

TEXAS A&M UNIVERSITY-CENTRAL TEXAS

PROGRAM-LEVEL ASSESSMENT MANUAL

Office of Institutional Research and Assessment

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ASSESSMENT AS A FUNCTION OF INSTITUTIONAL EFFECTIVENESS

A vital part of the University's Institutional Effectiveness Model, program assessment, serves to ensure the fulfillment of the university mission through achieving the goals in the University's Strategic Plan. At the operational level, program faculty identify the expected outcomes of programs and map those outcomes to the strategic plan goals. The institutional effectiveness process at Texas A&M University-Central Texas helps to prioritize the use of the limited resources of a growing university.

The University employs a four-phased approach to program assessment completing a comprehensive assessment of each program every ten years, a university-level assessment of students' achievement of general education outcomes each year, a program-level assessment student learning outcomes each year, and a course-level assessment of student perception of learning each semester. The focus of each of these phases is to identify measures of improvement and not to evaluate any one person or groups of people. Performance evaluations are completed by deans and department chairs on an ongoing basis using different instruments.

Texas A&M University-Central Texas is committed to continuous improvement of all programs (academic and administrative) through intentional identification and assessment of outcomes and careful reflection on the attainment of desired outcomes. The process defined in this manual provides evidence of success and encourages improvement. The intent is to engage in a relatively simple process while promoting the thoughtful discussion and planning necessary to improve and attain quality measures. Our regional and programmatic accreditors require academic and administrative programs to identify clear and measurable outcomes. Assessment of the achievement of outcomes provides evidence of success and indicates areas in need of improvement. Ultimately, assessment of outcomes can maximize the potential of all programs.

This manual serves as a reference for faculty and administrators in developing, revising, and assessing expected outcomes for degree programs. This manual provides basic information related to (1) program-level student learning outcomes; (2) assessing program-level student learning outcomes; and (3) using assessment data to make improvements to degree programs.

The pages to follow define the development, implementation, and revision of assessment at the program level. Contact the office of Institutional Research and Assessment for assistance or consultation in developing program-level assessment plans.

EXPECTED LEARNING OUTCOMES FOR THIS HANDBOOK

Upon review of this manual, readers will be able to:

- Develop and revise expected student learning outcomes for a degree program;
- Select appropriate assessment methods for each student learning outcome;
- Establish benchmarks or thresholds for student performance about student learning outcomes;
- Create and update an assessment plan that outlines the specific methods to be used to assess expected student learning outcomes for a degree program;
- Identify ways degree programs use assessment data to make improvements to student learning;
- Integrate the three phases of assessment (planning, assessing, and improving) into a departmental assessment plan; and

- Outline assessment plans with activities, responsible persons, and a schedule of assessment activities.

OVERVIEW OF ASSESSMENT

WHAT IS ASSESSMENT?

Assessment tells us what and how well our students are learning. Assessment is an ongoing process in which faculty and administrators determine what knowledge and skills students should be learning. Part of the assessment process is to create deliberate, measurable objectives for student learning. We commonly refer to these objectives as student learning outcomes (SLOs).

The assessment process also involves developing and implementing a plan to determine how students will learn based upon SLOs. A well-developed assessment plan includes a variety of means of assessment for each SLO, review, and evaluation of results, and using the results to improve student learning.

WHY ENGAGE IN ASSESSMENT?

Assessment is an efficient and effective means of identifying opportunities for improving educational programs in higher education by creating a better educational environment through increased student learning. Assessment is not just about maintaining good standing with accreditation agencies. Although assessment is a requirement for the accreditation of universities, accreditation agencies require schools to engage in assessment for the very reason that the schools themselves should want to be involved in assessment. Assessment improves student learning and benefits everyone.

WHO IS RESPONSIBLE FOR ASSESSMENT?

Assessment is not the responsibility of any one faculty member or administrator within a degree program. The best assessment plans include a variety of professionals from different aspects of campus life. Assessment is the responsibility of the administration, faculty, and professional staff at Texas A&M University-Central Texas. And, program-level assessment is the responsibility of all of the faculty, administrators, and staff for the degree program.

WHEN DO WE “DO” ASSESSMENT?

Assessment is an ongoing process, and degree programs should be engaged in assessment throughout the academic year. The expectation is not for faculty and administrators to meet weekly or crunch assessment data daily (unless they want to). An ongoing process means degree programs should be reviewing and revising student learning outcome statements as needed, collecting and analyzing assessment data to make inferences about student learning about each learning outcome, and using results to make adjustments to the degree program to increase student learning in any given academic year.

OUTCOMES AND ASSESSMENT TERMINOLOGY

This publication uses terminology related to student learning outcomes and assessment. A brief glossary of terms has been provided below for reference purposes.

Assessment is the systematic process of determining educational objectives through gathering, using, and analyzing information about student learning outcomes to make decisions about programs,

individual student progress, or accountability (Erwin, 1991, as cited in James Madison University, 2003; Oakland Community College, 2008).

Assessment Methods include techniques used to collect data associated with assessment. Methods may include such techniques as course projects, graduate surveys, portfolios, external licensing exams, etc. (Oakland Community College, 2008).

Assessment Plans are the proposed methods and timeline for assessment-related activities in a given program (*e.g., how and when are you going to check what/how well the students are learning*) (Texas Tech University, 2018). The formal development process for measuring student learning outcomes including data collection and analysis procedures (Grand State Valley University, 2010).

Benchmarks (or **TARGET** in TaskStream) are expected levels of learning for an educational outcome. A target must be quantifiable, typically stated as a percentage or number (Oakland Community College, 2008).

Course-Level Assessment involves collecting assessment data information within the classroom because of the opportunity it provides to use already in-place assignments and coursework for assessment purposes. It consists of taking a second look at materials generated in the classroom so that, in addition to providing a basis for grading students, these materials allow faculty to evaluate their approaches to instruction and course design (Palomba & Banta, 1999, as cited in James Madison University, 2003).

Direct Assessment measures student learning by requiring students to display their knowledge and skills as they respond to the instrument itself. Examples of direct assessment methods include objective tests, essays, presentations, and classroom assignments (Oakland Community College, 2008).

