Program Assessment Manual

Office of Institutional Assessment

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Introduction

Minot State University (MiSU) is an accredited institution of the Higher Learning Commission (HLC). HLC (2022) describes five Criteria that represent the standards by which they determine whether an institution meets the requirements for accreditation. Each Criterion subsumes multiple Core Components with examples of evidence to help clarify the requirements of each Criteria. Criterion 4, Teaching and Learning: Evaluation and Improvement, pertains to program assessment. For example, Core Component 4.B states, "The institution engages in ongoing assessment of student learning as part of its commitment to the educational outcomes of its students" (p. 35). More specifically, evidence item 1 under Core Component 4.B states, "The institution has effective processes for assessment of student learning and for achievement of learning goals in academic and cocurricular offerings" (p. 35).

MiSU addresses HLC's (2022) Core Component 4.B through its requirement for all academic and co-curricular programs to submit a *Yearly Program Assessment* (YPA) as annual documentation of its assessment plan, results, and utilization of results. For the purpose of this manual, a *program* is defined as an institutional initiative that supports student learning. An *academic program*, more specifically, is an undergraduate- or graduate-level course of study that results in a degree, certificate, or other scholarly award. MiSU defines a *co-curricular program* as an initiative of "ungraded learning that happens outside the classroom, which complements the learning occurring inside the classroom" (Minot State University Co-Curricular Committee, 2018, p. 8). According to HLC (2022), co-curricular refers to "learning activities, programs and experiences that reinforce the institution's mission and values and complement the formal curriculum" (p. 92). Examples of co-curricular programming include "study abroad, student

faculty research experiences, service learning, professional clubs or organizations, athletics, honor societies, career services, etc." (p. 92).

Multiple Levels of Assessment in Higher Education

MiSU defines *assessment* as "the systematic collection and analysis of information for improvement purposes" (Director of Assessment, 2019, p. 1). Assessment within an institution of higher education may be implemented at multiple levels of its hierarchical structure (Miller & Leskes, 2005; Peregrine Pathways, 2022), including at student-, course-, program-, department-, college-, and institution-levels (Figure 1). A single institution may include multiple colleges. A single college may include multiple departments (or divisions). A single department may include multiple programs. A single program may include multiple courses. A single course may include multiple students. There may be other levels of assessment at an institution that are not depicted in the diagram.

MiSU's definition of assessment may be adapted to define varying levels of assessment at an institution as follows:

- *Student assessment* is the systematic collection and analysis of student-level information for student-level improvement purposes.

- *Course assessment* is the systematic collection and analysis of course-level information for course-level improvement purposes.

- *Program assessment* is the systematic collection and analysis of program-level information for program-level improvement purposes.

- *Department assessment* is the systematic collection and analysis of department-level information for department-level improvement purposes.

- *College assessment* is the systematic collection and analysis of college-level information for college-level improvement purposes.

- *Institution assessment* is the systematic collection and analysis of institution-level information for institution-level improvement purposes.

Student-level information may be aggregated to inform course-, program-, department-, college-, or institution-level assessment. Course-level information may be aggregated to inform program-, department-, college-, or institution-level assessment. Program-level information may be aggregated to inform department- college-, or institution-level assessment. Department-level information may be aggregated to inform college- or institution-level assessment.

Figure 1

Levels of Assessment Within an Institution of Higher Education
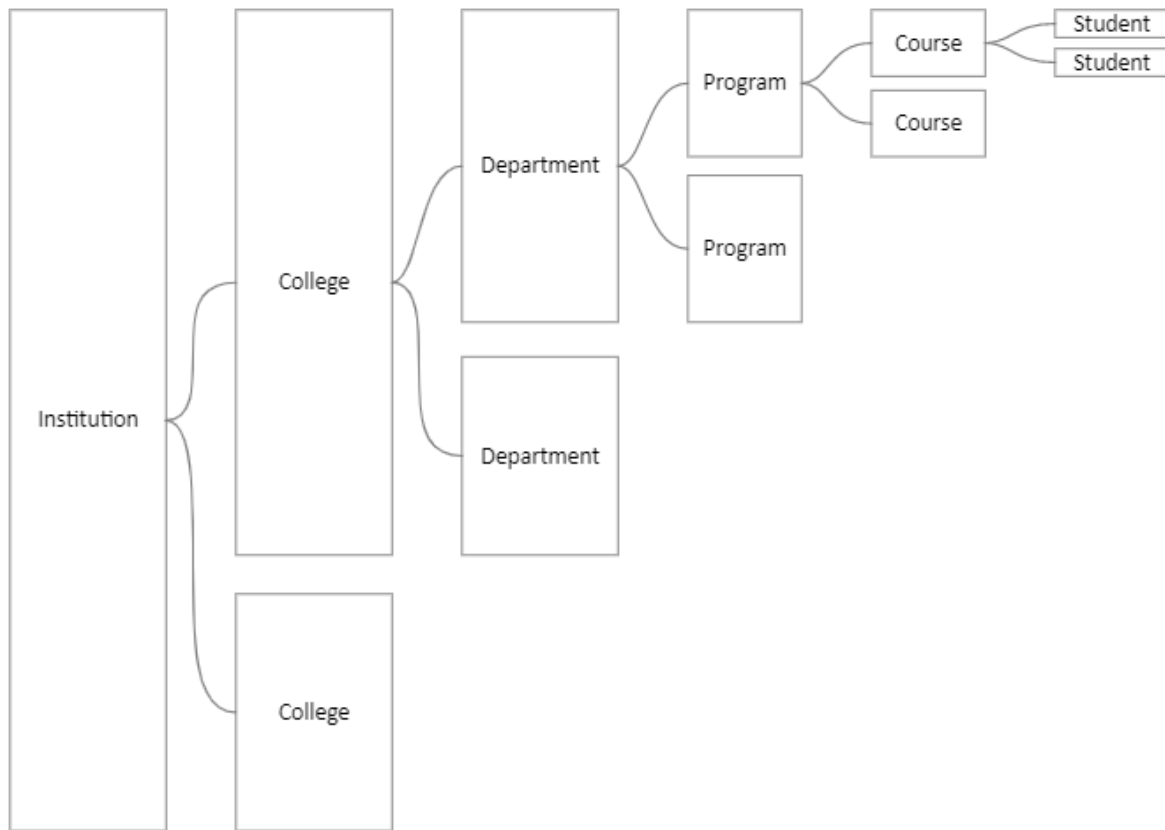
Target Audience for This Manual

The target audiences for this manual are YPA authors and other personnel who are responsible for supporting YPA planning, implementation, or reporting processes.

Purpose of This Manual

This manual is intended to serve a few purposes within a specific context of program assessment. The first purpose is to establish a common language for program assessment at MiSU. The second purpose is to establish a common understanding of YPA requirements at MiSU. The third purpose is to provide guidance and tools to assist academic and co-curricular programs with compiling the details that they need for meeting the YPA planning and reporting requirements. Readers of this manual will be able to:

- Write a mission statement for a program.

- Write student learning goals for a program.

- Write student learning outcomes for a program.

- Write operational goals for a program.

- Write operational outcomes for a program.

- Describe measures that are utilized to assess outcomes.

- Describe criteria for success on measures.

- Report findings based on the established criteria for success.

- Write narrative descriptions of intended assessment results.

- Write narrative descriptions of actual assessment results.

- Write narrative descriptions of the use of assessment results.

Structure of This Manual

This manual is primarily organized around essential elements that are required for planning, implementing, and reporting on a comprehensive program-level assessment. Its sections include an introduction to essential elements of program assessment, an overview of mission statements, methods of conducting student learning assessment, methods of conducting operational assessment, and supplemental resources. The student learning assessment section addresses goals, outcomes, measures, criteria, findings, and narrative interpretations of intended results, actual results, and uses of results that are relevant to their respective methods of assessment. The operational assessment section provides a brief overview of operational assessment and indicates that the essential elements in the student learning assessment section may be adapted for the purpose of operational assessment. The manual concludes with an overview of the *A+ Inquiry* framework as a supplemental conceptual model that may be utilized for operationalizing the methods and relevance of program assessment outcomes.

Using This Manual

This manual may seem daunting if readers attempt to consume its contents all at once. It is suggested that readers reference a specific section that is relevant to their needs at a given moment. For example, if a reader would like to gain a better understanding of a broad overview of MiSU's program assessment model, they may find value in reading the "Essential Elements of Program Assessment" section. If they are seeking guidance on how to describe the measures that are utilized to assess their student learning outcomes, it may be helpful for them to read the "Measures" subsection of the "Student Learning Assessment" section. They may also find the glossary to be a useful reference point for definitions of assessment-related terms.

Limitations of This Manual

There are several limitations of this manual. It is centered primarily on *outcome assessment*, which focuses on assessing the extent to and ways in which a program is achieving its intended outcomes. It does not focus on the following other *categories of assessment*, which are broad types of assessment that are important to consider for the development, implementation, and evaluation of a program (Anderson, 2022; Rossi et al., 2004):

- *Needs assessment*: Assessment of the extent to and ways in which there is a need for a program.

- *Theory assessment*: Assessment of the extent to and ways in which a program is appropriate to meet the need.

- *Process assessment*: Assessment of the extent to and ways in which a program is implemented as intended.

- *Efficiency assessment*: Assessment of the extent to and ways in which a program is implemented with efficient utilization of resources (see Appendix C).

This is a practitioner-oriented manual with concrete guidance and tools for operationalizing one model of program assessment in higher education; however, it is not intended to offer technical support. Therefore, it does not provide guidance on how to use the various technologies that MiSU currently uses or has utilized for formally compiling and submitting YPA plans and reports (e.g., MiSU's Microsoft Word YPA template, SPOL). This manual is informed by several assessment-related sources; however, it does not provide a thorough discussion on theories of assessment or, more specifically, theories of higher education assessment beyond the scope of the model and citations herein. The examples provided throughout the manual merely demonstrate representations of the basic requirements of program

assessment at MiSU. They do not address the wide array of nuanced intricacies that may be appropriate for programs to include in their YPA plans or reports.

Programs may implement other methods of program-level assessment that augment the model in this manual. In some cases, a program might not report all its assessment results in its YPA. For example, in addition to reporting results on its YPA, a program may need to report findings in different formats or for different goals or standards that are defined by state entities, accrediting bodies, or other stakeholders. Although assessment is implemented at multiple levels within an institution, this manual focuses narrowly on program-level assessment. That said, its contents may be appropriate to adapt for assessment at student-, course-, department-, college-, or institution levels.

Essential Elements of Program Assessment

There are a few *essential elements of program assessment* to consider when planning, implementing, and reporting on an assessment of an academic or co-curricular program. High-level relationships between the essential elements are depicted in Figure 2. Each element is composed of multiple key components that are addressed in their respective sections of this manual. The essential elements are defined as follows:

- *Mission statement:* Statement describing a program's primary purpose, functions, and stakeholders served. The mission should distinctly represent the program and be related to the mission of the institution.

- *Student learning goals (SLGs):* General statements of learning that students are expected to achieve through participation in a program.

- *Student learning outcomes (SLOs):* Specific statements of the knowledge, skills, values, or other attributes that students are expected to demonstrate by the time that they complete a program.

- *Operational goals (OGs):* General statements of what a program intends to accomplish in terms of its operational effectiveness.

- *Operational outcomes (OOs):* Specific statement of desired results relevant to a program's processes as well as its human, physical, technological, financial, and other resources.

- *Measure:* Tool, methodology, activity, or other means of assessing an outcome.

- *Criteria:* Methods of reporting assessment data, including targets.

- *Findings:* Assessment results.

- *Explanation of results:* Descriptions of the intended results, actual results, and use of results related to an outcome
  - *Intended results:* Description of the intended assessment results related to an outcome.
  - *Actual results:* Description of the actual assessment results related to an outcome, including comparisons to results from previous years, reasons why the results may have been achieved, implications that may be drawn from the results, and limitations of the results.
  - *Use of results:* Description of actions or decisions that have been or may be informed by the assessment results related to an outcome.

