

# ASSESSMENT MANUAL

Documenting Student Success and Institutional Effectiveness:  
Tools and Techniques for Program Improvement



Office of the Provost

*This* manual is adapted from the Assessment Manual developed in September 2003 by the office of Institutional Effectiveness and Assessment. Designed by the Office of the Provost to guide practitioners through the process of outcomes based assessment, this manual focuses on assessment at the program level and should prove particularly useful to departmental assessment coordinators as well as others invested in program review and improvement. This document is compiled from various sources (see References) and reflects current best practices in assessment of student learning outcomes.

Assessment staff are available to provide additional consultation and support to assist in the development of meaningful, manageable, and sustainable assessment practices. The staff are happy to assist faculty and administrators **(i) develop mission, goals, and outcomes, (ii) select appropriate assessment methods, and (iii) develop and administer assessment instruments and analyze results.**

# American Association for Higher Education's (AAHE)

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## Principles of Good Practice for Assessing Student Learning<sup>1</sup>

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### **1**

The assessment of student learning begins with educational values.

### **2**

Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.

### **3**

Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.

### **4**

Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.

### **5**

Assessment works best when it is ongoing, not episodic.

### **6**

Assessment fosters wider improvement when representatives from across the educational community are involved.

### **7**

Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.

### **8**

Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.

### **9**

Through assessment, educators meet responsibilities to students and to the public.

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# Southern Association of Colleges and Schools Commission on Colleges (SACSCOC)

## Core Requirements and Comprehensive Standards

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### CR 2.5

The institution engages in ongoing, integrated, and institution-wide research-based planning and evaluation processes that (1) incorporate a systematic review of institutional mission, goals, and outcomes; (2) result in continuing improvement in institutional quality; and (3) demonstrate the institution is effectively accomplishing its mission. (Institutional effectiveness)

### CS 3.3.1

The institution identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of improvement based on analysis of the results in each of the following areas: (Institutional effectiveness)

3.3.1.1 educational programs, to include student learning outcomes

3.3.1.2 administrative support services

3.3.1.3 academic and student support services

3.3.1.4 research within its mission, if appropriate

3.3.1.5 community/public service within its mission, if appropriate



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# *How to Use this Manual*

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## *If you're new to assessment*

**Chapter 1** provides an overview of “assessment” and an introduction to its uses. The chapter is designed to provide an understanding of the benefits and tools of program assessment. This chapter also helps build a rationale for the importance of engaging in assessment.

## *If you already understand what assessment is*

**Chapter 2** can help you begin to articulate goals and outcomes for your program, the essential first step in developing an assessment plan. This chapter provides a way to develop those goals in the context of your department’s mission as you use assessment to improve student learning.

## *If you have defined your goals and outcomes*

**Chapter 3** will help you design your assessment plan. During this phase, you will address the “how” of program assessment by focusing on ways to put together an effective assessment plan for your program. You will identify existing assessments within your program and decide which to use, expand, or revise. This chapter also describes tools for assessing student learning, outlines assessment strategies, and offers guidelines for selecting assessment tools.

## *If you're ready to demonstrate what you've learned from your assessment data*

**Chapter 4** can help you put it together. The final goal of any project is a tangible product that serves as an example of your accomplishments and guides departmental revisions and improvements. Your assessment report represents this product. This report will demonstrate what you have learned from your assessment efforts and how it informs program improvement.

## *If you're ready to complete Norfolk State University's Annual Assessment Report*

**Chapter 5** provides the report templates. Program outcomes assessment at NSU is a University-wide, unit based process to determine unit effectiveness. The templates are designed to assist programs in developing both long-term and annual assessment plans.

# Chapter 1

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## *What is Assessment?*

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**Assessment** is the systematic collection, review, and use of information about educational programs to improve student learning and development. The goal of assessment is to examine the quantitative and qualitative evidence generated about student competence, to use this evidence to improve the learning of current and future students, and to present this information to stakeholders.

In other words, assessment is the process of gathering, analyzing, and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, value, and can do as a result of their academic and co-curricular experiences. The process culminates when results are used to improve subsequent learning and development.