Embedded Assessments are carefully constructed assignments (often with a corresponding scoring rubric) that precisely measure a particular learning outcome. This assessment coincides with learning in activities such as projects, portfolios, and exhibitions. It happens in the classroom setting, and, if properly designed, students should not be able to ascertain they are being taught or assessed. Faculty develop the tasks or tests from the curriculum or instructional materials (Oakland Community College, 2008), including questions from assessment instruments or existing tests of existing courses. These assessments' reliability can suffer due to fewer assessment items (Wilson & Sloane, 2000, as cited in James Madison University, 2003).

Formative Assessment provides feedback to the teacher to improve instruction. Faculty use the assessment to improve (individual or program level) rather than for making final decisions or for accountability (Oakland Community College, 2008). Examples include midterm exams in the middle of a course, focus groups at the midpoint in a degree program, etc.

Indirect Assessment measures outcomes achievement by asking students to reflect on their learning rather than to demonstrate learning. Examples include external reviewers, student surveys, exit interviews, alumni surveys, employer surveys, curriculum, and syllabus analysis, etc. (Oakland Community College, 2008).

A Program is any major course of study that results in a degree (e.g., Bachelor of Business Administration in Accounting, Bachelor of Science in Computer Engineering, Master of Science in Horticultural and Turfgrass Sciences, Doctor of Philosophy in Educational Psychology, etc.).

Program-Level Assessment evaluates student learning outcomes achievement upon completion of their programs and informs changes in pedagogy and curriculum to increase student success (Oakland Community College, 2008).

Program Student Learning Outcomes (SLOs) are specific measurable and expected goals or results after a learning experience. These outcomes may involve knowledge (cognitive), skills (behavioral), or attitudes (affective) that provide evidence that learning has occurred as a result of a specified course, program activity, or process. An SLO refers to an overarching goal for a course or program (Oakland Community College, 2008).

Rubrics are scoring and instruction tools used to assess student performance using a task-specific range or set of criteria. A rubric contains the essential criteria for the task and levels of performance required to measure student performance against this pre-determined set of criteria (i.e., from poor to excellent) for each criterion (Oakland Community College, 2008).

Summative Assessment gives information on students' mastery of content, knowledge, or skills at the end of a learning experience and involves gathering information after a course, program, or undergraduate career to improve learning or to meet accountability demands (Oakland Community College, 2008).

THE ASSESSMENT CYCLE

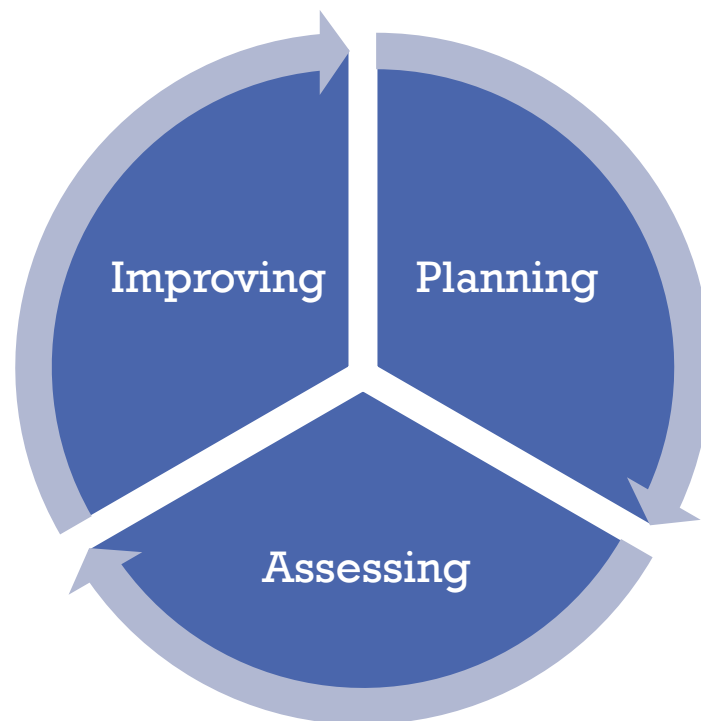
The assessment cycle evaluates student learning in degree programs on an ongoing basis. The goal of assessment is to continually improve the quality of learning in a degree program and is efficiently accomplished by incorporating program-level assessments into the assessment process. The assessment cycle consists of the following three phases.

Planning Phase – This foundational step develops or revises learning outcome statements and selecting the specific assessment instruments or related activities for each SLO. Additionally, the planning phase establishes timelines and assigns specific personnel to activities.

In planning, faculty identify activities as course- or program-level assessment activities. Faculty specifically and narrowly focus the knowledge and skills to be measured to single courses for course-level assessments. Degree program assessment, which is much broader than course-level assessment, encompasses the knowledge and skills intended to be learned in the entire program rather than from an individual course. It is essential to develop unique, broad learning outcomes that represent the whole degree program rather than adopting a few learning outcome statements from different courses.

Assessing Phase – The assessing phase involves selecting the appropriate assessment methods for each student learning outcome, implementing those assessments, and analyzing the assessment data to learn more about student performance in achieving student learning outcomes.

Improving Phase – During this most commonly omitted but most important phase, faculty, and administrators reflect upon the information gathered from the different planning and assessment phases to determine the necessary changes to increase student learning in the degree program. Additionally, the improving phase involves the implementation of strategies for change.



THE PLANNING PHASE

EXPECTED LEARNING OUTCOMES

An expected learning outcome is a formal statement of what faculty intend for students to take away from or to learn in a degree program. Expected learning outcome statements refer to specific knowledge, practical skills, areas of professional development, attitudes, higher-order thinking skills, etc. that faculty members and administrators expect students to develop, learn, or master during a degree program (Suskie, 2004). Expected learning outcomes are also often referred to as “learning outcomes,” “student learning outcomes” (SLOs), or “learning outcome statements.”

Simply stated, expected learning outcome statements describe what faculty members want students to:

- Know at the end of the degree program, AND
- Be able to do at the end of the degree program.

Learning outcomes have three major characteristics (American Association of Law Libraries, 2005; Texas A&M University-Central Texas, 2010). They specify learning that is

1. Observable,
2. Measurable, and
3. Done by the students or learners (rather than the faculty members).

Student learning outcome statements should possess all three of these characteristics so that they can be assessed effectively (Suskie, 2004). **Measurable** SLOs are “specific, demonstrable characteristics – knowledge, skills, values, attitudes, interests” that provide evidence that SLOs are being met (University of Connecticut, n.d.).

WRITING EFFECTIVE LEARNING OUTCOME STATEMENTS

SELECTION OF ACTION WORDS FOR LEARNING OUTCOME STATEMENTS

When stating student learning outcomes, it is essential to use verbs that describe precisely what the learner(s) will be able to know or do upon completion of the degree program (American Association of Law Libraries, 2005).