Figure 2

Essential Elements of Program Assessment
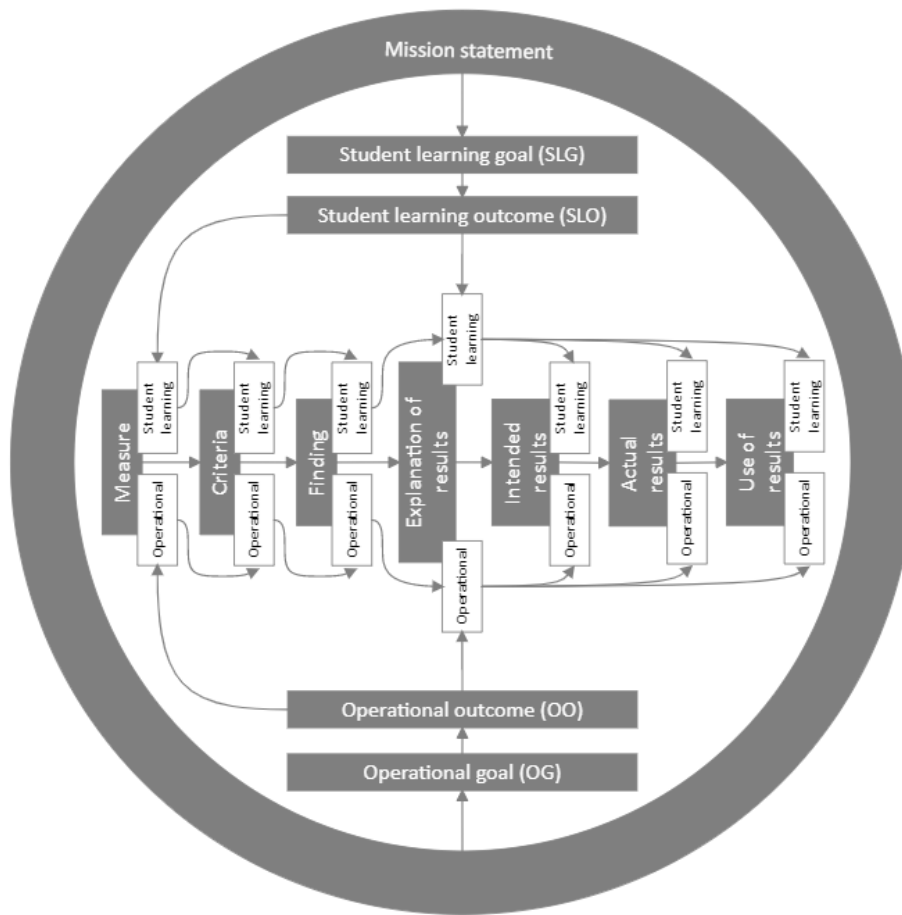
Figure 2 shows that each program has a mission statement and addresses SLGs, SLOs, OGs, OOs, measures, criteria, findings, and explanations of results (i.e., intended results, actual results, and uses of results) to support its mission. As depicted in Figure 3, each SLG subsumes at least one SLO. Each OG subsumes at least one OO. Each outcome (i.e., SLO or OO) subsumes at least one measure. Each measure subsumes at least one set of criteria. At least one finding is reported for each set of criteria. An explanation of results is provided for each outcome. An explanation of results includes a description of intended results, which are informed by the criteria and other relevant information; a description of actual results, which are informed by the findings and other relevant information; and a description of the use of results.

Figure 3

Recommended Numeric Structure of Goals, Outcomes, Measures, and Criteria
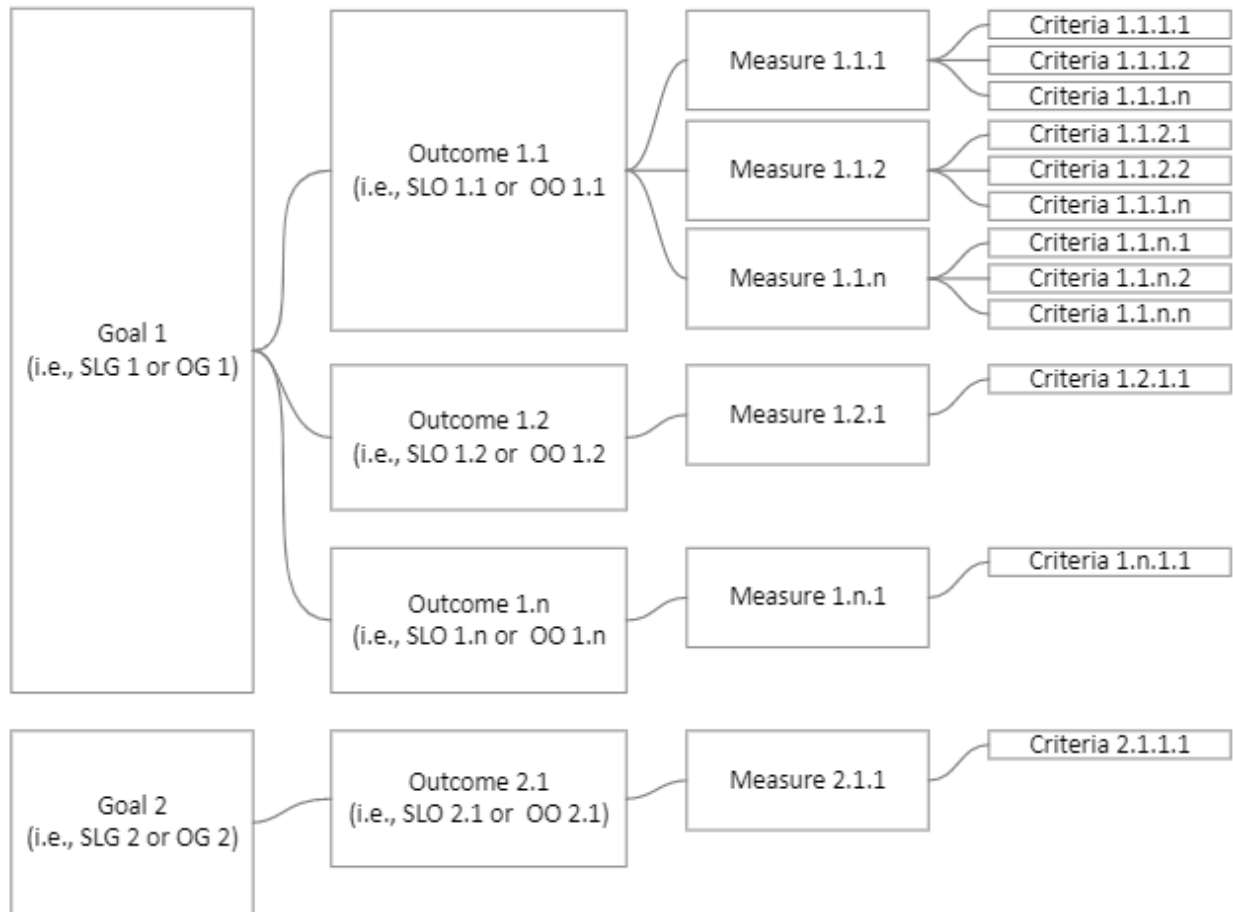
MiSU recommends the following coding structure for numbering goals, outcomes, measures, and criteria (Figure 3).

- A goal is coded with an abbreviation of the goal type (i.e., SLG or OG) followed by a space and a 1-digit number (e.g., SLG 1, OG 1). For example, SLG 3 would represent the 3rd student learning goal of a program.

- An outcome is coded with an abbreviation of the outcome type (i.e., SLO or OO) followed by a space and a 2-digit number separated by one period (e.g., SLO 1.1, OO 1.1). For example, SLO 1.3 would represent the third outcome under SLG 1.

- A measure is coded with a 3-digit number separated by two periods (e.g., 1.1.1). For example, a measure coded 2.1.2 would represent the 2nd measure of the first outcome under SLG 2.

- A set of criteria is coded with a 4-digit number separated by 3 periods (e.g., 1.1.1.1). For example, a set of criteria with the code 3.4.1.2 would represent the 2nd set of criteria for the 1st measure of the fourth outcome (i.e., SLO or OO) under the third goal (i.e., SLG or OG).

The terms and definitions representing the essential elements of program assessment are informed by a variety of sources. However, because MiSU uses Strategic Planning Online (SPOL, 2021a) institutional effectiveness software to support their implementation of program assessment, the terms and definitions have been intentionally written to align with language in SPOL's Assessment Module. Other entities or sources may define the same terms in different ways. For example, Institution X might define an SLO like how Institution Y defines an SLG and how Institution Z defines an objective.

On a side note, MiSU defines *course objective* in terms that are comparable to its SLO definition; however, rather than relating to program-level learning, MiSU considers a course objective to be a specific statement of the knowledge, skills, values, or other attributes that students are expected to demonstrate by the time that they complete a course. Course objectives are typically assessed toward the end of a course, whereas SLOs are typically assessed toward the end of a program (Gulliford, 2018; International Accreditation Council for Business

Education [IACBE], 2016). Although course objectives are necessary at the course-level and undoubtedly support a program's SLOs, SLGs, and mission, they are meant for course-level assessment and not for program-level assessment. Consequently, course objectives are not included as an essential element of program assessment in this manual due to the manual's specific emphasis on program-level assessment.

Subsequent sections in this manual explain the essential elements of program assessment in greater detail. Each essential element section includes a description, tools, and examples. The descriptions include definitions of the essential elements and their key components. The tools include organizers and narrative templates, which are provided to help programs ensure that they address the key components of each essential element. The essential elements include examples for two sample programs. The sample programs include one hypothetical academic program (*BS Disciplined Inquiry*) and one hypothetical co-curricular program (*Fit for College*). The hypothetical BS Disciplined Inquiry academic program is based on the *A+ Inquiry framework*, which synthesizes common stages of research, assessment, and evaluation processes to guide methods of strategically answering questions that matter (Anderson et al., 2014; Anderson 2022). The hypothetical Fit for College co-curricular program is based on the *CP^{2}R framework*, which interprets success holistically through domains of capacity, passion, relevance, and presence and may be utilized to assess and reflect on a person's fitness for a role (Anderson et al., 2018, 2020, 2022). The essential elements and examples that are provided throughout the manual are synthesized for the BS Disciplined Inquiry program in Appendix A and the Fit for College program in Appendix B to demonstrate relationships between the essential elements in a reportable format.

Mission Statement

A *mission statement* describes a program's primary purpose, functions, and stakeholders served (COBA, 2019; University of Central Florida [UCF], 2008). The mission statement should distinctly represent the program and be related to the mission of the institution. The key components of a mission statement include the name of the program, purpose of the program, primary activities or functions of the program, and stakeholders served by the program (Figure 4.)

Figure 4

Key Components of a Mission Statement

Component of Mission	Response
Name of the program	
Purpose of the program (i.e., the reasons why it performs its operations)	
Primary functions or activities of the program	
Stakeholders served by the program (i.e., the stakeholders that are expected to participate in or otherwise benefit from the program)	

Responses to the key components in Figure 4 may be synthesized to formulate a mission statement using the following *mission statement template* adapted from UCF (2008):

- The mission of the (Name of the Program) program is to (purpose of the program) by providing (primary functions or activities of the program) to (stakeholders served by the program).

Figure 5 depicts examples of how the BS Disciplined Inquiry and Fit for College programs address the key components of a mission statement. Sample mission statements for the BS Disciplined Inquiry and Fit for College programs based on the mission statement template are as follows:

- BS Disciplined Inquiry
  - o The mission of the BS Disciplined Inquiry program is to prepare graduates to lead assessment, evaluation, and research initiatives in their chosen career field by providing a relevant, high-quality course of study in broadly applicable inquiry methods to undergraduate students.
- Fit for College
  - o The mission of the Fit for College program is to prepare university students to improve or sustain their fitness for higher education by providing CP^2R training and tools for facilitating reflection, assessment, goal setting, and action planning through lenses of capacity, passion, relevance, and presence to all incoming freshmen.

