluate the social, economic, and ethical dimensions of environmental issues.
- Apply sustainable practices to promote environmental conservation.
- Collaborate effectively in interdisciplinary teams to solve environmental problems.
- Discuss environmental justice and its implications for policy and practice.
- Analyze the impact of human activities on ecosystems and propose mitigation strategies.

Instructions:

1. Scan the QR Code to download the fillable table.

1. In the “Learning Outcome” column of the table, write the corresponding learning outcome number.

2. In the “Assessment Tool” column, list the specific assessment tool or method you will use to assess each learning outcome.

3. In the “Direct/Indirect Measure” column, indicate whether the assessment is a direct measure (DM) or an indirect measure (IM) of the learning outcome. Use “DM” for assessments that directly evaluate student performance and “IM” for assessments that gather indirect evidence or student perceptions.

4. Repeat steps 1-3 for each learning outcome in the program.

5. Customize the template to include additional rows as needed for any additional learning outcomes or assessment tools.

6. You can then systematically document the assessment tools and measures used to evaluate each learning outcome in your academic program. The template helps ensure that you have a clear plan in place for assessing the program’s learning outcomes and can track the alignment between assessments and the intended outcomes.

Service Spotlight:

Peregrine's EvaluSkills

Scan the QR code to learn more about EvaluSkills

Success at work and in life is largely dependent on interpersonal skill proficiency. Learners need to know how to communicate, manage conflict, work in teams, lead others, and leverage diversity.

However, measuring such skills is difficult. EvaluSkills is a 360° evaluation that uses the perspective of peers, mentors, and faculty to measure the relative workplace skills of your learners.

Using an Online 360° Approach

1. *Create your administrator account where you can easily manage students, set deadlines, view assessment progress, and generate reports.*
2. *Select one of the available instrument templates or create your own from nearly 300 soft skill assessment items.*
3. *Upload or enter the participants (students) to be evaluated.*
4. *Assign evaluators or have participants select their own. We recommend 5-8 evaluators.*
5. *An invitation to evaluate participants is sent by email to the evaluators. Evaluators use 5-point Likert scale rubrics to evaluate learners.*
6. *Upon assessment completion, participants will generate their individualized report and an action plan to guide future soft skill development.*
7. *Generate reports to evaluate your learning outcomes, inform program improvement, and help students develop their skills.*

Sample Skills and Rubric

With our database of nearly 300 distinct soft skills, you can create specific assessment instruments, typically including 5-20 soft skills. Each soft skill includes a standardized rubric using a 5-point Likert-type scale, which improves the objectivity of the assessment. Schools can have multiple assessments for different student groups.

5 WELL ABOVE EXPECTATIONS	4 ABOVE EXPECTATIONS	3 MEETS EXPECTATIONS	2 BELOW EXPECTATIONS	1 WELL BELOW EXPECTATIONS
Questions all information presented and verifies assumptions, disregards long-held beliefs and examines new facts, and considers several possible solutions before deciding. Level of proficiency with this competency is much higher than expected and very much higher than average.	Able to gather information and break down a situation into known facts and dispassionately weighs evidence to come up with a solution. Level of proficiency with this competency is higher than expected and clearly above average.	When presented with new information, can identify important factors, see relationships, and take a logical course of action. Level of proficiency with this competency is at an expected or average level.	Does not easily assimilate new information into previous plans; needs explanation for how new circumstances affect decision-making. Level of proficiency with this competency is below expectations and requires some remediation, training and/or education to obtain an expected or average level of proficiency.	Bases decision on preconceived notions or beliefs, reacts emotionally, disregards information not aligned with personal ideas. Level of proficiency with this competency is very much below expectations and requires a significant amount of remediation, training and/or education to obtain an expected or average level of proficiency.

Skills:

- Accepts Feedback
- Communications
- Conflict Resolution
- Dependability
- Global Citizenship
- Honesty
- Innovative
- Critical Thinking
- Meets Deadlines
- Leadership
- Organized
- Persuasive
- Public Speaking
- Resilient
- Self-Aware
- Teamwork
- Values Diversity

Chapter 5: Collecting and Analyzing Data

Data collection and analysis is the cornerstone of evaluating learning outcomes and ensuring educational quality. By collecting and analyzing data, institutions gain insights that inform decision-making, identify areas for improvement, and align educational practices.