Examples of strong action words to include in expected learning outcome statements: compile, identify, create, plan, revise, analyze, design, select, utilize, apply, demonstrate, prepare, use, compute, discuss, explain, predict, assess, compare, rate, critique, outline, and evaluate.

Avoid unclear verbs in the context of an expected learning outcome statement (e.g., *know*, *be aware of*, *appreciate*, *learn*, *understand*, *comprehend*, and *become familiar with*). These words are often vague, too difficult to observe or measure, or have multiple interpretations. Consequently, it is best to avoid using these terms when creating expected learning outcome statements (American Association of Law Libraries, 2005).

For example, please look at the following learning outcomes statements:

- Upon completion of the degree, students should understand basic human development theory.

- Graduates of the degree program should appreciate music from other cultures.

Both of these learning outcomes as stated will make them difficult to assess. Consider the following:

- How do you observe someone “understanding” a theory or “appreciating” other cultures?
- How easy will it be to measure “understanding” or “appreciation”?

These expected learning outcomes are more effectively stated as:

- Upon completion, students will be able to summarize the major theories of human development.
- Graduates of the degree program should be able to critique the characteristics of music from other cultures.

Also, the following is a list of some of the common areas for degree program-level student learning outcomes. These examples are meant to serve as examples of well-stated and measurable program-level student learning outcomes.

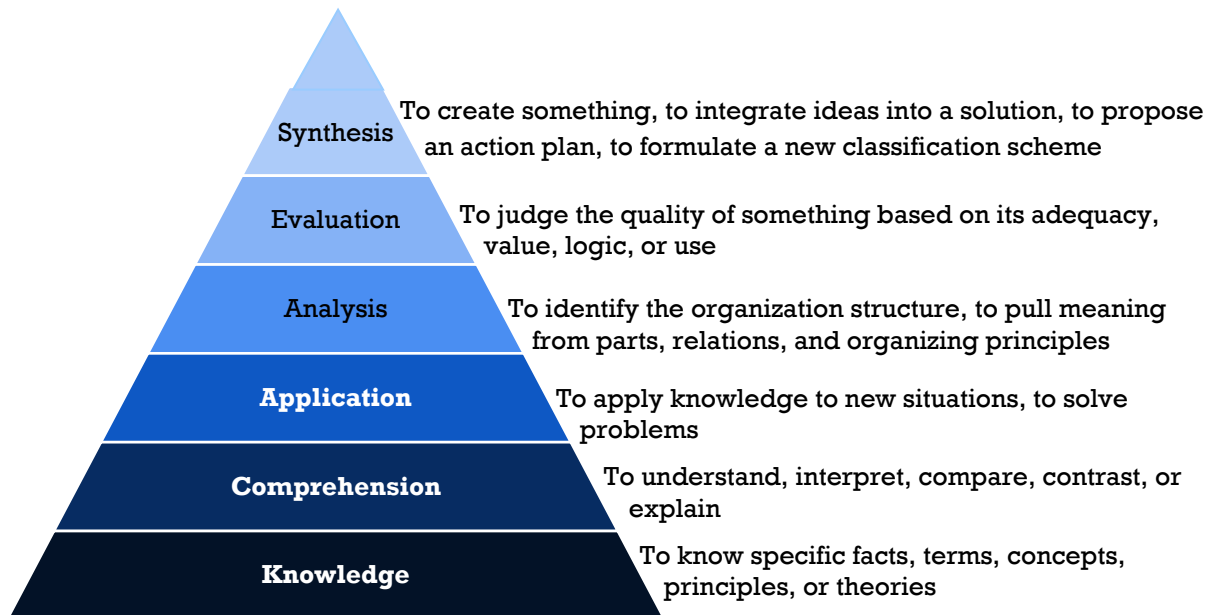
Upon completion of the Bachelor of Science in Dance, undergraduate students will be able to:

- Apply the **fundamental concepts** of the discipline to real-world situations
- Utilize **skills** related to the discipline
- **Communicate** effectively in the methods related to the discipline
- Conduct sound **research** using discipline-appropriate methodologies
- Generate solutions to **problems** that may arise in the discipline

INCORPORATING CRITICAL THINKING SKILLS INTO EXPECTED LEARNING OUTCOME STATEMENTS

Programs need to include words that reflect critical or higher-order thinking into their learning outcome statements to demonstrate the students are learning valuable skills. Bloom (1956) developed a taxonomy outlining the different types of thinking skills used in the learning process. Bloom argued that people use different levels of thinking skills to process different kinds of information and situations. Some of these are basic cognitive skills such as memorization, or complex skills such as creating new ways to apply information. Practitioners define these skills as *critical thinking skills* or *higher-order thinking skills*. Anderson and Krathwohl (2001) adapted Bloom's model to include language oriented toward expected learning outcome statements

DEFINITIONS OF THE DIFFERENT LEVELS OF THINKING SKILLS IN BLOOM'S TAXONOMY



Higher-Order Thinking: Program-level student learning outcomes represent the knowledge and skills graduates possess. Therefore, at least some of a program's outcomes will reflect what is called "higher-order thinking skills" rather than more basic learning. The Application, Analysis, Evaluation, and Synthesis levels of Bloom's taxonomy are usually considered to reflect higher-order thinking skills.

ACTION WORDS RELATED TO CRITICAL THINKING SKILLS

The following list of action words is powerful when creating the expected student learning outcomes related to critical thinking skills in programs (Kansas State University, 2003) and organized according to the different levels of higher-order thinking skills.