Figure 5

Key Components of a Mission Statement Aligned With Sample Program Examples

Component of Mission	BS Disciplined Inquiry	Fit for College
Name of the program	BS Disciplined Inquiry	Fit for College
Purpose of the program (i.e., the reasons why it performs its operations)	prepare graduates to lead assessment, evaluation, and research initiatives in their chosen career field	prepare university students to improve or sustain their fitness for higher education
Primary functions or activities of the program	a relevant and high-quality course of study in broadly applicable inquiry methods	CP^2R training and tools for facilitating reflection, assessment, goal setting, and action planning through lenses of capacity, passion, relevance, and presence
Stakeholders served by the program (i.e., the stakeholders that are expected to participate in or otherwise benefit from the program)	undergraduate students	all incoming freshmen

Student Learning Assessment

This section addresses essential elements of program assessment within the context of student learning assessment. The essential elements discussed in this section include student learning goals, student learning outcomes, measures, criteria, findings, and explanation of results, which includes descriptions of intended results, actual results, and use of results. Each discussion includes a description of an essential element, a tool for its key components, and examples based on the sample BS Disciplined Inquiry academic program and the sample Fit for

College co-curricular program. Appendices A and B provide examples of how the key components for all the essential elements may be compiled into a single document.

Student Learning Goals

Student learning goals (SLGs) are general statements of learning that students are expected to achieve through their participation in a program (Appalachian State University, n.d.; COBA, 2019; Director of Assessment, 2019; IACBE, 2016). They should be reflected in the curriculum and serve as a bridge between the program's broad mission statement and its more detailed SLOs. Each SLG should subsume at least one SLO (Figure 3). Since the mission of the program should support the mission of the institution, the program-level SLGs should naturally also support the institution's mission. To keep assessment manageable, each program is advised to have around three to five SLGs (e.g., Appalachian State University, n.d.; COBA, 2019; Los Positas Community College, 2016; Peregrine Pathways, 2022). There are no strict rules on the number of SLGs that a program should assess, however, and a program may determine that more or fewer goals would be appropriate to assess annually and report on their YPA. Key components of an SLG include an SLG number, learner description, observable action verb, and statement of learning to be demonstrated (Figure 6). Each SLG should include only one observable action verb. Programs are encouraged to choose action verbs for their SLGs based on *Bloom's Taxonomy of Educational Objectives* (Anderson & Krathwohl, 2001; Bloom, 1956). A few of the many action verbs that programs may choose from when they write SLGs include identify, select, define, describe, explain, summarize, review, compute, demonstrate, apply, write, analyze, solve, create, design, compose, synthesize, tell, recommend, defend, judge. Programs may use other action verbs for their SLGs that are not listed here.

Figure 6

Key Components of an SLG

Component of SLG	Response
SLG number	
Learner description	
Observable action verb	
Statement of learning to be demonstrated	

Responses to the key components in Figure 6 may be synthesized into an SLG statement using the following template:

- (SLG Number): (Learner description) will (observable action verb) (statement of learning to be demonstrated)

Figure 7 depicts examples of how the BS Disciplined Inquiry and Fit for College programs address the key components of an SLG. Sample SLG statements for the BS Disciplined Inquiry and Fit for College programs based on the SLG template are as follows:

- BS Disciplined Inquiry
    - SLG 3: Students will apply methods of quantitative and qualitative data collection.
- Fit for College
    - SLG 2: Students will explore areas of their fitness for their roles as college students.

Figure 7

Key Components of an SLG Aligned With Sample Program Examples

Component of SLG	BS Disciplined Inquiry	Fit for College
SLG Number	SLG 3	SLG 2
Learner description	Students	Students
Observable action verb	apply	explore
Statement of learning to be demonstrated	methods of quantitative and qualitative data collection	areas of their fitness for their role as a college student

Student Learning Outcomes

Student learning outcomes (SLOs) are specific statements of the knowledge, skills, values, or other attributes that students are expected to demonstrate by the time that they complete a program. A specifically stated SLO is a more detailed representation of a generally stated SLG. To reinforce the theme of keeping assessment manageable, each SLG should have around two to four SLOs, which is in line with guidelines from other institutions and organizations (e.g., Appalachian State University, n.d.; College of Business Administration [COBA], 2019; Los Positas Community College, 2016; Peregrine Pathways, 2022); however, there are no strict rules on the number of SLOs that a program should assess. A program may determine that more or fewer outcomes would be appropriate to assess annually and report on the YPA. A single SLG may subsume multiple SLOs, and a single SLO may subsume multiple measures (Figure 3). Key components of an SLO mirror the key components of an SLG. They include an SLO number, learner description, an observable action verb, and a statement of learning to be demonstrated (Figure 8). As with SLGs, each SLO should include only one

observable action verb based on *Bloom's Taxonomy of Educational Objectives* (Anderson &

Krathwohl, 2001; Bloom, 1956).

Figure 8

Key Components of an SLO

Component of SLO	Response
SLO Number	
Learner description	
Observable action verb	
Statement of learning to be demonstrated	

Responses to the key components in Figure 8 may be synthesized into an SLO statement

using a template like the one that is utilized for writing an SLG statement, as follows:

- (SLO Number): (Learner description) will (observable action verb) (statement of learning

   to be demonstrated)

Figure 9 depicts examples of how the BS Disciplined Inquiry program addresses the key

components of an SLO related to its SLG 3 and how the Fit for College program addresses the

key components of an SLO related to its SLG 2. Sample SLO statements for the BS Disciplined

Inquiry and Fit for College programs based on the SLO template are as follows:

- BS Disciplined Inquiry

   o SLO 3.1: Students will develop a plan for collecting quantitative data.

- Fit for College

   o SLO 2.1: Students will examine the ways in which they perceive themselves to be

      fit for their roles as college students through various domains of holistic fitness.

Figure 9

Key Components of an SLO Aligned With Sample Program Examples

Component of SLO	BS Disciplined Inquiry (SLG 3)	Fit for College (SLG 2)
SLO Number	SLO 3.1	SLO 2.1
Learner description	Students	Students
Observable action verb	develop	examine
Statement of learning to be demonstrated	a plan for collecting quantitative data	the ways in which they perceive themselves to be fit for their roles as college students through various domains of holistic fitness

SLO 3.1 of the BS Disciplined Inquiry program, "Students will develop a plan for collecting quantitative data," is a more specific representation of the program's SLG 3, "Students will apply methods of quantitative and qualitative data collection." SLO 2.1 of the Fit for College program, "Students will examine the ways in which they perceive themselves to be fit for their roles as college students through various domains of holistic fitness" is a more specific representation of SLG 2, "Students will explore areas of their fitness for their roles as college students."

Programs should identify the courses or other settings where each SLO is covered or assessed. A *course assessing an SLO* is a course where a measure is implemented to assess learning relevant to the SLO. A *course covering an SLO* is a course where an SLO is introduced, reinforced, or synthesized (IACBE, n.d.). A *course covering an SLO through introduction* is a course that introduces concepts relevant to an SLO. Learning opportunities focus on acquiring basic knowledge and skills relevant to the SLO. A *course covering an SLO through*

reinforcement is a course that reinforces concepts relevant to an SLO. Learning opportunities focus on advancing the development of knowledge and skills that were previously introduced. A *course covering an SLO through synthesis* is a course that synthesizes concepts relevant to an SLO. Learning opportunities focus on combining multiple concepts related to an SLO that have been previously introduced or reinforced. An SLO may be assessed in a course that covers the SLO at any of the identified coverage levels (i.e., introduced, reinforced, synthesized) or in a course that does not cover the SLO beyond the scope of the assessment. See Figure 10 for a template that may be utilized to map SLOs to courses where they are assessed and covered.

Figure 10

Course Assessment and Coverage Level for SLO Mapping Template

Course or Setting	SLO #	
	Assessed (Yes/No)	Coverage Level

Figure 11 depicts an example of how the BS Disciplined Inquiry program mapped SLO 3.1 to the courses where it is assessed and covered. SLO 3.1 is introduced in INQ 200: Introduction to Disciplined Inquiry; reinforced in INQ 300: Data Collection Methods; and synthesized and assessed in INQ 490.

Figure 11

Course Assessment and Coverage Level for BS Disciplined Inquiry SLO 3.1

	SLO 3.1	
Course or Setting	Assessed (Yes/No)	Coverage Level
INQ 200: Introduction to Disciplined Inquiry	No	Introduced
INQ 300: Data Collection Methods	No	Reinforced
INQ 490: Capstone Project	Yes	Synthesized

Figure 12 depicts an example of how the Fit for College program mapped SLO 2.1 to the courses where it is assessed and covered. SLO 2.1 is introduced in Session 1: Introduction to Being Fit for College; reinforced and assessed in Session 2: Examining Fitness for College, Goal Setting, and Action Planning; and reinforced in Session 3: Assessing Progress Toward Achievement of Goals and Actions.

Figure 12

Course Assessment and Coverage Level for BS Disciplined Inquiry SLO 2.1

	SLO 2.1	
Setting	Assessed (Yes/No)	Coverage Level
Session 1: Introduction to Being Fit for College	No	Introduced
Session 2: Examining Fitness for College, Goal Setting, and Action Planning	Yes	Reinforced
Session 3: Assessing Progress Toward Achievement of Goals and Actions	No	Reinforced

Although SLOs represent specific attributes of learning that students who complete a program are expected to achieve, they do not capture all attributes of student development in a program. They are simply intended to represent a few key indicators of the well-being of a

program, similar to how blood pressure, cholesterol, and blood sugar levels represent a few indicators of an individual's physical well-being but do not capture a comprehensively intricate representation of a person's holistic well-being. Metzler and Kurz (2018) emphasized potential adverse effects that may result from establishing SLOs. "Articulating student learning outcomes can reduce the richness, complexity, and beauty of their discipline to a short list of discrete knowledge, skills, and attitudes for students to master" (p. 5). If an imbalanced overemphasis on SLOs results in a lack of emphasis on other important attributes of student learning, programs may be at risk of operating in ways that inadvertently inhibit student development. Programs are, thus, encouraged to ensure that they appropriately balance their attention and resources between their stated SLOs and other attributes of holistic student development that extend beyond the scope of their SLOs.

Measures

A measure is "a tool, methodology, activity or other means of assessing an outcome" (SPOL, 2021, p. 39). Each SLO should subsume at least one measure, and each measure should subsume at least one set of criteria (Figure 3). Although it is not apparent in Figure 3, a measure may be associated with more than one outcome in one or more programs. For example, a measure of an outcome in an academic program may simultaneously serve as a measure of the academic program outcome, a relevant General Education outcome, and a relevant institutional-level student learning outcome. A measure of an outcome in a co-curricular program may simultaneously serve as a measure of the co-curricular program outcome a relevant institutional-level co-curricular student learning outcome. A measure may be classified as direct or indirect. A *direct measure of student learning* is a means of assessing a student learning outcome that requires students to demonstrate their learning. Examples of types of direct measures include

standardized exams, locally developed exams, oral exams, essays/reports, performances/recitals, clinicals/practicums, presentations, portfolios, capstone projects, and simulations. An *indirect measure of student learning* is a means of assessing a student learning outcome that requires students to report, describe, or reflect on their learning. Examples of types of indirect measures include surveys, questionnaires, interviews, and focus groups. Key components of a measure include a title, a type, an indication of whether it is direct or indirect, one or more associated courses or settings where the measure is administered, and a description (Figure 13). The description of the measure should describe the instrument that is utilized to collect data, the time frame when it is implemented, and the personnel involved.

Figure 13

Key Components of a Measure

Component of Measure	Response
Measure Number	
Title	
Type	
Course or setting	
Description	

Figure 14 depicts examples of how the BS Disciplined Inquiry program address the key components of a direct measure of student learning related to its SLO 3.1 and how the Fit for College program addresses the key components related to its SLO 2.1. Figure 15 depicts examples of how the BS Disciplined Inquiry and Fit for College programs address the key components of indirect measures of student learning related to the same SLOs.