Collecting Your Data

Pulling all your assessment data together for analysis and interpretation is a critical stage in the Assurance of Learning (AoL) process. Here are some steps to help you manage this task effectively:

1. Compile all your assessment data in one place. Depending on the volume of data, you may need to use a database or a data analysis tool for this task.
2. Ensure that the data is clean and ready for analysis. This involves checking for and correcting any errors, inconsistencies, or duplicates in the data. You might also need to anonymize data to protect student privacy.
3. Organize your data in a way that will facilitate analysis. This might involve grouping data by course, semester, learning outcome, or student subgroup.
4. Depending on the types of analysis you want to do, you might need to transform your data. For example, calculate averages, convert grades to a standard scale, or create dummy variables for categorical data.
5. Once your data is compiled and organized, you can start to interpret it. This involves analyzing the data to identify trends, make comparisons, and draw conclusions. Depending on the complexity of your data, you may need to use statistical techniques for this step.
6. Finally, compile your interpretations into several types of reports depending on the target audience. The reports should present your findings and recommendations.

Continuous Data Collection

Pulling assessment data together should not be a one-time event but rather a cyclical process, with ongoing data collection and analysis informing continuous improvements in teaching and learning. Here are some best practices to help you manage this effectively:

Establish a consistent schedule: This could mean collecting data at key points in the term, such as mid-term and end-of-term, or at specific stages in the course or program. Consistency ensures that data collection occurs, and that data are comparable across different time points. You don't have to always assess all outcomes, but make sure your assessment schedule supports your goals.

Automate data collection where possible: Automation can make continuous data collection more manageable. This might involve using learning management systems (LMS) to automatically gather data from online quizzes, discussions, and assignments, or using survey software to collect feedback from students.

Use longitudinal tracking: Longitudinal data—data collected on the same subjects over time—can provide insights into how learning outcomes change over a program. Tracking students' progress from year to year or semester to semester can help you identify trends and make meaningful comparisons.

Establish a clear process for data analysis: Data analysis can be a complex process, so it's important to establish a clear and consistent methodology. This should include steps for organizing data, conducting statistical analyses, interpreting results, and communicating findings.

> **Helpful Note**
>
> Consistency is key when collecting data. Make sure you're using the same methods and criteria across all data collection points to ensure reliability.

Train staff in data analysis: If faculty and administrators are involved in the data collection and analysis process, they should be provided with appropriate training. This might cover how to use data collection tools, how to analyze and interpret data, and how to use findings to inform teaching practices.

Make data accessible: Data and analysis should be accessible to all relevant stakeholders. This could involve creating dashboards or reports that present findings in a user-friendly format. Many accrediting bodies mandate institutions and programs to publish their data as a means of promoting transparency and accountability.

Use data to inform action: The ultimate aim of data collection and analysis is to improve learning outcomes. Therefore, it's crucial to use the findings to inform changes in teaching practices, course design, or program structures. Regular review meetings can provide a forum for discussing findings and planning actions.

Reflection Question

What are your institution's current data collection processes? List all data sources, how data are stored, and how they are shared below.

Identifying Areas for Improvement

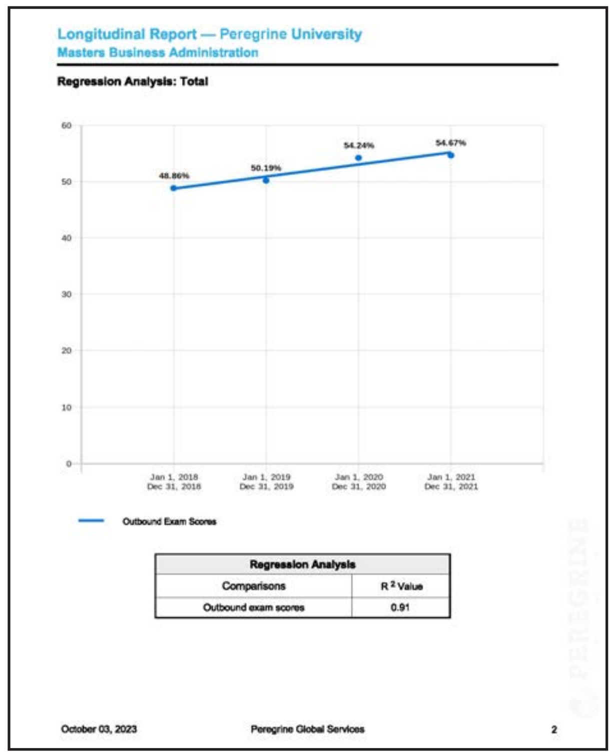
Identifying areas for improvement in your assessment data involves systematically analyzing your gathered data. Here are some steps to guide you:

1. **Benchmark Performance:** Establish what acceptable performance looks like for your learning outcomes. The key here is that you are benchmarking the results of your assessment, not the content of the program or course as happens at the design stages. Compare your students' performance to these benchmarks to identify areas where performance is below expectations.

2. **Identify Trends:** Look for patterns in your data. Are there specific topics, skills, or concepts that students consistently struggle with? Are there particular assignments or assessments where students perform poorly? These trends point to areas where changes are needed.

Figure 5 to the right shows a page out of Peregrine's Longitudinal Report. The Longitudinal Report includes a side-by-side comparison of the same exam over different exam periods. Up to four exam periods can be shown on the report.

The report is most often used to evaluate academic change and to understand the trends over time. Understanding the effects of change leads to continuous quality improvement. The report is also used to help satisfy accreditation requirements associated with the number of data points to report.


Longitudinal Report — Peregrine University
Masters Business Administration

Regression Analysis: Total

Regression Analysis	
Comparisons	R^2 Value
Outbound exam scores	0.91

October 03, 2023 Peregrine Global Services 2

Figure 5: Longitudinal Report

3. **Segment Data:** Break down your data by demographics, program, and other student groups, etc. This can help you identify potential barriers to learning. You can compare distinct locations in the case of several educational sites or branches, or you can compare results of student groups such as joint and double degree programs and different delivery modes.

4. **Consider Feedback:** Feedback from students, teachers, and other stakeholders can provide valuable insights into areas for improvement. Look for consistent themes or issues that come up in this feedback.

5. **Conduct External Analysis:** If external benchmarks exist for your subject or field, compare your students' performance to these. Analyzing your data this way can give you an idea of how your program or institution performs in a wider context.

6. **Use Statistical Analysis:** Statistical analysis can help you identify significant differences, trends, and correlations in your data. For example, you might use a t-test to compare

the performance of two groups or regression analysis to explore relationships between different variables.

7. **Reflect on Practices:** Reflect on your teaching practices, course design, and assessment methods. Are there changes you could make that address the areas for improvement you've identified? Are there new approaches or strategies you could try?

8. **Engage in Peer Review:** Share your data and interpretations with colleagues for feedback. They can provide additional insights or suggest alternative interpretations.

Helpful Note

Avoid making hasty decisions based on a single set of data. Instead, look for trends over multiple data sets or assessment cycles to ensure you're addressing systemic issues, not one-off anomalies.

By carefully analyzing your assessment data and considering feedback, you can identify areas for improvement and make informed decisions about changes to your teaching practices or curriculum. Remember, the goal is continuous improvement, so this process should be ongoing.

Reflection Question

Are there currently any challenges or barriers during data collection in your AoL process? If so, do you have a plan to address them?

Independent Exercise: Data Analysis for Assurance of Learning

In this exercise, you will analyze and interpret your assessment data to better understand student learning outcomes and identify areas for improvement. At the end of each part, reflect on your findings. What do they tell you about student learning in your program or course? What areas for improvement do they suggest? Write down your reflections and any plans for action you might have.

If you currently use Peregrine's knowledge-based assessment, we provide the data and reporting capabilities to easily make these comparisons.

Part 1: Achievement of Learning Outcomes

List your stated learning outcomes. For each outcome, calculate the percentage of students who meet or exceed the expected level of performance.

Learning Outcomes	% who meet or exceed

Part 2: Trends over Time

Identify two or more points in time for comparison (e.g., different semesters or years). For each learning outcome, compare the performance at these different points in time. What changes do you observe?

Learning Outcomes	P1	P2	P3

Part 3: Variation across Student Groups

Identify two student groups for comparison. For each learning outcome, compare the performance of these different student groups. What disparities do you notice?