### **Why Assess? ...To Improve Student Learning**

Norfolk State University's philosophy of assessment rests on two fundamental assumptions each of which are focused on improving student learning:

#### **1. Effective assessment is essentially learner-centered.**

In contrast to the traditional teacher-centered perspective, which asks, "How will I teach it?" or "How well did I teach it?" the learner-centered perspective asks "How will students learn it?" and "How well did students learn it?"

#### **2. Effective assessment is methodical.**

Assessment is conceptualized as a system. A systems framework is characterized by the coherence of institutional assessment efforts and their horizontal and vertical integration. As a learner-centered process, assessment encourages faculty and administrators to focus on student learning outcomes, within the entire system of the institution and within the smaller systems of academic programs and courses.

#### **The purpose of assessment activities is fourfold:**

1. To determine whether or not intended outcomes are being achieved and to validate the need to undertake and continue certain initiatives.
2. To inform departmental faculty and interested internal and external stakeholders of the relevant issues that impact the program and student learning.
3. To provide information that can be used to focus conversations about policy, programs, practices, and pedagogy.
4. To expand the scholarship of assessment, which is inextricably linked to effective teaching and learning practices.

Assessment can be **formative** or **summative**. **Formative assessment** is done for the sake of program improvement. Formative assessment may (i) provide feedback, for the

purposes of improving teaching, learning, and the curricula, (ii) identify students' strengths and weaknesses, and (iii) produce information that can be used to appropriately scaffold student learning and development. **Summative assessment** is often conducted for evaluation and accountability purposes. Summative assessment may (i) provide credible information that may be used to make decisions regarding the allocation of funds, (ii) aid in decision-making at the program level, and (iii) meet the demands of accrediting bodies, as well as state and federal agencies.

## Benefits of Assessment

### Scholarship

- Assessment is essentially a scholarly activity that leads to new discoveries, connections, applications, and improved teaching and student learning.

### Pedagogy

- Assessment makes available richer data about the effects of teaching methods.
  - Collecting assessment data allows faculty to verify assumptions and to identify discrepancies about what students have learned.
  - The data collected provide baselines for monitoring or demonstrating improvement.
- Assessment can offer a larger view of student needs and accomplishments that allow faculty to identify directions for instructional development.
- Assessment provides evidence that faculty make a difference in student learning.

### Curriculum

- Assessment makes available richer data about the effects of the curriculum.
- Assessment enables educators to examine whether the curriculum makes sense in its entirety, how each course contributes to the entire program, and whether students, as a result of all of their experiences, have the knowledge, skills, and values that program graduates should possess.

## Academic Culture

- Assessment helps to create a shared academic culture of evidence dedicated to improving the quality of the institution and its academic programs.
- Assessment data can help faculty engage in productive conversations about the status of achievement and collectively make decisions about how student learning might be improved.

## Innovation

- Assessment can yield reliable data about instruction that can help faculty make reliable decisions about innovations or experimental projects.

## Accountability

- Assessment provides accountability information for internal and external purposes. Assessment is a credibility and trust-building exercise that creates public dialogue with external audiences asking for accountability.
  - Assessment can highlight program successes that can be used for public relations with legislators, trustees, campus administrators, and prospective students and their families.
  - Accrediting bodies require institutions to identify outcomes, to assess the extent to which outcomes are achieved, and to provide evidence that improvements are based on evidence that is used to inform decisions and to improve student learning.
  - State legislators and policy-making bodies (e.g., State Council of Higher Education for Virginia (SCHEV) are increasingly requiring assessment of learning outcomes. Universities that fail to take the lead in this effort run the risk of having people less informed about their mission and institution imposing ill-conceived assessment processes and criteria upon them.

## Characteristics of Effective Program Assessment

Program assessment focuses on assessing student learning to determine whether students have acquired the skills, knowledge, and competencies related to their program of study.

### Effective program assessment is generally:

- **Integrated.** Program-level assessment programs should be built around the program's mission statement, but also tied to the University mission and strategic goals.
- **Ongoing.** Assessment should be part of the ongoing business of the program, not only a priority during program review cycles or prior to accreditation visits. Ongoing assessment efforts build a body of evidence to improve programs.
- **Multi-faceted.** Assessment data and information are collected on multiple dimensions, using multiple methods and sources.
- **Practical.** To be truly useful, department level assessment must be practical with obvious implications for faculty and students.
- **Self-renewing.** Assessment data and information must feed back into the system, at both the University and department level.