Figure 14

Key Components of Direct Measures Aligned With Sample Program Examples

Component of Measure	BS Disciplined Inquiry (SLO 3.1)	Fit for College (SLO 2.1)
Measure Number	3.1.1	2.1.1
Title	Disciplined Inquiry Capstone Project Rubric (Quantitative Data Collection Items)	Fit for College Reflection Rubric
Type	Direct	Direct
Course or setting	INQ 490 – Capstone Project	Session 2 of 3
Description	Students write a capstone paper for INQ 490 as a culminating project toward the conclusion of the BS Disciplined Inquiry course of study. The paper includes a section for students to describe a plan for collecting quantitative data, which includes four areas of data collection that represent the instrument, setting, participants, and procedure. Faculty use the Disciplined Inquiry Capstone Project Rubric to rate students on each of the four areas on a scale from 1-4 (1=Beginning, 2=Developing, 3=Accomplished, 4=Exemplary). Each student is given a score of 1-4 for each of the four areas.	Students write responses to reflective prompts regarding their fitness for their role as a college student after the second session of the program. They are prompted to reflect on the ways in which they perceive themselves to be fit for their role through domains of capacity, passion, relevance, and presence as well as strategies that they could implement to sustain or improve their fitness in those domains. Faculty use the Fit for College Reflection Rubric to rate students on each of the four domains on a scale from 1-4 (1=Beginning, 2=Developing, 3=Accomplished, 4=Exemplary). Each student is given a score of 1-4 for each of the four domains.

Figure 15

Key Components of Indirect Measures Aligned With Sample Program Examples

Component of Measure	BS Disciplined Inquiry (SLO 3.1)	Fit for College (SLO 2.1)
Measure Number	3.1.2	2.1.2
Title	BS Disciplined Inquiry Exit Survey – Quantitative Data Collection Item	Fit for College Exit Survey – Reflection Item
Type	Indirect	Indirect
Course or setting	INQ 490 – Capstone Project	Session 3 of 3
Description	Professor sends students a link to an online exit survey at the conclusion of INQ 490. Students mark the extent to which they agree or disagree with the following statement: The BS Disciplined Inquiry program prepared me to develop a plan for collecting quantitative data. Students respond to the statement on a scale from 1-4 (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree).	Program coordinator sends students a link to an online exit survey at the conclusion of the last session of the program (i.e., Session 3). Students mark the extent to which they agree or disagree with the following statement: The Fit for College program prepared me to examine the ways in which I am fit for my role as a college student. Students respond to the statement on a scale from 1-4 (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree).

Criteria

 Criteria for a student learning outcome are methods of reporting student learning

assessment data (SPOL, 2021). Each measure should subsume at least one set of criteria (Figure

3), and each set of criteria should subsume at least one finding. Key components of criteria for a

student learning outcome include a criteria number, title, *proficiency* (i.e., minimum performance

required on a measure to represent successful achievement of an SLO), and a target percentage (Figure 16). If a measure has multiple sets of criteria, it would be plausible for a student to meet the minimum performance level for success on one set of criteria but to not meet the proficiency requirement for another set of criteria.

Figure 16

Key Components of Criteria

Component of Criteria	Response
Criteria Number	
Title	
Proficiency	
Target %	

Figure 17 depicts examples of how the BS Disciplined Inquiry program address the key components of criteria related to its measures 3.1.1 and 3.1.2. There are four sets of criteria for measure 3.1.1 and one set of criteria for measure 3.1.2. In these examples, the minimum performance level required for success (i.e., proficiency) for each of the four sets of criteria under measure 3.1.1 is 3 Accomplished. Therefore, if a student is rated 3 Accomplished or 4 Exemplary on the Instrument (3.1.1.1), Setting (3.1.1.2), Participants (3.1.1.3), or Procedure (3.1.1.4) items, then they are counted as meeting the minimum performance level for success on the measure for the respective sets of criteria. If a student is rated 2 Developing or 1 Beginning on any of the items, then they are counted as not meeting the minimum performance level for success on the measure for the respective sets of criteria. The minimum performance level required for success for the single set of criteria under measure 3.1.2 is 3 Agree. Therefore, if a

student marks that they agree (3) or strongly agree (4) on the survey item, then they are counted as meeting the criteria for success on measure 3.1.2. If they mark disagree (2) or strongly disagree (1), then they are counted as not meeting the criteria for success on the measure.

Figure 17

Key Components of Criteria Aligned With BS Disciplined Inquiry Examples

Component of Criteria	BS Disciplined Inquiry				
	Measure 3.1.1				Measure 3.1.2
Criteria Number	3.1.1.1	3.1.1.2	3.1.1.3	3.1.1.4	3.1.2.1
Title	Instrument	Setting	Participants	Procedure	Quantitative data collection
Proficiency	3 Accomplished	3 Accomplished	3 Accomplished	3 Accomplished	3 Agree
Target %	80%	80%	80%	80%	80%

Figure 18 depicts examples of how the Fit for College program addresses the key components of criteria related to its measures 2.1.1 and 2.1.2. There are four sets of criteria for measure 2.1.1 and one set of criteria for measure 2.1.2. In these examples, the minimum performance level required for success (i.e., proficiency) for each of the four sets of criteria under measure 2.1.1 is 3 Accomplished. Therefore, if a student is rated 3 Accomplished or 4 Exemplary on the Capacity (2.1.1.1), Passion (2.1.1.2), Relevance (2.1.1.3), or Presence (2.1.1.4) items, then they are counted as meeting the minimum performance level for success on the measure for the respective sets of criteria. If a student is rated 2 Developing or 1 Beginning on any of the items, then they are counted as not meeting the minimum performance level for success on the measure for the respective sets of criteria. The minimum performance level required for success for the single set of criteria under measure 2.1.2 is 3 Agree. Therefore, if a student marks that they agree (3) or strongly agree (4) on the survey item related to reflection,

then they are counted as meeting the criteria for success on measure 2.1.2. If they mark disagree

(2) or strongly disagree (1), then they are counted as not meeting the criteria for success on the

measure.

Figure 18

Key Components of Criteria Aligned With Fit for College Examples

Component of Criteria	Fit for College				
	Measure 2.1.1				Measure 2.1.2
Criteria Number	2.1.1.1	2.1.1.2	2.1.1.3	2.1.1.4	2.1.2.1
Title	Capacity	Passion	Relevance	Presence	Reflection
Proficiency	3 Accomplished	3 Accomplished	3 Accomplished	3 Accomplished	3 Agree
Target %	80%	80%	80%	80%	80%

The *target* component of a set of criteria is a future quantitative value that is expected to

be achieved on a measure as a point of reference for a program to evaluate or judge its own

performance. A program may use its own past performance data or data from another

comparable or exemplary program as a benchmark against which to compare future

data/performance. A *target for a student learning outcome* is a future value expressed as a

percentage of students that are expected to achieve proficiency on a measure (e.g., COBA, 2019;

SPOL, 2021). A target percentage is established for each set of criteria. Target statements may be

written by combining the target and proficiency components of a set of criteria with applicable

components of its respective measure and outcome. The key components of a target statement

include the target percentage, proficiency level, and title components of the criteria; the title and

course or setting components of the measure; and the learner description, observable action verb,

and statement of learning to be demonstrated components of an SLO (Figure 19).

Figure 19

Key Components of a Target Statement

Essential Element	Component of Target Statement	Response
Criteria	Target percentage	
	Proficiency	
	Criteria Title	
Measure	Measure Title	
	Type	
	Course or Setting	
SLO	Learner Description	
	Observable action verb	
	Statement of learning to be demonstrated	

Responses to the key components in Figure 19 may be synthesized into a target statement using the following *target statement for a student learning outcome template*:

- (Target percentage) of (Learner description) will show proficiency of their ability to (observable action verb) (statement of learning to be demonstrated) by scoring (Proficiency) or higher on the (criteria title) criteria of the (type) measure, (Measure Title), which is implemented in (course or setting).

Figure 20 depicts examples of how the BS Disciplined Inquiry program addresses the key components of a target statement related to Criteria under Measures 3.1.1 and 3.1.2. A sample target statement for Criteria 3.1.1.1 of the BS Disciplined Inquiry program based on the target statement template is below. Similar statements may be formulated for the other criteria.

- 80% of students will show proficiency of their ability to develop a plan for collecting quantitative data by scoring 3 Accomplished or higher on the Instrument criteria of the

direct measure, Disciplined Inquiry Capstone Project Rubric (Quantitative Data

Collection Items), which is implemented in INQ 490.

Figure 20

Key Components of Target Statement Aligned with BS Disciplined Inquiry Examples

Essential Element	Component of Target Statement	Criteria				
		3.1.1.1	3.1.1.2	3.1.1.3	3.1.1.4	3.1.2.1
Criteria	Target percentage	80%	80%	80%	80%	80%
	Proficiency	3 Accomplished	3 Accomplished	3 Accomplished	3 Accomplished	3 Agree
	Criteria Title	Instrument	Setting	Participants	Procedure	Quantitative data collection
Measure	Measure Title	Disciplined Inquiry Capstone Project Rubric (Quantitative Data Collection Items)				Disciplined Inquiry Exit Survey – Quantitative Data Collection Item
	Type	Direct				Indirect
	Course or Setting	INQ 490				INQ 490
SLO	Learner Description	Students				
	Observable action verb	develop				
	Statement of learning to be demonstrated	a plan for collecting quantitative data				

Figure 21 depicts examples of how the Fit for College program addresses the key

components of a target statement related to Criteria under Measures 2.1.1 and 2.1.2. A sample

target statement for Criteria 2.1.1.1 of the Fit for College program based on the target statement

template is below. Similar statements may be formulated for the other criteria.

- 80% of students will show proficiency of their ability to examine the ways in which they perceive themselves to be fit for their roles as college students through various domains of holistic fitness by scoring 3 Accomplished or higher on the instrument criteria of the direct measure, Fit for College Reflection Rubric, which is implemented in Session 2 of 3.

Figure 21

Key Components of Target Statement Aligned with Fit for College Examples

Essential Element	Component of Target Statement	Criteria				
		2.1.1.1	2.1.1.2	2.1.1.3	2.1.1.4	2.1.2.1
Criteria	Target percentage	80%	80%	80%	80%	80%
	Proficiency	3 Accomplished	3 Accomplished	3 Accomplished	3 Accomplished	3 Agree
	Criteria Title	Capacity	Passion	Relevance	Presence	Reflection
Measure	Measure Title	Fit for College Reflection Rubric				Fit for College Exit Survey – Reflection Item
	Type	Direct				Indirect
	Course or Setting	Session 2 of 3				Session 3 of 3
SLO	Learner Description	Students				
	Observable action verb	examine				
	Statement of learning to be demonstrated	the ways in which they perceive themselves to be fit for their roles as college students through various domains of holistic fitness				

Findings

Findings are the results of an assessment (SPOL, 2021). Each set of criteria should subsume at least one finding (Figure 3). Key components of a finding include the number of

students who were assessed on a measure, the number of students meeting proficiency criteria on

the measure, the percentage of students meeting proficiency, the target (established in criteria),

the percentage point difference between the target and the percentage of students meeting

proficiency, the status of the target being met or not met, and notes with supplemental

quantitative values (e.g., mean, median, min, max, standard deviation, p-value) and/or qualitative

details (e.g., demographics of the sample, limitations of the result, instructional strategies

contributing to the result, potential decisions that may be informed by the result) to further

contextualize the finding if needed (Figure 22). The number of students who were proficient is

divided by the number of students who were assessed to calculate the percentage of students who

were proficient on a measure. Then, the actual percentage of proficient students is compared to

the target percentage to identify whether the target was met and to calculate the extent to which

the actual percentage is at or below the target. The program considers a target to be met if the

actual percentage of proficient students is equal to or greater than the target percentage.