Learning Outcomes	G1	G2

Part 4: Student Perceptions

Gather feedback from students about their learning experience. Analyze this feedback. Do students' perceptions align with the objective data on learning outcomes?

Part 6: Benchmark Comparison

Identify an external benchmark or standard for comparison. Compare your students' performance to this benchmark. How does your program or course measure up?


BICE

Chapter 6: Using Results, Documenting, and Communicating

In this section, we will cover how to use your results to make changes, document changes and the AoL process, and communicate with your stakeholders.

Identifying Needs and Prioritizing Needs

Identifying Needs: After you've analyzed your data, you should have a clearer understanding of where your students are succeeding and where they're struggling. Identifying needs might involve recognizing:

- Learning outcomes that are not being achieved.
- Student groups that are underperforming.
- Programs or concentrations where performance is lower than expected.
- Trends in performance over time, such as declining scores.

Prioritizing Needs: Depending on your resources and constraints, you might not be able to address all needs at once. Prioritize based on factors such as:

- The severity of the problem (e.g., how far below the expected level of performance).
- The number of students affected.
- The feasibility of addressing the issue.

Generating Solutions

Once you've identified and prioritized needs, brainstorm potential solutions. This might involve researching best practices, consulting with colleagues, or considering feedback from students. Possible solutions might include:

- Changes to instructional practices.
- Revisions to curriculum or course design.
- Additional support for struggling students.
- Revising program sequencing, and reinforcing areas of under performance later in the program.
- Ensuring important concepts are integrated throughout the program.
- Technology integration to enhance teaching and learning.
- Revised admission requirements or implementing academic leveling.
- Use your data to identify "quick wins" - small, manageable changes that can be implemented quickly and are likely to have a positive impact.

Helpful Note

Don't be afraid to change your assessments. Breaking the cycle and making improvements is an essential part of the assessment process. Embrace the opportunity to refine your assessments to better align with your goals and improve student learning outcomes.

Implementing Changes

Implementing changes based on collected data is the final and crucial step in the Assurance of Learning (AoL) process. Here are some best practices for effectively implementing changes:

- Develop a detailed plan for implementing the change. The plan should outline what will be done, who will do it, when it will be done, and what resources will be needed. It should also identify any potential obstacles and how they will be addressed.

- Communicate the planned change to all stakeholders, including faculty, staff, students, and parents. Explain why the change is necessary, what it entails, and how it will be implemented. This helps to build understanding and support for the change.

- If the change involves new methods or practices, provide training and support to those implementing it. This could include workshops, mentoring, or coaching. Providing adequate support ensures that the change is implemented effectively.

- Put your plan into action. Implement the change according to your plan, monitoring progress and adjusting as necessary. Remember, change often involves a period of adjustment, so be patient and flexible.

- After implementing the change, evaluate its impact. Collect and analyze data to determine whether the change has had the desired effect.

- Finally, communicate the results of the change to stakeholders. This not only keeps them informed but also builds support for data-informed decision-making.

Remember, implementing change based on data is not a one-time event but an ongoing process.

Documentation as a Part of AoL

Documentation is essential to ensure transparency, accountability, provides a reference for the future, and helps you share your findings and actions with others. So much work goes into planning continuous improvement, it should not disappear if personnel changes. In terms of what to document, consider the following:

- Planning: The learning outcomes you're assessing, the methods you're using for assessment, the schedule for data collection, and any other plans for the AoL process.
- Data Collection: The data you collected, how you collected it, and any issues or challenges you encountered.
- Data Analysis: How you analyzed the data, what software or statistical methods you used, and the results of your analysis.
- Interpretations: Your interpretations of the data, including any conclusions you drew, trends you identified, and needs you recognized.
- Decisions and Actions: Any decisions you made based on the data, the actions you took, the rationale behind these decisions and actions, and the impact they had.
- Reflections: Any reflections on the AoL process, including what worked well, what didn't, and what you might do differently in the future.

Remember to store your documentation in a secure and organized manner, so it's easily accessible to those who need it.