Knowledge	Comprehension	Application	Analysis	Evaluation	Synthesis
Count	Associate	Add	Analyze	Appraise	Categorize
Define	Compute	Apply	Arrange	Assess	Combine
Describe	Convert	Calculate	Breakdown	Compare	Compile
Draw	Defend	Change	Combine	Conclude	Compose
Identify	Discuss	Classify	Design	Contrast	Create
Label	Distinguish	Complete	Detect	Criticize	Drive
List	Estimate	Compute	Develop	Critique	Design
Match	Explain	Demonstrate	Diagram	Determine	Devise
Name	Extend	Discover	Differentiate	Grade	Explain
Outline	Extrapolate	Divide	Discriminate	Interpret	Generate
Point	Generalize	Examine	Illustrate	Judge	Group
Quote	Give	Graph	Infer	Justify	Integrate
Read	examples	Interpolate	Outline	Measure	Modify
Recall	Infer	Manipulate	Point	Rank	Order
Recite	Paraphrase	Modify	out	Rate	Organize
Recognize	Predict	Operate	Relate	Support	Plan
Record	Rewrite	Prepare	Select	Test	Prescribe

Knowledge	Comprehension	Application	Analysis	Evaluation	Synthesis
Repeat	Summarize	Produce	Separate		Propose
Reproduce		Show	Subdivide		Rearrange
Select		Solve	Utilize		Reconstruct
State		Subtract			Related
Write		Translate			Reorganize
		Use			Revise
					Rewrite
					Specify
					Summarize
					Transform

KEEP IT SIMPLE

Keep program outcome statements as simple as possible. Overly specific and complex learning outcomes statements can be difficult to assess because programs need to gather assessment data for each type of knowledge or skill in a program-level student learning outcome.

Example of a Fashion Merchandising Degree Program-Level Outcome:

- Students graduating with a Bachelor of Science in Fashion Merchandising will be able to **identify** and **describe** the roles the merchant “team” (**management**, **merchant**, **planner**, **allocator**, **support staff**) play in the **procurement** and **distribution** of merchandise to the multiple channels of retail outlets (Hicklins, 2009).

This outcome would require assessments for the following:

- Identification** of the roles that **management** plays in the **procurement** of merchandise
- Identification** of the roles that **management** plays in the **distribution** of merchandise
- Identification** of the roles that **merchants** play in the **procurement** of merchandise
- Identification** of the roles that **merchants** play in the **distribution** of merchandise
- Identification** of the roles that **planners** play in the **procurement** of merchandise
- Identification** of the roles that **planners** play in the **distribution** of merchandise
- Identification** of the roles that **allocators** play in the **procurement** of merchandise
- Identification** of the roles that **allocators** play in the **distribution** of merchandise
- Identification** of the roles that **support staff** plays in the **procurement** of merchandise
- Identification** of the roles that **support staff** plays in the **distribution** of merchandise
- Description** of the roles that **management** plays in the **procurement** of merchandise
- Description** of the roles that **management** plays in the **distribution** of merchandise
- Description** of the roles that **merchants** play in the **procurement** of merchandise
- Description** of the roles that **merchants** play in the **distribution** of merchandise
- Description** of the roles that **planners** play in the **procurement** of merchandise
- Description** of the roles that **planners** play in the **distribution** of merchandise
- Description** of the roles that **allocators** play in the **procurement** of merchandise
- Description** of the roles that **allocators** play in the **distribution** of merchandise
- Description** of the roles that **support staff** plays in the **procurement** of merchandise
- Description** of the roles that **support staff** plays in the **distribution** of merchandise

Possible Paraphrase of this Fashion Merchandising Degree Program-Level Outcome

Students graduating with a **Bachelor of Science in Fashion Merchandising** will be able to summarize the roles the merchant team plays in the procurement and distribution of merchandise.

Paraphrases such as this one should not change the overall goal of the learning outcome or even the type of assessment data collected but will help avoid being bogged down with the minutia of assessment.

Tips:

- Limit the total number of student learning outcomes to 3-5 statements for the entire degree program.
- Make each learning outcome statement measurable.
- Focus on the expectation of overarching or general knowledge and skills gained from the entire degree program before graduation rather than focusing on what happens in any one individual course (American Public University System, 2012).
- Create student-centered rather than faculty-centered statements (e.g., “upon completion of this program students will be able to list the names of the 50 states” versus “one objective of this program is to teach the names of the 50 states”).
- Incorporate or reflect the institutional and college missions and purposes as appropriate.
- Incorporate various ways for students to show success (outlining, describing, modeling, depicting, etc.) rather than using a single statement such as “at the end of the degree program, students will know _____ as the stem for each expected outcome statement.

THE ASSESSING PHASE

ASSESSMENT METHODS

Assessment involves the systematic collection, review, and use of evidence or information related to student learning (Palomba & Banta, 1999). Assessment helps faculty and program administrators understand how well students are mastering the knowledge and skills in the degree program.

Assessment is the process of investigating:

1. What students are learning, and
2. How well students are learning the stated expected program learning outcomes.

DEVELOPING ASSESSMENT METHODS

- Each SLO should have *at least* two assessment methods because multiple methods increase the reliability of findings
- Incorporate a variety of assessment methods into your assessment plan
- Identify the target population (e.g., all seniors, graduating seniors, alumni, faculty, etc.) for each assessment activity
- Establish timelines for gathering and regularly analyzing program assessment data (at least once per academic year)
- Collect data from graduating seniors as close to graduation as possible
- Assign specific personnel to each task

SELECTION OF ASSESSMENT METHODS

Select at least two appropriate assessment method for each degree program-level SLO. There are two types of assessment methods (Texas A&M University, n.d.). **Direct assessment methods** are measures of student learning requiring students to display actual knowledge and skills (rather than report what they *think* their knowledge and skills are) (Oakland Community College, 2008). As direct assessment measures students' actual learning rather than perceptions of learning, practitioners often view the method as the *preferred* type of assessment. In contrast, **indirect assessment methods** ask students to reflect on their learning rather than to demonstrate it (Palomba & Banta, 1999, as cited in Texas A&M University, n.d.).

The practice of using both direct and indirect assessment methods serves to provide useful insights in determining strengths and weaknesses of student learning in a degree program (Maki, 2004, as cited in Texas A&M University, n.d.). Direct and indirect assessment methods each have unique advantages and disadvantages in terms of the type of data and information yielded. While indirect methods often provide an understanding of data yielded by direct methods, it is difficult to interpret the specific knowledge and skills gained from student learning with indirect methods (Texas A&M University, n.d.).