Fundamentally, programs should tailor their assessment approaches to respond to departmental goals and timelines, taking into account internal expectations, external requirements or both. In general, programs should complete the following steps to develop an effective program assessment plan:

- Develop a program mission
- Create goals for student outcomes and processes
- Identify related activities for each outcome
- Evaluate and select appropriate measures
- Identify appropriate assessment methods
- Develop a plan for collecting data
- Prioritize outcomes
- Set timelines and milestones
- Implement the assessment plan

- Analyze the data
- Use the data to improve processes
- Communicate results

## What Assessment is Not?

- Assessment is not solely an administrative activity. Assessment is directly related to teaching and learning. Faculty must not merely tolerate or endorse assessment; they must actively engage in it.
- Assessment is not an intrusion into a faculty member's classroom, nor does it infringe on academic freedom. According to Cain (2014), "Faculty control of the curriculum and effective shared governance set the stage for assessment that support and builds on faculty's ongoing efforts while protecting their historic and essential right to academic freedom."
- Assessment is not necessarily testing, nor a series of tests. Testing can be part of assessment, but assessment goes beyond the test.
- Assessment is not punitive. It should not be a part of an institution's faculty evaluation system. It should promote self-examination, critical questioning, evaluation, accountability, and renewal, but it should not punish individuals or programs genuinely seeking to improve.
- Assessment is not quick or easy. It is conceptually, educationally, and administratively complicated business.

## Assessment versus Grading

Final course grades are one measure of student achievement. However, they are generally global evaluations that represent the overall proficiency of students. They don't provide information about student performance on specific learning outcomes. Final course grades typically represent student performance across a host of outcomes, thus they do not provide the detailed and specific information necessary for linking student performance to specific learning outcomes, and, ultimately, to improvement.

<sup>2</sup> Cain, T. R. (2014). Assessment and academic freedom: In concert, not conflict. National Institute for Learning Outcomes Assessment. [www.learningoutcomesassessment.org](http://www.learningoutcomesassessment.org)

# Chapter 2

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## *Defining Mission, Goals, and Outcomes*

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Successful program assessment begins with a clear sense of what the program is designed to accomplish. The first step in the assessment process involves asking the following questions:

- What is the purpose of the program?
- How does the program fit within the University's institutional context?
- What does the program want students to learn?
- Do the curriculum and teaching methods of the program reflect the program's goal?

### Overall Purpose or Mission of the Program

The program mission statement is a concise statement of the general values and principles that guide the curriculum. The program mission statement should also be consistent with the principles of purpose set forth in the University's mission. Accrediting bodies expect that program mission statements are in harmony with the mission of the department, school/college, and the University. A good starting point for any program mission statement is to consider how the program mission supports or complements the University, the school/college, and the department's missions and strategic goals.

### Consider the following questions when writing a program mission statement:

- Who does the program serve?
- How does the program serve?
- What results does the program want to achieve?
- What is the program's guiding philosophy?

- How does the program fit into institutional, disciplinary, professional, and regional contexts?
- What makes the program unique in its context?
- What future plans does the program envision?

### Elements of a good mission statement

A well written mission statement validated by consensus of the program faculty can become a focus statement for the program. A good mission statement:

- leads with an educational purpose that is distinctive to the degree and field of study.
- identifies the program's signature feature.
- defines clarity of purpose, while being succinct.
- explicitly promotes the alignment of the program with department, school/college, and University missions.
- includes fundamental values and beliefs shared by members of the department that are realistic, achievable, and based on expressed understanding of the students served.

### Program Mission Statement Structure

The mission of the [program name] is to [primary purpose] by providing [primary functions or activities] to [stakeholders].  
(Additional clarifying statements may be added).

## Program Goals

A program goal is an intended outcome of instruction that has been stated in general enough terms to encompass a **domain** of student performance (e.g., Graduates of the program will demonstrate good problem-solving skills.). A program goal must be further defined by a set of **specific** (observable and measurable) learning outcomes to clarify instructional intent.

Goals describe broad learning outcomes and concepts (what you want students to learn) expressed in general terms (e.g., clear communication, problem-solving skills, etc). Goals make clear the types of learning expected from instruction (i.e., knowledge, comprehension, performance, skills, etc.). Goals also provide a focus for instruction that avoids concentrating on isolated and unrelated learning tasks. Goals are general enough to permit flexibility in choosing teaching methods and materials, and they provide a framework for planning and preparing assessments and for interpreting assessment results.