Making Data Accessible to Stakeholders

Making data accessible to stakeholders is essential for maintaining transparency and involving everyone in decision-making. Here are some tips to make data more accessible:

- Create clear reports highlighting key findings. These should be written in plain language that everyone can understand, avoiding technical jargon where possible.
- Use data visualization to make complex data more understandable. Use these tools to highlight trends, compare, or show relationships between data points.
- Develop dashboards to provide a high-level view of key metrics. Dashboards can be a great way to make data accessible. Many software tools allow you to create interactive dashboards that stakeholders can explore to understand the data better.
- Explain why the data was collected, its meaning, and how it should be interpreted.
- Hold regular meetings where data is presented and discussed to ensure everyone understands the data and its implications. This also provides an opportunity for stakeholders to ask questions and provide feedback.

Scan the QR code to download a quick guide to the reports and data included with Peregrine's knowledge-based assessment service.

Independent Exercise: Documenting Data-Driven Program Changes

In this exercise, you will practice documenting changes to a program based on findings from assessment data.

Instructions:

1. **Review the Data:** Begin by reviewing your assessment data. Identify a specific area where the data indicates a change is necessary. Write a summary of the issue, referencing the specific data that highlights this need.

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2. **Identify the Change:** Next, identify a change that could address the issue you've identified. This might involve a change to curriculum, teaching practices, resources, or support services. Write a detailed description of the proposed change, explaining how it's expected to address the identified issue.

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3. **Plan the Change:** Develop a plan for implementing the change. This should include specific steps to be taken, who will be responsible for each step, the timeline for implementation, and any resources required.

Action Item	Responsible Party	Timeline	Resources

4. **Communicate the Change:** Consider how you will communicate the change to relevant stakeholders. Write a draft communication, such as an email or meeting agenda, that explains the change, why it's being made, and what it will involve.

5. **Evaluate the Change:** Finally, plan how you will evaluate the impact of the change. Identify what data you will collect, how and when you will collect it, and how you will analyze it.

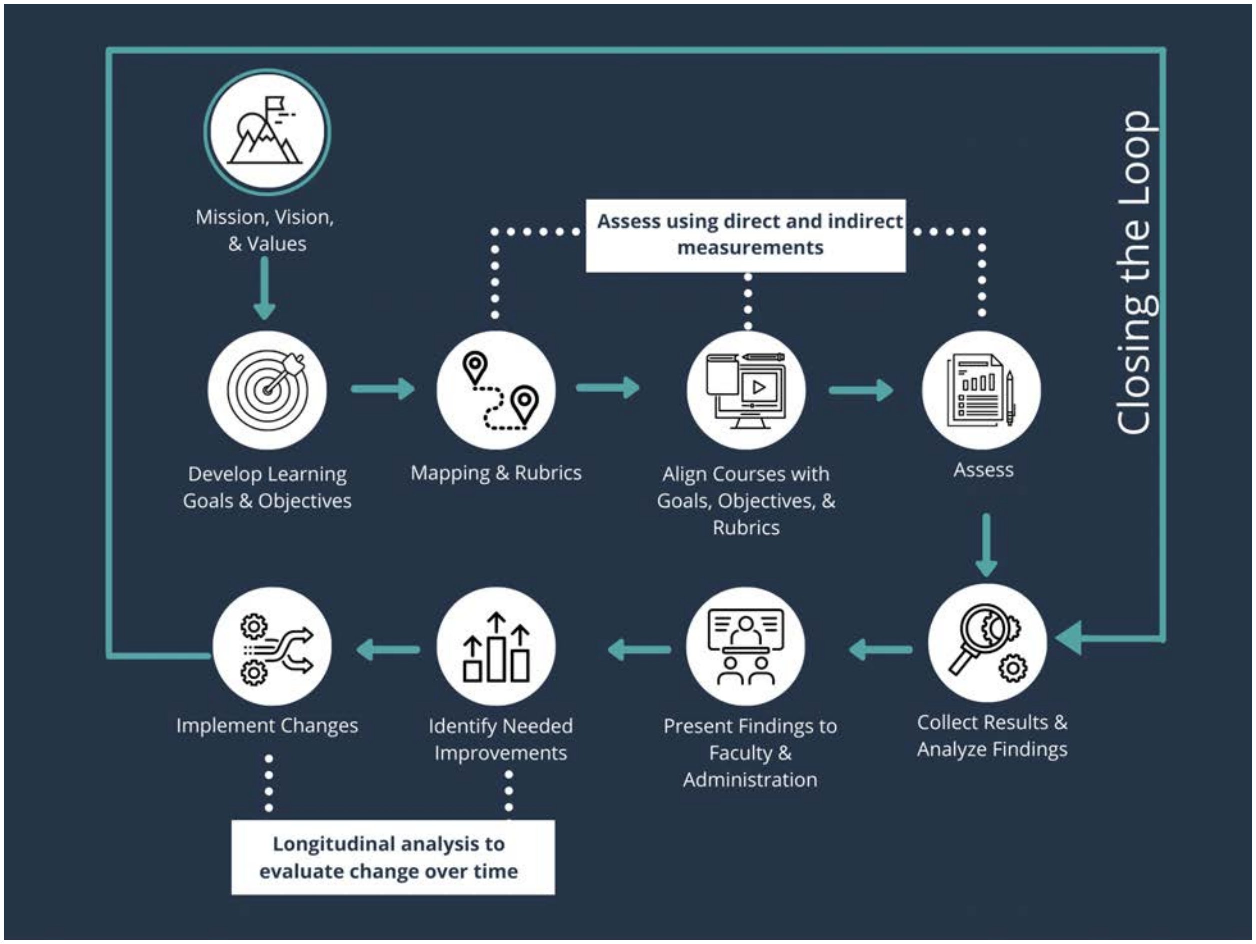
What challenges might you encounter when implementing this change?