Examples of Direct Assessment Methods (Texas A&M University, n.d.):

- Capstone Assignment/Project
- Case Studies
- Class Discussions
- Comprehensive exams
- Course-Level Assessment
- Dissertation
- Embedded assignments (projects, papers, presentations, performances, etc.)
- Essays
- Exhibit
- External examiners/peer review
- Field Placement/Internship
- Grading with criteria or rubrics
- Internal/external juried review of performances and exhibitions
- Internship and clinical evaluations
- Locally developed exams
- Oral Exam
- Performance
- Portfolio evaluation
- Pre- and post-tests
- Professional Development Activities
- Qualifying Exam
- Reflective journal
- Regionally or nationally developed tests/exams (i.e., GRE Subject exams, certification exams, licensure exams, etc.)
- Senior thesis or major project
- Study Abroad Experience
- Thesis

Examples of Indirect Assessment Methods (Texas A&M University, n.d.):

- Alumni survey
- Exit interviews
- Focus groups
- Graduation and retention rates
- Job/graduate school placement statistics
- Peer Assessments
- Surveys sent to students, faculty, alumni, employers, etc. that assess perceptions of the program

RELIABILITY AND VALIDITY OF MEASURES

The reliability and validity of a measure tell us the consistency and relevance of a measure in assessing students' achievement of an outcome (Phelan, Colin & Wren, Julie, as cited in University of Northern Iowa, 2005).

RELIABILITY IS THE DEGREE TO WHICH AN ASSESSMENT TOOL PRODUCES STABLE AND CONSISTENT RESULTS.

TYPES OF RELIABILITY

Test-retest reliability is a measure of reliability obtained by administering the same test twice over some time to a group of individuals. The scores from Time 1 and Time 2 can then be correlated to evaluate the test for stability over time.

Example: A test designed to assess student learning in psychology could be given to a group of students twice, with the second administration perhaps coming a week after the first. The obtained correlation coefficient would indicate the stability of the scores.

Parallel forms reliability is a measure of reliability obtained by administering different versions of an assessment tool (both versions must contain items that probe the same construct, skill, knowledge base, etc.) to the same group of individuals. The scores from the two versions can then be correlated to evaluate the consistency of results across alternate versions.

Example: If you wanted to evaluate the reliability of a critical thinking assessment, you might create a large set of items that all pertain to critical thinking and then randomly split the questions up into two sets, which would represent the parallel forms.

Inter-rater reliability is a measure of reliability used to assess the degree to which different judges or raters agree in their assessment decisions. Inter-rater reliability is useful because human observers will not necessarily interpret answers the same way; raters may disagree as to how well certain responses or material demonstrate knowledge of the assessed construct or skill.

Example: Inter-rater reliability might be employed when different judges are evaluating the degree to which art portfolios meet certain standards. Inter-rater reliability is especially useful when judgments can be considered relatively subjective. Thus, the use of this type of reliability would probably be more likely when evaluating artwork as opposed to math problems.

Inter-rater reliability is calculated by having two independent raters apply a rubric to student work and then comparing the results. This convenient tool can be used to calculate the reliability index: <http://justusrandolph.net/kappa/>.

Internal consistency reliability is a measure of reliability used to evaluate the degree to which different test items that probe the same construct produce similar results.

Average inter-item correlation is a subtype of internal consistency reliability and obtained by taking all of the items on a test that probe the same construct (e.g., reading comprehension), determining the correlation coefficient for each pair of items, and finally taking the average of all of these correlation coefficients. This final step yields the average inter-item correlation.

Split-half reliability is another subtype of internal consistency reliability. The process of obtaining split-half reliability is begun by “splitting in half” all items of a test that are intended to probe the same area of knowledge (e.g., World War II) to form two “sets” of items. Faculty administer the *entire* test to a group of individuals, compute the total score for each “set,” and finally, obtain the split-half reliability by determining the correlation between the two total “set” scores.

VALIDITY REFERS TO HOW WELL A TEST MEASURES WHAT IT IS PURPORTED TO MEASURE.

Reliability is necessary, but not singularly sufficient. For a test to be reliable, it must also be valid. For example, if your scale is off by 5 pounds, it reads your weight every day with an excess of 5 pounds. The scale is reliable because it consistently reports the same weight every day, but it is not valid because it adds 5 pounds to your actual weight. It is not a valid measure of your weight.

Types of Validity

Face Validity ascertains that the measure appears to be assessing the intended construct under study. The assessor can easily assess face validity. Although this is not a very “scientific” type of validity, it may be an essential component in enlisting motivation of assessor. If the assessors do not believe the measure is an accurate assessment of the ability, they may become disengaged with the task.

Example: If a measure of art appreciation is created, all of the items should be related to the different components and types of art. If the questions are regarding historical periods, with no reference to any artistic movement, assessors may not be motivated to give their best effort or invest in this measure because they do not believe it is an accurate assessment of art appreciation.

Construct Validity ensures the measure is measuring the intended outcome (i.e., the construct), and not other variables. Using a panel of “experts” familiar with the construct is a way to assess this type of validity. The experts can examine the items and decide what that specific item is intended to measure. Students can be involved in this process to obtain their feedback.

Example: A women’s studies program may design a cumulative assessment of learning throughout the major with questions written with complicated wording and phrasing. The complexity can cause the test to inadvertently become a test of reading comprehension, rather than a measure of women’s studies. It is essential that the measure is assessing the intended construct, rather than an extraneous factor.

Criterion-Related Validity is used to predict future or current performance - it correlates test results with another criterion of interest.

Example: If a physics program designed a measure to assess cumulative student learning throughout the major and correlating the new measure with a standardized measure such as an ETS field test or the GRE subject test fosters increased belief in the new assessment tool.

Formative Validity when applied to outcomes assessment it is used to assess how well a measure can provide information to help improve the program under study.

Example: When designing a rubric for history one could assess a student's knowledge across the discipline. If the measure can provide information that students lack knowledge in a particular area, for instance, the Civil Rights Movement, then that assessment tool is providing meaningful information that can be used to improve the course or program requirements.

Sampling Validity (similar to content validity) ensures that the measure covers the broad range of areas within the concept under study. The assessment cannot include everything, so items need to be sampled from all of the domains. A panel of experts may need to be employed to sample the content area adequately. Additionally, a panel can help limit "expert" bias (i.e., a test reflecting what an individual personally feels are the most important or relevant areas).

Example: When designing an assessment of learning in the theatre department, it would not be sufficient only to cover issues related to acting and exclude other areas of theatre such as lighting, sound, functions of stage managers. The assessment should reflect the content area in its entirety.

WAYS TO IMPROVE VALIDITY

- Clearly define and operationalize goals and objectives. Expectations of students should be written down.
- Match assessment measures to goals and objectives. Solicit feedback from an outside party less invested in the instrument by asking faculty at other schools to review.
- Get students involved by having them look over the assessment for troublesome wording or other difficulties.
- Compare the measure with other measures, or data that may be available.