Figure 22

Key Components of Findings

Component of Finding	Response
Number of students assessed	
Number of students meeting proficiency	
Percentage of students meeting proficiency	
Target (established in criteria)	
Percentage point difference between percentage of students meeting proficiency and target	
Status of target being met or not met	
Notes	

Figure 23 depicts examples of how the BS Disciplined Inquiry program addresses the key

components of findings related to the criteria under measures 3.1.1 and 3.1.2. The finding related

to Criteria 3.1.1.1, Instrument, indicates that 60% (30/50) of the assessed students were proficient, which is 20 percentage points below the 80% target. Therefore, the target was not met based on this finding. The finding includes a supplemental note with the academic class of the participants (senior) and the mean value of their rubric ratings (2.0). The remaining findings may be explained in a similar way.

Figure 23

Key Components of Findings Aligned with BS Disciplined Inquiry Examples

	BS Disciplined Inquiry Criteria Number and Title				
Component of Finding	3.1.1.1 Instrument	3.1.1.2 Setting	3.1.1.3 Participants	3.1.1.4 Procedure	3.1.2.1 Quantitative Data Collection
Number of students assessed	50	50	50	50	50
Number of students meeting proficiency	30	40	45	35	40
Percentage of students meeting proficiency	60%	80%	90%	70%	80%
Target (established in criteria)	80%	80%	80%	80%	80%
Percentage point difference between percentage of students meeting proficiency and target	- 20	0	+10	-10	0
Status of target being met or not met	Not met	Met	Met	Not met	Met
Notes	Mean: Senior 2.0	Mean: Senior 3.2	Mean: Senior 3.5	Mean: Senior 2.2	Mean: Senior 3.2

Figure 24 depicts examples of how the Fit for College program addresses the key components of findings related to the criteria under measures 2.1.1 and 2.1.2. The finding related to Criteria 2.1.1.1, Instrument, indicates that 90% (90/1000) of the assessed students were proficient, which is 10 percentage points above the 80% target. Therefore, the target was met based on this finding. The finding includes a supplemental note with the academic class of the participants (freshmen) and the mean value (3.6) of their rubric ratings related to the criteria. The remaining findings may be explained in a similar way.

Figure 24

Key Components of Findings Aligned with Fit for College Examples

	Fit for College Criteria Number and Title				
Component of Finding	2.1.1.1 Capacity	2.1.1.2 Passion	2.1.1.3 Relevance	2.1.1.4 Presence	2.1.2.1 Reflection
Number of students assessed	100	100	100	100	100
Number of students meeting proficiency	90	70	90	70	80
Percentage of students meeting proficiency	90%	70%	90%	70%	80%
Target (established in criteria)	80%	80%	80%	80%	80%
Percentage point difference between percentage of students meeting proficiency and target	+10	-10	+10	-10	0
Status of target being met or not met	Met	Not met	Met	Not met	Met
Notes	Mean: Freshmen 3.6	Mean: Freshmen 2.8	Mean: Freshmen 3.4	Mean: Freshmen 2.9	Mean: Freshmen 3.2

Explanation of Results

An explanation of results is provided for each SLO (Figure 3). An explanation of results for an SLO includes descriptions of its intended results, actual results, and use of results.

Intended Results

A narrative description of the intended assessment results is provided for each outcome (Figure 3). Key components of the intended results essential element include the number of sets of criteria that were established for an outcome; the range of the targets that were established for the criteria; a description of any changes that were expected to be demonstrated in the results; and a description of instructional strategies, content, or other aspects of the program that may have led to the results (Figure 25). These key components represent a starting point for programs to consider when they write a narrative of their intended results. Programs may provide different or additional details for their intended results that are beyond the scope of the identified key components.

Figure 25

Key Components of Intended Results

Component of Intended Result	Response
How many sets of criteria were established for the outcome?	
What is the range of targets that were established for the criteria?	
What changes were expected in the results?	
What instructional strategies, content, or other aspects of the program may have led to the results?	

Figure 26 depicts examples of how the BS Disciplined Inquiry program addresses the key components of intended results related to SLO 3.1. Here is an example of a narrative description of the intended results for the program based on the details provided in Figure 26:

- The target for each set of criteria was 80%. In addition to expecting the targets to be achieved, there was an expected increase from the previous year in the percentage of students who demonstrated proficiency in describing the data collection procedure (Criteria 3.1.1.4) as measured by the Quantitative Data Collection Items section on the Disciplined Inquiry Capstone Project Rubric (Measure 3.1.1). The increase was expected in in response to implementing a new assignment for students to provide feedback to their peers on their data collection procedures based on the respective proficiency descriptions in the Disciplined Inquiry Capstone Project Rubric.

Figure 26

Key Components of Intended Results Aligned with BS Disciplined Inquiry SLO 3.1

Component of Intended Result	Response
How many sets of criteria were established for the outcome?	5
What is the range of targets that were established for the criteria?	Minimum: 80% Maximum: 80%
What changes were expected in the results?	Increase in percentage of students demonstrating proficiency in describing the data collection procedure (Criteria 3.1.1.4) as measured by the Quantitative Data Collection Items section on the Disciplined Inquiry Capstone Project Rubric (Measure 3.1.1).
What instructional strategies, content, or other aspects of the program may have led to the results?	Changes expected in response to implementing a new assignment for students to provide feedback to their peers on their data collection procedures based on the respective proficiency descriptions in the Disciplined Inquiry Capstone Project Rubric.

Figure 27 depicts examples of how the Fit for College program addresses the key components of intended results related to SLO 2.1. Here is an example of a narrative description of the intended results for the program based on the details provided in Figure 27:

- There were five sets of criteria established for outcome 2.1. The target for each set of criteria was 80%. In addition to expecting the targets to be achieved, there was an expected increase from the previous year in the percentage of students who demonstrated proficiency in examining their passion for their role as a college student (Criteria 2.1.1.2) as measured by the Fit for College Reflection Rubric (Measure 2.1.1). The increase was expected in response to providing students with additional guidance on writing reflections related to their passion, which included sharing exemplars of reflections on passion with the students and creating a template to help them compile and organize their thoughts on their passion for being a college student.

Figure 27

Key Components of Intended Results Aligned with Fit for College SLO 2.1

Component of Intended Result	Response
How many sets of criteria were established for the outcome?	5
What is the range of targets that were established for the criteria?	Minimum target: 80% Maximum target: 80%
What changes were expected in the results?	Increase in percentage of students demonstrating proficiency in examining their passion for their role as a college student (Criteria 2.1.1.2) as measured by the Fit for College Reflection Rubric (Measure 2.1.1).
What instructional strategies, content, or other aspects of the program may have led to the results?	Changes expected in response to providing exemplars of reflections on passion and creating a template to help students compile and organize their thoughts on their passion for being a college student.

Actual Results

A narrative description of the actual assessment results is provided for each outcome (Figure 3). Key components of the actual results essential element include comparisons between the actual results and the intended results, potential limitations of the results, and implications or conclusions that may be drawn from the results (Figure 28). These key components represent a starting point for programs to consider when they write a narrative of their actual results. Programs may provide different or additional details for their actual results that are beyond the scope of the identified key components.

Figure 28

Key Components of Actual Results

Component of Actual Result	Response
What are the highest and lowest areas of performance?	
Which areas met and did not meet their targets?	
How do the results relate to the results from previous years?	
What are potential reasons why the targets may or may not have been met?	
What are the implications that may be drawn from the results?	
What are the limitations of the results?	

Figure 29 depicts examples of how the BS Disciplined Inquiry program addresses the key components of actual results related to SLO 3.1. Here is an example of a narrative description of the actual results for the program based on the details provided in Figure 29:

- The highest area of performance was Criteria 3.1.1.3 Participants (90%). The lowest area of performance was Criteria 3.1.1.1 Instrument (60%). Three of the targets were met, including two targets from the direct measure (3.1.1.2 Setting and 3.1.1.3 Participants) and the one target from the indirect measure (3.1.2.1 Quantitative Data Collection). Two of the targets from the direct measure were not met (3.1.1.1 Instrument and 3.1.1.4 Procedure). All criteria that met the target for the current reporting year also met the target for the prior reporting year. Although 3.1.1.1 Instrument did not meet its target, it demonstrated an increase from 50% in the prior reporting year to 60% in the current reporting year. The targets that were met may have been a result of implementing the same respective strategies that were implemented in previous years. The improved performance in one of the targets that was not met may have been due to the new assignment that was implemented to improve performance in the area. There are a few limitations to these results. The results only represent one direct measure and one indirect measure. They may have been different if different measures had been used. Furthermore, the results represent the interpretation of one instructor. A different instructor may have scored the same students differently.

Figure 29

Key Components of Actual Results Aligned with BS Disciplined Inquiry SLO 3.1

Component of Actual Result	Response
What are the highest and lowest areas of performance?	Highest: 90% (Criteria 3.1.1.3 Participants) Lowest: 60% (Criteria 3.1.1.1 Instrument)
Which areas met and did not meet their targets?	Met: 3.1.1.2 Setting, 3.1.1.3 Participants, 3.1.2.1 Quantitative Data Collection Did not meet: 3.1.1.1 Instrument, 3.1.1.4 Procedure
How do the results relate to the results from previous years?	All criteria that met the target for the current reporting year also met the target for the prior reporting year. 3.1.1.1 Instrument increased from 50% in the prior reporting year to 60% in the current reporting year.
What are potential reasons why the targets may or may not have been met?	The targets that continued to be met may have been due to the implementation of similar strategies from previous years. The improved performance in one of the targets that was not met may have been due to the new assignment that was implemented to improve performance in the area.
What are the implications that may be drawn from the results?	The instructional strategies seem to be the most effective at preparing students to plan the setting and participants sections of the quantitative data collection methods and the least effective at preparing students to plan the instrument and procedure sections of their methods. Although a few of the targets were met, there is room for improvement in all the areas.
What are the limitations of the results?	The results only represent one direct measure and one indirect measure. They may have been different if different measures had been used. Furthermore, the results represent the interpretation of one instructor. A different instructor may have scored the same students differently.

Figure 30 depicts examples of how the Fit for College program addresses the key components of actual results related to SLO 2.1. Here is an example of a narrative description of the actual results for the program based on the details provided in Figure 30:

- The highest areas of performance were Criteria 2.1.1.1 Capacity (90%) and Criteria 2.1.1.3 Relevance (90%). The lowest areas of performance were Criteria 2.1.1.2 Passion (70%) and Criteria 2.1.1.4 Presence (70%). Three of the targets were met, including two targets from the direct measure (2.1.1.1 Capacity and 2.1.1.3 Presence) and the one target from the indirect measure (2.1.2.1 Reflection). Two of the targets from the direct measure were not met (2.1.1.2 Passion and 2.1.1.4 Presence). The three criteria that met the target for the current reporting year also met the target for the prior reporting year (2.1.1.1 Capacity, 2.1.1.3 Relevance, and 2.1.2.1 Reflection). Criteria 2.1.1.1 Passion increased from 60% in the prior reporting year to 70% in the current reporting year. The targets that continued to be met may have been due to the implementation of similar strategies from previous years. The improved performance in one of the targets that was not met may have been due to the exemplars and template that were implemented to improve performance in the area. The instructional strategies seem to be the most effective at preparing students to examine their fitness for college in the areas of capacity and relevance and the least effective at preparing students to examine their areas for fitness in the areas of passion and presence. Although a few of the targets were met, there is room for improvement in all the areas. There are a few limitations of these results. For example. The results only represent one direct measure and one indirect measure. They may have been different if different measures had been used. Furthermore, the results represent the interpretation of one instructor. A different instructor may have scored the same students differently

Figure 30

Key Components of Actual Results Aligned with Fit for College SLO 2.1

Component of Actual Result	Response
What are the highest and lowest areas of performance?	Highest: 90% (Criteria 2.1.1.1 Capacity and 2.1.1.3 Relevance) Lowest: 70% (Criteria 2.1.1.2 Passion and 2.1.1.4 Presence)
Which areas met and did not meet their targets?	Met: 2.1.1.1 Capacity, 2.1.1.3 Relevance, 2.1.2.1 Reflection Did not meet: 2.1.1.2 Passion, 2.1.1.4 Presence
How do the results relate to the results from previous years?	The three criteria that met the target for the current reporting year also met the target for the prior reporting year (2.1.1.1 Capacity, 2.1.1.3 Relevance, and 2.1.2.1 Reflection). 2.1.1.1 Passion increased from 60% in the prior reporting year to 70% in the current reporting year.
What are potential reasons why the targets may or may not have been met?	The targets that continued to be met may have been due to the implementation of similar strategies from previous years. The improved performance in one of the targets that was not met may have been due to the exemplars and template that were implemented to improve performance in the area.
What are the implications that may be drawn from the results?	The instructional strategies seem to be the most effective at preparing students to examine their fitness for college in the areas of capacity and relevance and the least effective at preparing students to examine their areas for fitness in the areas of passion and presence. Although a few of the targets were met, there is room for improvement in all the areas.
What are the limitations of the results?	The results only represent one direct measure and one indirect measure. They may have been different if different measures had been used. Furthermore, the results represent the interpretation of one instructor. A different instructor may have scored the same students differently.