How could you involve stakeholders in the change process?

How will you ensure the change is sustained over time?

Chapter 7: Review, Revise, and Close the Loop

In the context of Assurance of Learning (AoL), "closing the loop" refers to using the insights gained from assessing student learning outcomes to make meaningful improvements in educational programs. It is a crucial step that completes the AoL cycle and ensures continuous improvement in the quality of education.



Why is Closing the Loop Important?

Closing the loop is essential for several reasons:

- It ensures program effectiveness. By closing the loop, institutions can ensure that their programs effectively achieve the desired learning outcomes. It allows them to identify gaps in the curriculum or teaching methods and make necessary adjustments to boost program quality.
- Many accrediting bodies require institutions to demonstrate a commitment to continuous improvement. Closing the loop enables institutions to provide evidence of their efforts to improve educational programs, thereby meeting accreditation standards.
- The closing-the-loop process is student-centered, aiming to improve outcomes. By implementing targeted changes based on assessment data, institutions can better address students' needs, facilitate their learning, and help them succeed academically and professionally.
- Closing the loop also promotes a culture of continuous improvement within institutions. It encourages faculty and staff to engage in reflective practices, collaborate, and innovate to create a better learning environment.

Helpful Note

Schedule regular "check-ins" or reviews of your Aol process. This could be at the end of each term, annually, or at key points in the academic cycle.

Workbook Summary and Conclusions

Adopting AoL as an assessment model ensures a continuous cycle of planning, conducting, evaluating, and utilizing assessment results for ongoing improvement. In addition, by integrating AoL with Peregrine services, multiple direct measures can be used to obtain valid and reliable outcomes evaluation, strengthening overall quality assurance practices at the program and institutional levels.

Assessment of student learning serves as the driving force behind AoL, aligning with accreditation criteria and requirements for different programs and institutions. Reporting, process demonstration, and outcomes assessment are essential in strengthening accreditation reporting, internal academic program review, and decision-making related to program and curriculum changes. Evaluating results and using analyses for decision-making and change management is crucial for the long-term sustainability of assessment systems.

References

Accreditation Council for Business Schools and Programs (ACBSP). (2018). ACBSP Standards and Criteria for Demonstrating Excellence in Baccalaureate/Graduate Degree Schools and Programs.

Association to Advance Collegiate Schools of Business (AACSB). (2020). AACSB Accreditation Standards: Business Accreditation Standards.

Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., .. and Wittrock, M. C. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.

Council for Higher Education Accreditation (CHEA). (2019). Accreditation and Assuring Quality in Higher Education.

International Accreditation Council for Business Education. (2019). Accreditation Process Manual.

International Organization for Standardization (ISO). (2018). ISO 9001:2015 Quality management systems – Requirements.

Maki, P. L. (2010). Assessing for learning: Building a sustainable commitment across the institution.

Quality Assurance Agency for Higher Education (QAA). (2018). The UK Quality Code for Higher Education: Part B: Assuring and Enhancing Academic Quality.

Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). (2021). Principles of Accreditation: Foundations for Quality Enhancement.