BENCHMARKS

Benchmarks state the level of performance expected of students. Each benchmark is the minimally acceptable level of performance for an educational outcome (Grand Valley State University, 2010). Degree programs should develop a benchmark for each student learning outcome for their program.

THERE ARE TWO GENERAL TYPES OF BENCHMARKS:

The first type of benchmark compares students to other groups or populations. Faculty typically use this type of benchmark when the field uses a common assessment instrument. This assessment instrument is often regionally or nationally developed and used at other institutions or agencies (e.g., the bar exam for attorneys) or when a field requires professional licensure.

Graduating seniors from the education degree program will score at or above the state mean on the Texas Teachers Certification Exam.

The second type compares student performance on a given student learning outcome to a specific performance level. In this type of benchmark, degree programs typically select a percentage of their students who should exhibit competent performance for student learning outcomes.

70% of graduating seniors will be able to articulate their philosophy of education.

SELECTING THE NUMERICAL "THRESHOLD" OF ACCEPTABLE PERFORMANCE

When determining the “threshold” for each degree program-level student learning outcome, faculty and administrators should discuss what number reflects the best threshold of performance for that learning outcome. Although this is not an absolute rule, faculty frequently set benchmarks at a level that correlates to *average performance* as an acceptable level of performance to graduate for most degree programs. The criterion may be different based on the type of degree program (e.g., highly specialized or graduate programs).

Faculty and administrators do not always need to select a number reflective of average performance for their benchmarks. Sometimes faculty and administrators choose to use existing data as a baseline benchmark to compare future performance. They might also use data from a similar degree program as a benchmark threshold. Using a related degree program is often chosen because it is exemplary. However, the data functions as a target goal, rather than as a baseline (Hatry, van Houten, Plantz, & Greenway, 1996).

Whichever process degree program faculty and administrators use to set benchmark thresholds, it is essential to select a benchmark that is meaningful in the context of the degree program to measure the improvement of institutional performance (Grand Valley State University, 2010).

ANALYZING THE ASSESSMENT DATA

Degree programs should incorporate the analysis of all assessment data as a routine part of program management. The data gathered for each student learning outcome should be analyzed and evaluated either on a semester or annual basis.

Analysis of assessment data should help departments identify the following:

- What students are learning in relation to each student learning outcome
- How well students are learning the material that relates to those outcomes
- How well the selected assessment methods measure each student learning outcome
- Areas for more focused assessment
- Ways to revise learning outcomes
- Areas to investigate in the next phase of assessment – the Improving Phase

THE IMPROVING PHASE

Assessment per se guarantees nothing by way of improvement; no more than a thermometer cures a fever (Marchese, 1987)

The improving phase is the purpose of assessment and involves reviewing the results to identify strategies to improve the quality of students' experiences and learning. It is essential to learn from the assessment results to “close the loop” rather than merely maintaining the benchmark or criterion (Chaffey College, n.d.).

Walvoord (2004) recommends at least one faculty meeting a year to discuss the degree program's student learning outcomes and assessment plan. This meeting should be at least two hours long and focus on the degree program's student learning outcomes, assessment data, and potential

improvements. It is not necessary to wait to schedule this meeting until the assessment plan and data are “perfect.” Assessment is a work in progress, and any meeting should be beneficial.

Possible topics for this meeting include:

- Share assessment data analysis results with program faculty and staff.
- Discuss these assessment results as they relate to each SLO.
- Review assessment results to determine programmatic strengths and areas for improvement.
- Decide if the program needs different assessment methods to obtain more targeted information.
- Determine how assessment results can be used to make improvements to the program (e.g., changes to the curriculum, provide professional development for teaching personnel in certain areas, etc.)
- Develop an action plan to implement these improvements.
- Implementation of specific strategies to execute the action plan.
- Review what needs to be done as the assessment cycle transitions back to the Planning Phase (e.g., Do faculty need to revise student learning outcomes? Are different assessment methods necessary? etc.)

Contact Institutional Research and Assessment at IRE@TAMUCT.EDU for further assistance or consultation in developing a program-level assessment plan.

THE PROCESS

WHO

Program faculty lead discussions to gain collective input to create and assess appropriate, measurable student learning outcomes as well as administrative outcomes for each program.

Educational programs, for the purpose of outcomes assessment, are defined by the combination of a degree and a major. Standalone certificate programs are also expected to identify and measure outcomes.

WHEN

The deadline for the submission of revised student learning and administrative outcomes and measures for each academic year is Mid-October. Each Spring semester, program coordinators provide updates to improvement plans.

WHAT

Program coordinators facilitate the following activities with program faculty and staff each year. The groups should develop a comprehensive assessment plan for the program to include a program mission, outcomes, curriculum map (for academic programs), direct and indirect measures for each outcome, targets or benchmarks for each measure, and potential strategies to correct deficiencies identified with each measure. The document will serve as a guide as programs move through the assessment cycle. Ideally, programs would focus their improvement efforts by assessing one-third of the program outcomes each year and include at least three year's data for each measure. Additionally, programs should limit the number of active improvement plans to one or two at any time.

MISSION

A mission statement defines the purpose of the program. For example, "The [program name] [primary purpose] by providing [primary functions] to [stakeholders] in support of the department's, college's, and university's missions."

Program coordinators discuss the mission and overall intent of the program using the following criteria

- **Short:** Mission is brief and memorable, generally one or two sentences.
- **Distinctive:** Mission is unique and distinguished from other assessment areas.
- **Focus:** Mission states the program's purpose or why it exists.
- **Scope:** Mission indicates the program's primary functions or how it works to accomplish its mission.
- **Stakeholders:** Mission identifies those intended to benefit from the area's efforts.
- **Alignment:** Mission supports the department's, college's, and university's missions.

OUTCOMES

Outcomes define the specific values students, faculty, staff, and the community members receive from the program. Outcomes start with an action verb and include a noun to identify the key values of the program. A program should include between four (4) and six (6) outcomes. Outcomes do not include any strategies or actions that program staff will perform to improve outcomes. For example, "Provide a positive customer experience."

Program faculty facilitate a conversation with program faculty and staff to identify three to five measurable outcomes consistent with the mission and overall goals of the program using the following criteria. For academic programs, the student learning outcomes would ideally, reflect higher levels of the cognitive, psychomotor, and affective learning domains.