Use of Results

A narrative description of the use of assessment results is provided for each outcome. Key components of the use of results essential element include effects on program content, effects on program delivery, effects on program assessment methods, and other decisions or

actions that may be informed by the results (Figure 31). These key components represent a

starting point for programs to consider when they write a narrative of their use of results.

Programs may provide different or additional details for their use of results that are beyond the

scope of the identified key components.

Figure 31

Key Components of Use of Results

Component of Use of Results	Response
How will the content in your program be affected by the results? For example, will you continue, discontinue, or modify existing content? Will you implement new content?	
How will the delivery of your program be affected by the results? For example, will you continue, discontinue, or modify existing instructional strategies? Will you implement new instructional strategies?	
How will your program assessment methods be affected by the results? For example, will you continue assessing the outcome? Will you continue or modify the criteria on existing measures? Will you modify or discontinue any existing measures? Will you implement new measures? Will you adjust any criteria?	
What other decisions or actions may be informed by the results?	

Figure 32 depicts examples of how the BS Disciplined Inquiry program addresses the key

components of use of results related to SLO 3.1. Here is an example of a narrative description of

the use of results for the program based on the details provided in Figure 32:

- A few actions related to program content, program delivery, and program assessment will

    be informed by the results. In terms of program content, a graded assignment will be

added for students to self-assess their quantitative data collection plan before they submit

their final capstone paper. A rubric will be developed for students to use as they self-

assess their plan. In terms of program delivery, the program will be delivered in the same

way that it was delivered in the previous year. In terms of program assessment, the same

methods will be implemented.

Figure 32

Key Components of Use of Results Aligned with BS Disciplined Inquiry SLO 3.1

Component of Use of Results	Response
How will the content in your program be affected by the results? For example, will you continue, discontinue, or modify existing content? Will you implement new content?	A graded assignment will be added for students to self-assess their quantitative data collection plan before they submit their final capstone paper. A rubric will be developed for students to use as they self-assess their plan.
How will the delivery of your program be affected by the results? For example, will you continue, discontinue, or modify existing instructional strategies? Will you implement new instructional strategies?	The program will be delivered in the same way that it was delivered in the previous year.
How will your program assessment methods be affected by the results? For example, will you continue assessing the outcome? Will you continue or modify the criteria on existing measures? Will you modify or discontinue any existing measures? Will you implement new measures? Will you adjust any criteria?	Program assessment methods are expected to remain the same.
What other decisions or actions may be informed by the results?	No other decisions or actions are expected to be informed by the results.

Figure 33 depicts examples of how the Fit for College program addresses the key

components of use of results related to SLO 2.1. Here is an example of a narrative description of

the use of results for the program based on the details provided in Figure 33:

- A few actions related to program content, program delivery, and program assessment will be informed by the results. In terms of program content, students will be provided with exemplars of reflections from prior years. In terms of program delivery, the program will be delivered in the same way that it was delivered in the previous year. In terms of program assessment, assessment methods will primarily remain the same; however, students will have an option to submit a video or audio reflection in lieu of a written reflection.

Figure 33

Key Components of Use of Results Aligned with Fit for College SLO 2.1

Component of Use of Results	Response
How will the content in your program be affected by the results? For example, will you continue, discontinue, or modify existing content? Will you implement new content?	Students will be provided with exemplars of reflections from prior terms.
How will the delivery of your program be affected by the results? For example, will you continue, discontinue, or modify existing instructional strategies? Will you implement new instructional strategies?	The program will be delivered in the same way that it was delivered in the previous year.
How will your program assessment methods be affected by the results? For example, will you continue assessing the outcome? Will you continue or modify the criteria on existing measures? Will you modify or discontinue any existing measures? Will you implement new measures? Will you adjust any criteria?	Assessment methods will primarily remain the same; however, students will have an option to submit a video or audio reflection in lieu of a written reflection.
What other decisions or actions may be informed by the results?	No other decisions or actions are expected to be informed by the results.

Operational Assessment

The essential elements of program assessment within the context of operational assessment are similar to the essential elements within the context of student learning assessment (Figure 3). Each operational goal subsumes at least one operational outcome. Each operational outcome subsumes at least one measure. Each measure subsumes at least one set of criteria. Each set of criteria subsumes at least one finding. An explanation of results is provided for each outcome. An explanation of results includes a description of intended results, which are informed by the criteria and other relevant information; a description of actual results, which are informed by the findings and other relevant information; and a description of the use of results.

This manual does not provide further guidance on the essential elements of program assessment within the context of operational assessment; however, the guidance and tools provided for student learning assessment may be adapted for operational assessment purposes. There is at least one difference worth noting between criteria for operational assessment and criteria student learning assessment. A set of criteria for student learning assessment includes a target as a percentage of students expected to meet proficiency, whereas a set of criteria for operational assessment includes a target as a percentage (%), number (#), or dollar amount ($).

A+ Inquiry

A+ Inquiry is a disciplined inquiry framework for strategically answering questions that matter. Anderson et al. (2014) described disciplined inquiry as "intentional processes of asking and answering questions to improve understanding, create knowledge, inform decisions, and/or provide rationale for action" (p. 3). A+ Inquiry is a response, in part, to Fitzpatrick et al.'s (2011) call for the creation of innovative solutions to help professionals develop inquiry skills as it synthesizes stages of disciplined inquiry that are common among assessment, evaluation, and

research initiatives (Anderson et al., 2014). Although these types of disciplined inquiry

initiatives serve unique purposes, whether someone is conducting assessment, evaluation, or

research, they identify a need to know more about something, formulate questions to guide a

study that is intended to help generate additional knowledge, collect and analyze data to answer

the questions, share the results with audiences as appropriate, and inform decisions based on the

findings (e.g., Booth et al., 2008; Borden, 2002; Burnaford, 2012; Rossi et al., 2004; Russ-Eft &

Preskill, 2009). Examples of higher education assessment frameworks that reflect these stages

include Pike's (2002) elements of research that are essential for effective assessment, Sherman

and Daniels's (2002) Research Cycle, Gustafson et al.'s (2014) Academic Assessment Cycle,

Horst and Prendergast's (2020) Assessment Skills Framework.

A+ Inquiry uses alliteration (Bryant et al., 1990; Lea et al., 2008; Stoll, 1940) and

visualization (Gilbert, 2008; Tufte, 1990; Ware, 2000) to help promote an understanding of

common stages that make up a comprehensive cycle of inquiry and how the stages support one

another. The framework is diagramed as a circle with eight stages connected by a hub (Figure

34). Each stage and the hub begin with the letter A. The stages are Absorb, Ask, Accumulate,

Access, Analyze, Answer, Announce, and Apply, which are connected in the center through

Awareness. The diagram depicts the stages sequentially; however, they may not always be

covered in the exact order in which they are displayed. Furthermore, there are several scenarios

that require the same stage to be visited multiple times throughout an inquiry process. Here is a

brief description of each stage.

- *Absorb stage*: Review what is already known about a context that you would like to study
  so you can reveal a gap between what is currently known about the context and what is
 not known but would be important to know.

- *Ask stage*: Formulate one or more questions to guide your study that, if answered, could help you close the knowledge gap that you identified.

- *Accumulate stage*: Collect primary quantitative or qualitative data — or a combination of both types of data — that will help you answer the question(s) that you formulated to guide your study. If you will be using secondary data, confirm that the data have already been collected.

- *Access stage*: Retrieve the collected data from where they are being stored, or are otherwise available, in preparation for analysis.

- *Analyze stage*: Conduct analysis of the data using quantitative and/or qualitative methods that are appropriate for the data that you collected and the question(s) that you formulated to guide your study.

- *Answer stage*: Respond to the question(s) guiding your study with the results of your data analysis and reflect on the limitations and implications of the results as well as how they relate to what is already known about the topic or context that you are studying.

- *Announce stage*: Communicate the results of your study to individuals or groups who may find value in the new knowledge that you created.

- *Apply stage*: Make decisions or take actions that are informed by your findings.

The *awareness hub* connects all the A+ Inquiry stages to help ensure that when you are performing tasks in one of the stages of a comprehensive data utilization process that you remain attentive to how it aligns with the other stages in the process. For example, when collecting data, it is important to know which knowledge gap the data are intended to fill, how the data will be analyzed, and potential decisions that could be made based on data analysis results.

Figure 34

A+ Inquiry Diagram
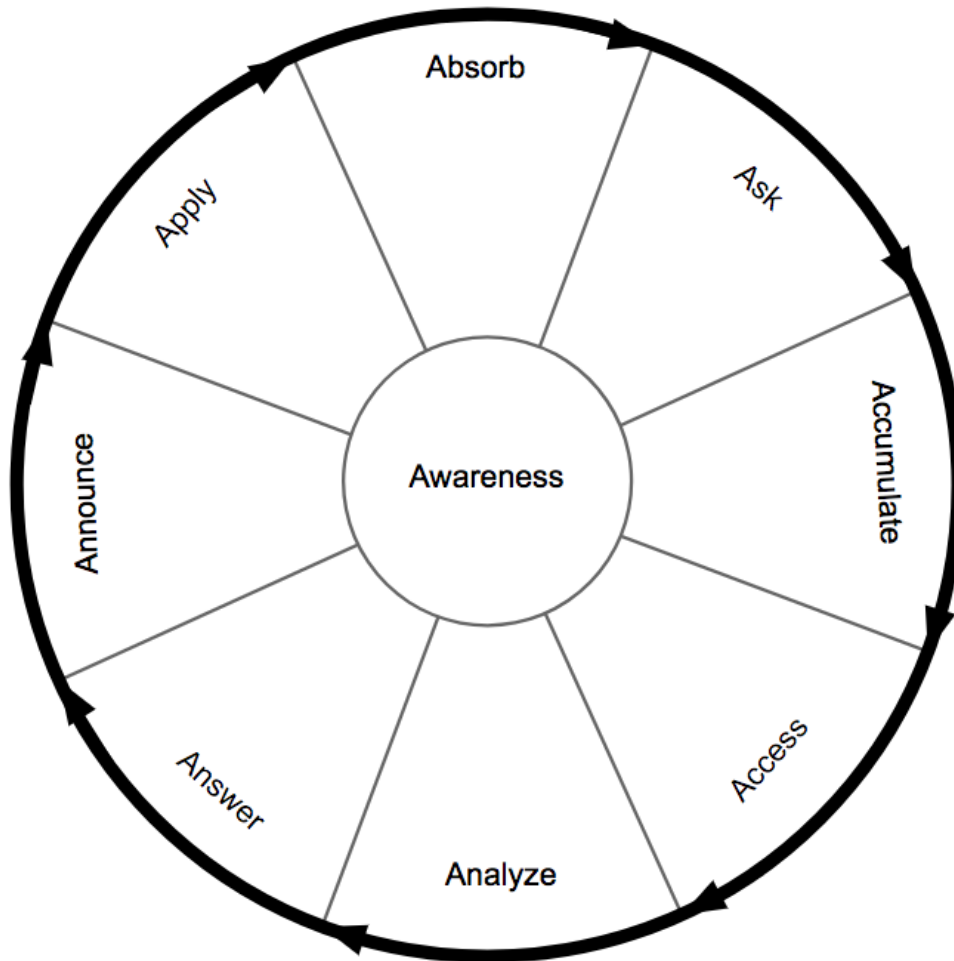
Note. Adapted from "Disciplined inquiry: Using the A+ Inquiry framework as a tool for eliminating data hoarding, mindless decision-making, and other barriers to effective ESA programming," by N. C. Anderson, M. R. Brockel, and T. E. Kana, 2014, *Perspectives: A Journal of Research and Opinion About Educational Service Agencies, 20*(3).