Stufflebeam, D. L., and Shinkfield, A. J. (2007). Evaluation theory, models, and applications.

Glossary of Terms

Assessment — Assessment is the process of gathering and interpreting evidence to evaluate students' learning, skills, and knowledge, guiding instructional decisions and monitoring progress. It involves using various methods, tools, and strategies to measure and document the extent to which desired learning outcomes or objectives have been achieved.

Assurance of Learning — Assurance of Learning refers to processes for demonstrating that students achieve learning expectations for the programs in which they participate. Schools use Assurance of Learning to demonstrate accountability and assure external constituents such as potential students, trustees, public officials, supporters, and accrediting organizations, that the school meets its goals. Assurance of Learning also assists the school and faculty members to improve programs and courses.

Benchmarking — Benchmarking is a process for setting standards leading to best practices in learning and achievement. Stated more simply, benchmarking can raise standards in education by creating a model for excellence and achievement.

Closing the Loop — Closing the Loop, or CTL, refers to a wide variety of outcomes and actions that result from an institution's review and consideration of student learning outcomes assessment data. Critical to this process is that these revisions are made on the basis of qualitative and quantitative data that are gathered systematically, not on the basis of anecdotal evidence or intuition.

Learning Goals — Broad statements that describe the overall aspirations and intentions of what students will achieve or gain from a program or course. They provide a general direction for learning and may encompass a range of learning outcomes. Learning goals are often more overarching and reflect the larger aims of the educational experience.

Learning Objectives — Specific statements that outline the intended goals of a particular learning activity or lesson. They provide specific and measurable targets that guide the design and delivery of instruction. Learning objectives are typically more detailed and concrete than learning outcomes.

Learning Outcomes — Clear and measurable statements that define what students should know, understand, and be able to do upon completing a program or course.

Measure — Educational measurement refers to the use of educational assessments and the analysis of data such as scores obtained from educational assessments to infer the abilities and proficiencies of students.

Outcomes Mapping — Outcomes mapping focuses on one specific type of result: outcomes as behavioral change. Outcomes are defined as changes in the behavior, relationships, activities, or actions of the people, groups, and organizations with whom a program works directly. In education assessment, outcomes mapping seeks to describe the relationship between essential learning and a hierarchy of arching goals that meet both the desired individual and transformative learning goals of all learners within a given program of study. Outcomes mapping expresses the desired outcomes in a logical manner according to the expressed or intended curriculum and differs from curriculum mapping, which focuses on given opportunities to reform and cohesively construct alignments within a program or academic plan of study.

Programmatic Assessment — An assessment that is focused on learning outcomes which are identified for an entire program, not merely a course or module.

Target — The desired level of performance you want to see, as measured by indicators, that represents success at achieving your outcome.

Brief Biographies of Authors

Katalin Kovacs, D.B.A.

Dr. Kati Kovacs is a higher education and international accreditation specialist with 20 years of experience. Prior to joining Peregrine, she worked as Dean/Associate Dean of Global Education Programs at Maastricht School of Management, establishing and managing a wide portfolio of programs across the globe. Kati holds a Bachelor of Arts Degree (cum laude) in History and Political Science, a Master of Public Administration Degree from Jacksonville State University, USA, and a Doctor of Business Administration Degree in Higher Education Management from the University of Bath, UK. Kati is fluent in English and Hungarian.

Desiree Moore, M.H.

Desiree Moore is a service-focused leader, passionate about providing education and value to all who she encounters. Desiree's ability to connect with ideas and people has led her to take a multi-perspective approach to find creative solutions to difficult problems. Desiree holds a Bachelor of Interdisciplinary Arts from Colorado State University and a Masters of Humanities from Tiffin University. With over eight years of experience as an educator and administrator in education, primarily higher education institutions, Desiree feels closely connected to the purpose of education and strives daily to improve the quality of education.

Clarice Tate, MBA, M.Ed.

Clarice Tate has over 20 years combined experience in the public and private sectors, including nonprofit organizations, primarily focused on business development, consulting, research, and administration. Within the education sector, she served as a secondary classroom teacher and higher education administrator. Her higher education experience includes accreditation management, human resource management, and project management. She holds a Master of Education from Coppin State University and a Master of Business Administration from the Smith School of Business, University of Maryland College Park.