- **Measurable:** The outcomes are assessable, realistic, and not aspirational.
- **Appropriate:** The outcomes are appropriate for the program.
- **Time-Bound:** The outcomes state when the value will be imparted.
- **Active:** The outcomes begin with a clear action verb, avoiding vague verbs.
- **Defined:** The outcomes include nouns defining the value.
- **Critical:** The outcomes are important conditions towards achieving the mission and refer to values.
- **Comprehensive:** The outcomes cover all aspects of the program mission.
- **Aligned:** The outcomes are mapped to the University's Strategic Plan.

ASSESSMENT PLANS

Each year, program coordinators plan to assess at least one-third of the program's outcomes at the beginning of the academic year. For each outcome, identify two methods of measurement that will be used to determine progress on the outcomes; with at least one direct and one indirect method. Multiple methods of measurement are necessary to assure reliability and validity. Measures should objectively quantify or qualify the achievement of program outcomes in support of the mission. Measures can be changed throughout the history of the plan, but should include at least three years of data when used and include the following when included in the operational plan:

- **Quantity:** The plan includes at least one-third of the program outcomes that were not included in the last two assessment plans.
- **Direct Measures:** The outcomes include at least one direct measure or evidence that is tangible, visible, and self-explanatory.
- **Indirect Measures:** The outcomes include at least one indirect measure or evidence that is a proxy (less clear and less convincing).
- **Defined:** The measures include a clear and detailed explanation of the assessment tool and a procedure for implementation or a rubric attached.
- **Appropriate:** The measures are appropriately designed for the outcomes.
- **Timely:** The measures identify when the data will be available.
- **Benchmark:** The measures include targets in the form of a percentage of the population achieving the cut score versus an average of the results.
- **Feasibility:** Measures are likely to yield results capable of identifying opportunities for program improvements.

- **Accountability:** Measures identify the person by title who is responsible for coordinating data collection and rating.
- **Basis:** The targets include a justification for the population percentage and the cut score and explain how the targets are appropriately challenging for the available resources.

NOTES:

- Selecting proper measures is critical to getting value out of the assessment. The process will serve no purpose if it only returns results for measures that reflect positively on the program. Be sure to select measures that have the potential to identify areas for improvement.
- For each method of measurement, determine the acceptable level or standard of performance by answering the following questions:
 - What level of achievement is considered acceptable performance for graduates of the program?
 - Are the acceptable levels consistent with any external review standards?
 - Are acceptable levels clearly and accurately defined?
- For each method of measurement, develop a system for implementation and assessment by answering the following questions:
 - How and where are concepts, skills, and values being taught?
 - Will the measure effectively measure how individual student learning is being taught?
 - How will measures be evaluated and what scoring rubrics will be needed to quantify student learning?
 - Who will be involved in the measurement process?
 - When will learning be measured?

ASSESSMENT FINDINGS

Collect and analyze the assessment data and draft a narrative defining the data and evaluating the results in relation to the outcome for each measure and the other measures included for each outcome. The narrative should include enough detail to define the data so that it stands on its own, and uses attachments only as support evidence (not as documentation). Critically examine the findings and define actions needed (recommendations) to improve the program. Recommend actions based on the data. The narrative should include each of the following criteria:

- **Data:** The measures include a complete narrative of the assessment data with the percentage of and the population number (n=x) assessed. Attachments are included as appropriate.
- **Evaluation:** The measures include a narrative critically evaluating the assessment results in relation to the outcome for each measure and the other measures included for an outcome.
- **Result:** The measures declare the target was met, not met, or exceeded. Exceeded is used only if the results are 50 percent above the target.

- **Next Steps:** The measures include recommendations for the actions to be taken to improve the program or the assessments based on the assessment results, regardless of meeting the target.

NOTES:

- The narrative should consider how the findings amassed from the corresponding measure relate to the outcome.
- The results should be based on reliable and valid data.
- Data should reflect learning related to the outcome in all sections of the course offered throughout the collection period. If presenting three years of data, is the data from face-to-face and online, on campus and remote campus, and full-time and adjunct faculty sections? These do not need to be disaggregated, but they must all be included for the data to represent all students in the program as excluding any of these groups is improper. And, while not required, it can be beneficial to compare the results for each of these types.
- Results should focus on student accomplishments and success.
- Results indicate improvement from previous years.
- Results illustrate effectiveness of previous actions plans.
- Results indicate success in achieving the desired performance target.
- Indicators for improvement can be gleaned from the results.
- Recommendations provided through previous assessments were addressed.

CONTINUOUS IMPROVEMENT PLANS

The continuous improvement plan (CIP) defines strategies, linked to findings, and selected to improve the results for specified measures with the intent of improving program outcomes. While assessment plans and findings end at the close of each cycle, **CIP action items may continue for years** until fully implementing the actions and evidence is collected to prove the action's impact on the program. Based on assessment findings, develop an action plan.

- **Defined:** Actions include a clear title and a narrative that adequately defines the actions, describing how, when, and where the actions will be executed. Attachments are included where appropriate.
- **Achievable:** Actions include criteria to determine how the actions will be considered complete.
- **Resources:** Actions include a narrative indicating the resources needed to complete the actions, including both incremental and existing funding and labor required.
- **Budget:** Actions include the dollar amounts for incremental budget requests.
- **Evidence-Based:** Actions are associated with findings directly impacted by the defined actions.

NOTES:

- Action plans should **likely lead** to continuous improvement.
- Action plans should **focus** on means to **improve** student learning and administrative effectiveness.
- Action plans should be **feasible** considering available **resources** and time.

CIP UPDATE

Good action plans require years to design, implement, and demonstrate improvement. Each Fall semester, programs complete the other steps of the assessment process, but in the spring, program coordinators provide status or updates on the action plans active for the program. In most cases, the actions are ongoing, and the coordinator needs to state the actions taken in the past year and the actions to be taken in the next year. Once the action is complete, and the data are available to determine the action's success, indicate the action is complete and provide a narrative of the improvement including the following:

- The implemented improvement
- The outcome improved
- A detailed explanation of the actions taken
- An evaluation of how the data indicate the level of success of the action and the improvement
- A summary of the data that determined the action resulting in an improvement (or not)
- Attachments as appropriate (however the narrative should stand on its own)

NOTES:

- Be sure to describe the evidence of improvement gained from actions taken based on previous outcomes assessments.
- Evidence of improvement should focus on improvements in student learning and administrative actions.
- Evidence of improvement should be found in the results.