### Program goals are generally built upon the three basic categories of learning outcomes:

- **Cognitive** outcomes or what students know
  - Knowledge outcomes are the lowest level of cognitive outcomes and are concerned with the recall or recognition of learned material.
  - Comprehension outcomes are concerned with grasping the meaning of material as shown by interpretation, translation, prediction, and similar responses.
  - Application outcomes include the ability to consciously use the material in new situations.
- **Affective/attitudinal/valued-based** outcomes or what students care about
  - Affective outcomes are concerned with feelings and emotions that are described by a student's disposition, willingness, preferences, enjoyments, attitudes, interests, and/or appreciation.
- **Skill-based/behavioral/performance** outcomes or what students can do
  - Skilled performance: speaking, reading, singing, etc.
  - Higher level skills: lab skills, specialized performance skills (e.g., art)
  - Critical thinking skills: analysis and evaluation (e.g., identifying and analyzing a problem, evaluating possible solutions, etc.)
  - Creative thinking skills: production of something new (e.g., producing a plan for solving a problem).

### Developing Program Goals

Developing program-specific student learning goals may take work. Program faculty may vary in the extent to which they share a common disciplinary framework or epistemology. The following are good practices in developing program goals.

#### Have open discussions with department faculty on one of the following topics

- Describe the ideal student in your program at various phrases throughout the program. What does this student know? What can this student do? What does this student care about? List and briefly describe the program experiences that contribute most to the development of the ideal student.

#### Collect and review instructional materials

- Try sorting materials (e.g., syllabi and course outlines, course assignments and tests, textbooks, especially the table of content and summaries) by the type of learning each is designed to promote: recognition/recall, comprehension, application, higher order thinking skills, affective learning, skilled performance, etc.

#### Collect and review documents that describe your department and its programs

- Use brochures and catalogue descriptions, accreditation reports, curriculum committee reports, or mission statements.

### Review and react to goals and outcomes from an external program similar to your own

- Try grouping the statements into broad categories of student outcomes (e.g., knowledge, attitudes, behaviors).

### Use the 25 percent problem to refine or reduce a set of program goals

- Imagine that you want to reduce program or course material by 25 percent. What goals would you keep and which would you discard?

### Use a Delphi technique or modification

- Choose an impartial facilitator to mediate a panel discussion about possible program goals. In a brainstorming session, ask each panel member to build a list of criteria that he or she thinks is important for program goals. For each criterion, have each member anonymously rank it as 1-very important; 2-somewhat important; or 3-not important. Place the criteria in rank order and show the anonymous results to the panel. Discuss possible reasons for items with high standard deviations.

### Writing Program Goals

Again, goals describe broad learning outcomes and concepts (what you want students to learn) expressed in general terms (e.g., clear communication, problem-solving skills, etc.). These goals can focus on general outcomes for graduates as well as discipline specific outcomes relevant to the program or department. It is generally a good idea to identify between three and five instructional goals for your program. The Program Goals Definition Worksheet found in Appendix A might be helpful for identifying and writing program goals.

### When writing program goals consider the following:

- Do the goals reflect orthogonal or institution-wide goals and the program's mission?
- Do the goals represent all (cognitive, affective, and behavioral) logical learning outcomes of your instructional area?
- Are the goals realistic and attainable by students?

- Are the goals in harmony with basic principles of learning? Some of the factors that should be considered are:
  - Readiness: Do students have the necessary experiences and educational background to proceed successfully?
  - Motivation: Do the goals reflect the needs and interests of students?
  - Retention: Do the goals reflect learning outcomes that tend to be retained longest (e.g., comprehension, application, thinking skills)?
  - Transfer: Do the goals reflect learning outcomes that are widely applicable to new situations? Do the goals reflect realistic and complex learning tasks that are most useful in the "real world"?

### Examples of Program Goals

- Students should develop a critical understand of a significant portion of the field of psychology.
- Students will develop an understanding of important concepts and methods in the sciences.
- Student will obtain master or higher-order objectives (i.e., problem-solving skills) in the discipline.
- Students will develop skills useful to functioning as a professional in their field of study.