Figure 35 is an organizer for summarizing a study, such as the assessment of an SLO or OO through an A+ Inquiry lens.

Figure 35

A+ Inquiry Organizer for Summarizing a Study

Absorb Identify what is known and not known but is important to know (i.e., knowledge gap)	**Ask** Formulate questions that, if answered, could fill the knowledge gap	**Accumulate** Collect data that can help answer the question(s) posed in the Ask stage	**Access** Retrieve data that have been collected in preparation for analysis
Known: Not known:			
Analyze Conduct analysis of the data	**Answer** Respond to the questions posed in the Ask stage to help fill the knowledge gap	**Announce** Communicate applicable results and supplemental information to stakeholders	**Apply** Make decisions and take actions based on the results

Figure 36 demonstrates how the *A+ Inquiry* stages align with the essential elements of program assessment using a contextual example of student learning assessment based on the BS Disciplined Inquiry program.

Figure 36

A+ Inquiry Organizer With BS Disciplined Inquiry SLO Example

Absorb Identify what is known and not known but is important to know (i.e., knowledge gap)	Ask Formulate questions that, if answered, could fill the knowledge gap	Accumulate Collect data that can help answer the question(s) posed in the Ask stage	Access Retrieve data that have been collected in preparation for analysis
Known: The BS Disciplined Inquiry program established SLO 3.1, which focuses on students developing a plan for collecting quantitative data (EE: SLO). They set a target for 80% of students to achieve success in describing a data collection instrument in their plan (EEs: Intended Results, Criteria). **Not known:** The program is not sure how well it is preparing students to successfully write the instrument section of a quantitative data collection plan	To what is extent is the target being achieved? Or, more specifically, to what extent is there a difference between the target percentage (80%) and the percentage of students achieving success on the instrument section of a quantitative data collection plan?	Students in INQ 490 write a capstone paper with an instrument section relevant to quantitative data collection. The professor scores the instrument section of each student's paper on a 4-point scale using the Disciplined Inquiry Capstone Project Rubric. A score of 3 or above represents success. The professor submits a score for each student in an online form. The scores are automatically compiled in a spreadsheet upon submission (EE: Measure).	The professor retrieves the rubric scores from the spreadsheet where the scores were automatically stored upon their submission.
Analyze Conduct analysis of the data	Answer Respond to the questions posed in the Ask stage to help fill the knowledge gap	Announce Communicate applicable results and supplemental information to stakeholders	Apply Make decisions and take actions based on the results
The professor identifies the number of students who were assessed as well as the number of students who achieved a 3 or higher. The number of students scoring a 3 or higher is divided by the number of students who were assessed to calculate the actual percentage of students achieving success. The percentage point difference is calculated between the target and the actual value.	The actual percentage of students achieving success and the difference between the actual percentage and target percentage are documented (EE: Finding). The actual results are described with implications and limitations (EE: Actual Results).	The results and the intended use of the results are disseminated to faculty in the program through email, a program meeting, or other appropriate channel; to the broader campus and institutional assessment office via a YPA report; and to external program reviewers via a self-study.	The program makes decisions relevant to program content, delivery, and assessment based on the results (EE: Use of Results).

Note. EE = Essential element of program assessment.

Conclusion

This manual establishes a common language and understanding of requirements for program assessment at MiSU and provides guidance and tools for supporting YPA planning, implementation, and reporting. *A+ Inquiry* is provided as a supplemental inquiry framework that may help programs operationalize the methods and relevance of their assessment. Although the planning and reporting structure of YPAs is standardized through the essential elements of program assessment and their respective key components that are presented in this manual, programs have a broad range of latitude for addressing the essential elements and key components in ways that are suitable for their purposes. For example, programs formulate their own SLG and SLO statements as representations of their intended goals and outcomes, identify or develop their own measures that are suitable for assessing performance related to their SLGs and SLOs, and establish their own criteria that they consider appropriate for assessing the extent to which they are achieving success related to their SLGs and SLOs. Programs may find value in reviewing specific sections of the manual as they work on specific elements of their YPA plans or reports. They may also find value in referencing the glossary as needed for definitions of assessment-related terms.

Glossary

A+ Inquiry framework: A theoretical framework that synthesizes common stages of research, evaluation, and assessment processes to guide methods of strategically answering questions that matter. A+ Inquiry and may serve as a conceptual model for operationalizing outcomes. The framework informed the conceptualization of the hypothetical BS Disciplined Inquiry academic program.

Absorb stage: An A+ Inquiry stage in which a person reviews what is already known about a context that they would like to study so they can reveal a gap between what is currently known about the context and what is not known but would be important to know.

Actual results: Description of the actual assessment results related to an outcome, including comparisons to results from previous years, reasons why the results may have been achieved, implications that may be drawn from the results, and limitations of the results.

Academic program: An undergraduate- or graduate-level course of study that results in a degree, certificate, or other scholarly award.

Access stage: An A+ Inquiry stage in which a person retrieves the collected data from where they are being stored, or are otherwise available, in preparation for analysis.

Accumulate stage: An A+ Inquiry stage in which a person collects primary quantitative or qualitative data — or a combination of both types of data — that will help them answer the question(s) that they formulated to guide their study. If they will be using secondary data, then they confirm that the data have already been collected.

Analyze stage: An A+ Inquiry stage in which a person conducts analysis of the data using quantitative and/or qualitative methods that are appropriate for the data that they collected and the question(s) that they formulated to guide their study.

Announce stage: An A+ Inquiry stage in which a person communicates the results of their study to individuals or groups who may find value in the new knowledge that they created.

Answer stage: An A+ Inquiry stage in which a person responds to the question(s) guiding their study with the results of their data analysis and reflect on the limitations and implications of the results as well as how they relate to what is already known about the topic or context that they are studying.

Apply stage: An A+ Inquiry stage in which a person makes decisions or takes actions that are informed by the findings of a study.

Ask stage: An A+ Inquiry stage in which a person formulates one or more questions to guide their study that, if answered, could help them close the knowledge gap that they identified.

Assessment: The systematic collection and analysis of information for program improvement purposes.

Awareness hub: The center of the A+ Inquiry framework that connects all the A+ Inquiry stages to help ensure that when a person is performing tasks in one of the stages of a comprehensive data utilization process, they remain attentive to how it aligns with the other stages in the process.

BS Disciplined Inquiry: A hypothetical academic program.

Categories of assessment: Broad types of assessment that are important to consider for the planning, implementation, and evaluation of a program. Assessment categories include needs, theory, process, outcome, and efficiency.

Co-curricular program: An ungraded learning initiative that happens outside the classroom, which complements the learning occurring inside the classroom.

College assessment is the systematic collection and analysis of college-level information for college-level improvement purposes.

Course assessment: The systematic collection and analysis of course-level information for course-level improvement purposes.

Course assessing an SLO: Course where a measure is implemented to assess learning relevant to an SLO.

Course covering an SLO: Course where an SLO is introduced, reinforced, or synthesized.

Course covering an SLO through introduction: Course that introduces concepts relevant to an SLO. Learning opportunities focus on acquiring basic knowledge and skills relevant to the SLO.

Course covering an SLO through reinforcement: Course that reinforces concepts relevant to an SLO. Learning opportunities focus on advancing the development of knowledge and skills that were previously introduced.

Course covering an SLO through synthesis: Course that synthesizes concepts relevant to an SLO. Learning opportunities focus on combining multiple concepts related to an SLO that have been previously introduced or reinforced.

Course objective: Specific statement of the knowledge, skills, values, or other attributes that students are expected to demonstrate by the time that they complete a course.

CP²R framework: A theoretical framework that interprets success holistically through domains of capacity, passion, relevance and presence and may be utilized to assess and reflect on a person's fitness for a role. CP²R informed the conceptualization of the hypothetical Fit for College co-curricular program.

Criteria: Methods of reporting assessment data, including targets.

Criteria for a student learning outcome: Methods of reporting student learning assessment data, including the proficiency level that is required to achieve success on a measure and a target that is established as a percentage of students who are expected to achieve proficiency on the measure.

Department assessment: The systematic collection and analysis of department-level information for department-level improvement purposes.

Direct measure of student learning: A means of assessing a student learning outcome that requires students to demonstrate their learning (e.g., standardized exams, locally developed exams, oral exams, essays/reports, performances/recitals, clinicals/practicums, presentations, portfolios, capstone projects, simulations).

Efficiency assessment: Assessment of the extent to and ways in which a program is implemented with efficient utilization of resources.

Essential elements of program assessment: Areas to address when planning and implementing an assessment of an academic or co-curricular program. Essential elements include a mission statement, student learning goals (SLGs), student learning outcomes (SLOs), operational goals (OGs), operational outcomes (OOs), measures, criteria, findings, interpretation of results, and use of results.

Explanation of results: Descriptions of the intended results, actual results, and use of results related to an outcome.

Findings: Assessment results.

Fit for College: A hypothetical co-curricular program.

Indirect measure of a student learning outcome: Means of assessing a student learning outcome that requires students to report, describe, or reflect on their learning (e.g., surveys, questionnaires, interviews, focus groups).

Institution Assessment: The systematic collection and analysis of institution-level information for institution-level improvement purposes.

Intended results: Description of the intended assessment results related to an outcome.

Program: An institutional initiative that supports student learning.

Measure: Tool, methodology, activity, or other means of assessing an outcome, including the instrument that is utilized to collect the data, the time frame when it is implemented, and the personnel involved.

Mission statement: Statement describing a program's primary purpose, functions, and stakeholders served. The mission should distinctly represent the program and be related to the mission of the institution.

Mission statement template: The mission of the (Name of the Program) program is to (purpose of the program) by providing (primary functions or activities of program) to (stakeholders served by the program).

Needs assessment: Assessment of the extent to and ways in which there is a need for a program.

Operational goals (OGs): General statements of what a program intends to accomplish in terms of its operational effectiveness.

Operational outcomes (OOs): Specific statement of desired results relevant to a program's processes as well as its human, physical, technological, financial, and other resources.

Outcome assessment: Assessment of the extent to and ways in which a program is achieving its intended outcomes.

Process assessment: Assessment of the extent to and ways in which a program is implemented as intended.

Proficiency: Minimum performance required on a measure to represent successful achievement of a Student Learning Outcome.

Program assessment: The systematic collection and analysis of program-level information for program-level improvement purposes.

Strategic Planning Online (SPOL): a comprehensive, integrated system to support institutional effectiveness, specifically strategic planning, outcomes assessment (including student learning outcomes), program review, budget planning, faculty credentialing, and accreditation compliance and reporting (SPOL, 2021b, p. 3).

Student assessment: The systematic collection and analysis of student-level information for student-level improvement purposes.

Student learning goal (SLG): General statement of learning that students are expected to achieve through their participation in a program.

Student learning goal template: (SLG number): (Learner description) will (observable action verb) (statement of learning to be demonstrated).