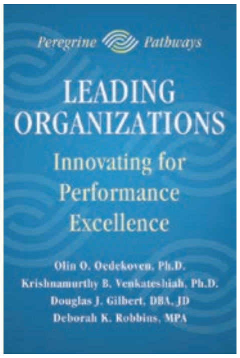
Kayla Vos

As Chief Operating Officer at Peregrine Global Services, Kayla has a wealth of organizational knowledge and a depth of experience in working with clients, partners, and teams. She has extensive knowledge and experience in developing and successfully executing strategic plans while serving our worldwide client base. Kayla takes a personal and hands-on approach. She earned a Bachelor of Science in Public Relations from Franklin University.

Christina Perry, Ed.D.

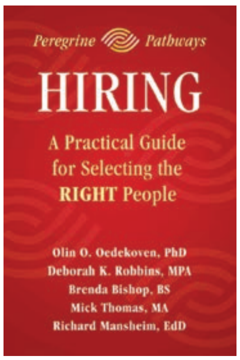
Dr. Perry is the Director of Organizational Learning at Peregrine Global Services. For the past 8 years, her work has focused on promoting continuous improvement using assessment to identify achievement gaps and target solutions. She holds a M.S. degree in Project Management from Southern New Hampshire University, and an Ed.D. degree in Leadership from Vanderbilt University.

Publications by Peregrine Pathways



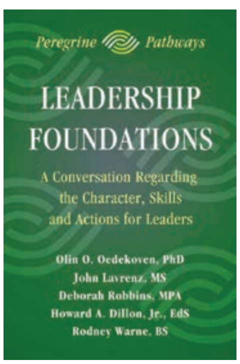
Oedekoven O. O., K. B. Venkateshiah, D. J. Gilbert, and D. K. Robbins (2019). Leading Organizations: Innovating for Performance Excellence
Gillette, Wyoming: Peregrine Pathways.

Leading Organizations embraces the new and different realities that are facing organizations today. Leaders want to know how to address the world that is evolving and unfolding. It is time to move beyond the leadership flavor of the month and practice what successful strategic leaders know — they must be open-minded and accept divergent views without bias.



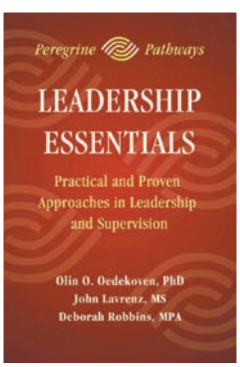
Oedekoven, O. O., D. K. Robbins, B. Bishop, M. Thomas, and R. Mansheim. (2018).
Hiring: A Practical Guide for Selecting the Right People
Gillette, Wyoming: Peregrine Pathways.

The hiring you do today will determine the kind of culture, service standards, and reputation you have tomorrow. It will determine your future success, and that of your customers and business partners. In Hiring, we take you through the needed steps to identify, recruit, and select the RIGHT people for your organization.



Oedekoven, O. O., D. K. Robbins, J. Lavrenz, H. A. Dillon, Jr., and R. Warne. (2018, 2015). Leadership Foundations: A Conversation Regarding the Character, Skills, and Actions for Leaders. Gillette, Wyoming: Peregrine Pathways.

Written by leaders for leaders, Leadership Foundations is an extensive dialogue on leadership designed to promote values-based leaders at all organizational levels, from first-line supervisor through senior executive. As the name implies, the book establishes the foundation for successful leadership, people who know their skills, exemplify their values, and do leadership that inspires others to achieve their potential.



Oedekoven, O.O., Lavrenz, J., and Robbins, D.K. (2018, 2014). Leadership Essentials: Practical and Proven Approaches in Leadership and Supervision
Gillette, Wyoming: Peregrine Pathways.

Successful leaders understand that leadership is all about walking the talk. Leaders must fight through the chaos of the moment to see and understand the perspective of the situation. Leadership Essentials provides relevant, practical, and substantive tips and techniques to walk the talk of leadership by knowing the values of the leader, the skills of the leader, and the actions of leadership.

PEREGRINE PATHWAYS

Peregrine Pathways
640 N. Highway 14-16
PO Box 741
Gillette, WY 82717

307.685.1555

www.PeregrineGlobal.com/pathway-publications/

Info@PeregrineGlobal.com

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