CURRICULUM MAPS

Academic programs state expected learning outcomes and map those outcomes to the courses defined in the degree requirements published in the University Catalog. Each course is identified as introducing, practicing or reinforcing an outcome or group of outcomes. Each program outcome should be associated with a course, and each course should be associated with an outcome. Only prescriptive courses are required to be associated with program level outcomes. However, more detailed curriculum maps are encouraged.

Detailed Curriculum Maps

Programs should engage in detailed curriculum maps that include all the courses (including lower-level general education courses and electives and emphasis and concentration courses) listed or indirectly referenced in the University Catalog.

The learning outcomes for these courses should be mapped to program learning outcomes, and the assignments of these courses should be mapped to the course learning outcomes and consequentially to the program level learning outcomes. Program faculty should consider and evaluate if the frequency and extent of the inclusion of outcomes in course assessments adequately provide students the ability to

obtain the program level learning outcome by the conclusion of the program. Program faculty should carefully evaluate course-level learning outcomes and assignments that do not directly or indirectly support the program level learning outcomes.

Note: While our University does not offer lower-level courses, these courses and their learning outcomes are essential components of our undergraduate degree programs. The Texas Higher Education Coordination Board staff, in collaboration with program faculty across the State, prescribe the learning outcomes for these courses in the Academic Course Guide Manual (ACGM). The outcomes in the manual are a valuable resource for our faculty in completing curriculum maps.

For academic programs only, each year in the Fall, develop or review the program's curriculum map by identifying the program's core courses as listed in the University Catalog and indicating the relationship to the program's learning outcomes. The curriculum map aligns prescribed courses in the program's major to the program's learning outcomes by indicating where the outcome is introduced, practiced, or reinforced. Ideally, the curriculum introduces each outcome in at least one course, but in some instances, those courses may be offered at the lower level and not listed. There is no restriction from listing the lower-level courses in a program on the curriculum map. The THECB ACGM includes the general outcomes for all lower-level courses. Curriculum maps should be:

- **Comprehensive:** The map consists of all program learning outcomes.
- **Courses:** The map includes all the prescribed courses listed for the major in the current catalog.
- **Course Alignment:** The map associates each course with at least one outcome.
- **Outcome Alignment:** The map associates each outcome with at least one prescribed course.
- **Progressive:** The map demonstrates an intentional approach to introducing, reinforcing, and mastering learning outcomes.

NOTES:

Programs should develop maps from the program outcomes to the course outcome and assignment outcomes. A more comprehensive map ensures a well-balanced and effective program from a student learning perspective.

ASSESSMENT CALENDAR

The University assessment cycle functions on an academic or fiscal year (September to August) versus a calendar year (January to December). Assessment plans are developed in the fall semester and managed during the fall and spring semesters. Upon return in the following fall semester, faculty and staff report the findings for the measures in the plan, formulate actions plans, and develop the next year's assessment plan. Each spring, programs provide updates to action plans. These actions are intended to take multiple years to design, implement, and demonstrate effectiveness.

AVAILABILITY OF DATA

The data included in annual findings are not yearly data. Programs should not attempt to include the latest summer semester data in assessment findings as collection and analysis of the data will take too long and delay the assessment process. The data for all measures should be collected and reviewed by program faculty and staff each year. And, program faculty should provide three years of data when reporting findings for measures. Measures should not be included in assessment plans unless the program currently has two years of data on hand. Then an additional year is collected during the year of assessment. No program should need to report that data was not available for analysis.

ESCALATION OF PRIORITY

Annual Assessment serves an essential function for both academic and administrative programs providing critical insights into the successful attainment of outcomes and opportunities for improvement. Timely completion for each assessment item ensures the process yields viable and actionable information. Well-designed assessment plans will require less than 10 hours each year to complete the templates. However, the time needed to collect data and implement improvement actions will vary. The annual assessment cycle operates on the academic year and ends in August.

FALL SEMESTER - THE ASSESSMENT FINDINGS, CONTINUOUS IMPROVEMENT PLANS (CIP) AND ASSESSMENT PLANS ARE IDEALLY COMPLETED DURING THE FALL SEMESTER.

The effort commences in Mid-August with a reminder from the Director of Institutional Research and Assessment.

Ideal Milestones

Mid-September – Assessment Findings – Add findings, evaluations, and recommendations

Early October – Continuous Improvement Plans (CIP) – Identify strategies to improve

Mid-October – Assessment Plans – Identify outcomes and measures for the new assessment cycle

Early November – Faculty, and staff facing competing priorities making it difficult or impossible to meet the ideal milestones will receive invitations to assistive consultations from Institutional Research and Assessment.

Mid-February – Faculty and staff unable to complete the assessment items meet with the following administrators to evaluate priorities and develop an action plan to complete the items.

Academic	Administrative
Associate Provost	Vice President
Department Chair	Department Head

Early March – Faculty and staff unable to execute the action plan and complete the assessment items meet with the following administrators to evaluate priorities and provide a progress report on the action plan.

Academic	Administrative
Provost	President
Associate Provost	Vice President
Department Chair	Department Head

August	September	October	November	December	January	February	March
Assessment Findings							
Continuous Improvement Plans							
	Assessment Plans						

SPRING SEMESTER - THE ASSESSMENT PROCESS CONTINUES WITH A CONTINUOUS IMPROVEMENT PLANS (CIP) UPDATE IDEALLY COMPLETED DURING THE SPRING SEMESTER.

The effort commences in **Early February** with a reminder from the Director of Institutional Research and Assessment.

Ideal Milestones

Mid-February – CIP Update – Provide an update to the improvement strategies selected. CIP actions are multi-year projects involving planning, implementation, and time to collect data to demonstrate the improvements.

For completed actions, provide the actions taken, data to support the effects, an evaluation to define the results, and any next steps.

For actions in progress, provide the actions taken in the last year, and the actions to be completed in the next year

Early March – Faculty and staff facing competing priorities making it difficult or impossible to meet the ideal milestone will receive invitations to assistive consultations from Institutional Research and Assessment.

Mid-March – Faculty and staff unable to complete the assessment item meet with the following administrators to evaluate priorities and develop an action plan to complete the item.

Academic	Administrative
Associate Provost	Vice President
Department Chair	Department Head

Early April – Faculty and staff unable to execute the action plan and complete the assessment item meet with the following administrators to evaluate priorities and provide a progress report on the action plan.

Academic	Administrative
Provost	President
Associate Provost	Vice President
Department Chair	Department Head

February	March		April
CIP Updates	Assistive Consultations	Action Plan	Action Plan Update

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