Student learning outcome (SLO): Specific statement of the knowledge, skills, values, or other attributes that students are expected to demonstrate by the time that they complete a program.

Student learning outcome template: (SLO number): (Learner description) will (observable action verb) (statement of learning to be demonstrated).

*Target: F*uture quantitative value that is expected to be achieved on a measure as a point of reference for a program to evaluate or judge its own performance.

Target statement for a student learning outcome template: (Target percentage) of (Learner

description) will show proficiency of their ability to (observable action verb) (statement

of learning to be demonstrated) by scoring (Proficiency) or higher on the (criteria title)

criteria of the (type) measure, (Measure Title), which is implemented in (course or

setting).

Theory assessment: Assessment of the extent to and ways in which a program is appropriate to

meet identified needs.

Yearly Program Assessment (YPA): Annual documentation of a program's assessment plan,

results, and utilization of results.

Use of results: Description of actions or decisions that have been or may be informed by the

assessment results related to an outcome.

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Appendix A: Combined Essential Elements Example – BS Disciplined Inquiry

Mission statement				
The mission of the BS Disciplined Inquiry program is to prepare graduates to lead assessment, evaluation, and research initiatives in their chosen career field by providing a relevant, high-quality course of study in broadly applicable inquiry methods to undergraduate students.				
SLG	SLO	Measure	Criteria	Finding
SLG 3: Students will apply methods of quantitative and qualitative data collection.	SLO 3.1: Students will develop a plan for collecting quantitative data. Introduced: INQ 200 Reinforced: INQ 300 Synthesized: INQ 490 Assessed: INQ 490	3.1.1: Disciplined Inquiry Capstone Project Rubric (Quantitative Data Collection Items) Direct Students write a capstone paper for INQ 490 as a culminating project toward the conclusion of the BS Disciplined Inquiry course of study. The paper includes a section for students to describe a plan for collecting quantitative data, which includes four areas of data collection that represent the instrument, setting, participants, and procedure. Faculty use the Disciplined Inquiry Capstone Project Rubric to rate students on each of the four areas on a scale from 1-4 (1=Beginning, 2=Developing, 3=Accomplished, 4=Exemplary). Each student is given a score of 1-4 for each of the four areas.	3.1.1.1: Instrument Proficiency: 3 Accomplished Target: 80%	# assessed: 50 # proficient: 30 % proficient: 60% Target not met Note: Mean: Senior 2.0
			3.1.1.2: Setting Proficiency: 3 Accomplished Target: 80%	# assessed: 50 # proficient: 40 % proficient: 80% Target met Note: Mean: Senior 2.0
			3.1.1.3: Participants Proficiency: 3 Accomplished Target: 80%	# assessed: 50 # proficient: 45 % proficient: 90% Target met Note: Mean: Senior 3.5
			3.1.1.4: Procedure Proficiency: 3 Accomplished Target: 80%	# assessed: 50 # proficient: 35 % proficient: 70% Target not met Note: Mean: Senior 2.2
		3.1.2 BS Disciplined Inquiry Exit Survey – Quantitative Data Collection Items Indirect Professor sends students a link to an online exit survey at	3.1.2.1: Quantitative data collection Proficiency: 3 Agree Target:	# assessed: 50 # proficient: 40 % proficient: 80% Target met Note: Mean: Senior 3.2

| | | the conclusion of INQ 490. Students mark the extent to which they agree or disagree with the following statement: The BS Disciplined Inquiry program prepared me to develop a plan for collecting quantitative data. Students respond to the statement on a scale from 1-4 (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree). | 80% | |

Intended Results
The target for each set of criteria was 80%. In addition to expecting the targets to be achieved, there was an expected increase from the previous year in the percentage of students who demonstrated proficiency in describing the data collection procedure (Criteria 3.1.1.4) as measured by the Quantitative Data Collection Items section on the Disciplined Inquiry Capstone Project Rubric (Measure 3.1.1). The increase was expected in in response to implementing a new assignment for students to provide feedback to their peers on their data collection procedures based on the respective proficiency descriptions in the Disciplined Inquiry Capstone Project Rubric.

Actual Results
The highest area of performance was Criteria 3.1.1.3 Participants (90%). The lowest area of performance was Criteria 3.1.1.1 Instrument (60%). Three of the targets were met, including the two targets from the direct measure (3.1.1.2 Setting and 3.1.1.3 Participants) and the one target from the indirect measure (3.1.2.1 Quantitative Data Collection). Two of the targets from the direct measure were not met (3.1.1.1 Instrument and 3.1.1.4 Procedure). All criteria that met the target for the current reporting year also met the target for the prior reporting year. Although 3.1.1.1 Instrument did not meet its target, it demonstrated an increase from 50% in the prior reporting year to 60% in the current reporting year. The targets that were met may have been a result of implementing the same respective strategies that were implemented in previous years. The improved performance in one of the targets that was not met may have been due to the new assignment that was implemented to improve performance in the area. There are a few limitations to these results. The results only represent one direct measure and one indirect measure. They may have been different if different measures had been used. Furthermore, the results represent the interpretation of one instructor. A different instructor may have scored the same students differently.

Use of Results
A few actions related to program content, program delivery, and program assessment will be informed by the results. In terms of program content, a graded assignment will be added for students to self-assess their quantitative data collection plan before they submit their final capstone paper. A rubric will be developed for students to use as they self-assess their plan. In terms of program delivery, the program will be delivered in the same way that it was delivered in the previous year. In terms of program assessment, the same methods will be implemented.

Appendix B: Combined Essential Elements Example – Fit for College

Mission statement				
The mission of the Fit for College program is to prepare university students to improve or sustain their fitness for higher education by providing CP^2R training and tools for facilitating reflection, assessment, goal setting, and action planning through lenses of capacity, passion, relevance, and presence to all incoming freshmen.				
SLG	SLO	Measure	Criteria	Finding
SLG 2: Students will explore areas of their fitness for their roles as college students.	SLO 2.1: Students will examine the ways in which they perceive themselves to be fit for their roles as college students through various domains of holistic fitness. Introduced: Session 1 Reinforced: Session 1 Session 2 Synthesized: N/A Assessed: Session 2	2.1.1: Fit for College Reflection Rubric Direct Students write responses to reflective prompts regarding their fitness for their role as a college student after the second session of the program. They are prompted to reflect on the ways in which they perceive themselves to be fit for their role through domains of capacity, passion, relevance, and presence as well as strategies that they could implement to sustain or improve their fitness in those domains. Faculty use the Fit for College Reflection Rubric to rate students on each of the four domains on a scale from 1-4 (1=Beginning, 2=Developing, 3=Accomplished, 4=Exemplary). Each student is given a score of 1-4 for each of the four domains.	2.1.1.1: Capacity Proficiency: 3 Accomplished Target: 80%	# assessed: 100 # proficient: 90 % proficient: 90% Target met Note: Mean: Freshmen 3.6
			2.1.1.2: Passion Proficiency: 3 Accomplished Target: 80%	# assessed: 100 # proficient: 70 % proficient: 70% Target not met Note: Mean: Freshmen 2.8
			2.1.1.3: Relevance Proficiency: 3 Accomplished Target: 80%	# assessed: 100 # proficient: 90 % proficient: 90% Target met Note: Mean: Freshmen 3.4
			2.1.1.4: Presence Proficiency: 3 Accomplished Target: 80%	# assessed: 100 # proficient: 70 % proficient: 70% Target not met Note: Mean: Freshmen 2.9
		2.1.2 Fit for College Exit Survey – Reflection Item Indirect	2.1.2.1: Reflection Proficiency: 3 Agree	# assessed: 100 # proficient: 80 % proficient: 80% Target met Note:

		Program coordinator sends students a link to an online exit survey at the conclusion of the last session of the program (i.e., Session 3). Students mark the extent to which they agree or disagree with the following statement: The Fit for College program prepared me to examine the ways in which I am fit for my role as a college student. Students respond to the statement on a scale from 1-4 (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree).	Target: 80%	Mean: Freshmen 3.2

Intended Results

There were five sets of criteria established for outcome 2.1. The target for each set of criteria was 80%. In addition to expecting the targets to be achieved, there was an expected increase from the previous year in the percentage of students who demonstrated proficiency in examining their passion for their role as a college student (Criteria 2.1.1.2) as measured by the Fit for College Reflection Rubric (Measure 2.1.1). The increase was expected in response to providing students with additional guidance on writing reflections related to their passion, which included sharing exemplars of reflections on passion with the students and creating a template to help them compile and organize their thoughts on their passion for being a college student.

Actual Results

The highest areas of performance were Criteria 2.1.1.1 Capacity (90%) and Criteria 2.1.1.3 Relevance (90%). The lowest areas of performance were Criteria 2.1.1.2 Passion (70%) and Criteria 2.1.1.4 Presence (70%). Three of the targets were met, including two targets from the direct measure (2.1.1.1 Capacity and 2.1.1.3 Presence) and the one target from the indirect measure (2.1.2.1 Reflection). Two of the targets from the direct measure were not met (2.1.1.2 Passion and 2.1.1.4 Presence). The three criteria that met the target for the current reporting year also met the target for the prior reporting year (2.1.1.1 Capacity, 2.1.1.3 Relevance, and 2.1.2.1 Reflection). Criteria 2.1.1.1 Passion increased from 60% in the prior reporting year to 70% in the current reporting year. The targets that continued to be met may have been due to the implementation of similar strategies from previous years. The improved performance in one of the targets that was not met may have been due to the exemplars and template that were implemented to improve performance in the area. The instructional strategies seem to be the most effective at preparing students to examine their fitness for college in the areas of capacity and relevance and the least effective at preparing students to examine their areas for fitness in the areas of passion and presence. Although a few of the targets were met, there is room for improvement in all the areas. There are a few limitations of these results. For example. The results only represent one direct measure and one indirect measure. They may have been different if different measures had been used.

	Furthermore, the results represent the interpretation of one instructor. A different instructor may have scored the same students differently.
	Use of Results
	A few actions related to program content, program delivery, and program assessment will be informed by the results. In terms of program content, students will be provided with exemplars of reflections from prior years. In terms of program delivery, the program will be delivered in the same way that it was delivered in the previous year. In terms of program assessment, assessment methods will primarily remain the same; however, students will have an option to submit a video or audio reflection in lieu of a written reflection.

Appendix C: Categories of Assessment

Assessment category	Description
Needs assessment	Assess the extent to and ways in which there is a need for a program. What needs have been identified? What quantitative and qualitative evidence demonstrates the needs? What empirical or anecdotal evidence suggests that there is a gap between an existing state and a desired state?
Theory assessment	Assess the extent to and ways in which a program is appropriate to meet identified needs. What strategies and activities are being implemented through the program to help meet the need? What quantitative and qualitative evidence demonstrates that the identified strategies are appropriate to meet the need? If appropriate, cite research, theory, or other evidence that suggests there are connections between the activities are being implemented and the changes that are expected as a result of their implementation.
Process assessment	Assess the extent to and ways in which a program is implemented as intended. What types of products, services, or other outputs are produced through the implementation of the program's strategies and activities? What metrics and qualitative indicators have been generated to demonstrate the production of each output? Identify the target and actual values of each metric.
Outcome assessment	Assess the extent to and ways in which a program is achieving its intended outcomes. What are the desired short-, mid-, and long-term effects that are expected to result from implementation of the program's strategies and activities? What metrics and qualitative indicators have been generated to demonstrate the achievement of each outcome? Identify the target and actual values of each metric.
Efficiency Assessment	Assess the extent to and ways in which a program is implemented with efficient utilization of resources. What resources are required to implement the activities that are intended to produce the desired outputs and outcomes? What quantitative and qualitative evidence has been generated to demonstrate that the resources are utilized efficiently? What evidence indicates that the costs of the activities are worth the benefits compared to other alternatives?

Note. Adapted from "Synthesizing frameworks and tools to develop a plan for evaluating an online data utilization curriculum for teachers," by N. C. Anderson, 2022, *Evaluation and Program Planning, 94*.