### Learning Outcomes

Views about academic quality and effectiveness have shifted over the past three decades from an almost exclusive preoccupation with inputs (e.g., student and faculty credentials and resources) and processes (e.g., offerings, requirements, teaching loads, class size, students' rating of instruction, time to degree, etc.) to a more mission specific focus on teaching and learning outcomes.

Learning outcomes transform the general program goals developed into specific performances and behaviors that demonstrate student learning and skill development.

- What exactly will your students know?
- What exactly will they understand?
- What exactly will they be able to do with their knowledge at the end of the program?

Program faculty should answer the aforementioned questions in the framework of the program goals with statements describing competencies that program graduates should possess, in other words, the kinds of things that students know or are able to do after instruction.

A **learning outcome** is an intended effect of the college experience that has been stated in terms of specific, observable, and measurable student performance (e.g., Students will be able to identify details that are explicitly stated in a passage). Learning outcomes provide an operational definition of what we mean when we identify program goals. Unless the general goals are further operationalized in this way, they will not provide an adequate framework for teaching, learning, and assessment.

**The benefits of formulating intended learning outcomes are fourfold:**

1. Outcome statements form the operational basis of assessment at the course, program, and institutional level.
2. Outcome statements provide direction for all institutional activity.
3. Outcome statements inform students about the intentions of faculty.
4. Outcome statements inform external stakeholders about the educational experiences in a given program or department.

### Writing Learning Outcomes

When writing learning outcomes, draft realistic and achievable statements in simple language (see Appendix E). Learning outcomes should be accepted and supported by members of the program and department. Developing appropriate and useful outcomes is an iterative process; it's not unusual to revise and refine outcomes a number of times. In some cases, it is only when you try to develop assessment techniques for outcomes that the need for refining those outcomes becomes apparent.

### Effectively worded learning outcomes:

- **Use action verbs that describe definite, observable actions.** Faculty should select verbs that most clearly convey instructional intent and most precisely specify the student performance the program is willing to accept as evidence that the general instructional goal has been achieved. (See Appendix B for Classification of Cognitive Skills)
- **Are student-focused rather than instructor focused.** Intended outcomes are formulated to focus on student learning (i.e., they describe what students know, understand, or are able to do with their knowledge at the end of a program).  
**Poor:** The program will include instruction in multimedia techniques.  
**Good:** Program graduates will be able to use multimedia techniques to prepare presentations.
- **Focus on the learning resulting from an activity rather than on the activity itself.**  
**Poor:** Students will study at least one non-literary genre of art.  
**Good:** Students will arrive at an analytical and reasoned appreciation of a specific art form. Students will be able to communicate the appreciation to others either in written or verbal form.
- **Are reflected in program curriculum and translated into course specific objectives.** A good practice is to ask instructors to state explicitly in each course syllabus the program level goals and outcomes addressed in that course.
- **Focus on important, non-trivial aspects of learning that are credible to the public.** One pitfall to avoid in formulating outcomes is focusing on easy-to-measure, but relatively unimportant outcomes. This can happen

when learning outcomes are developed by carving up the discipline into smaller pieces. The focus of learning outcomes is not on less content, but rather on what students can do with the content they have learned.

**Poor:** Students will recall the stages of mitosis.

**Good:** Students will be able to reason effectively by using simplified economic models such as supply and demand, marginal analysis, benefit-cost analysis, and comparative advantage.

- Are general enough to capture important learning, but clear and specific enough to be measurable.

**Poor:** Students will be able to solve problems.

**Good:** Students will work effectively with others on complex, issue-laden problems requiring holistic problem solving approaches.

### Sample Program Goal and Learning Outcomes

Programs should develop goals and outcomes specific to their discipline, department, or field. The examples below can serve as a template.

#### Program Goal

Program graduates will be able to demonstrate solid problem-solving skills.

#### Outcomes

- Students will be able to analyze a situation to identify a problem.
- Students will use multiple resources to gain additional information regarding the problem.
- Students will develop a procedure to solve the problem using a sufficient knowledge base.
- Students will propose and critique a viable solution to the problem.

#### Social Sciences

##### *Program Goal*

Students understand their responsibilities to themselves, their families, peer groups, communities, and society.

#### Outcomes

- Students can identify the role that cultural diversity plays in defining what it means to be a social being.
- Students can identify the origins, workings, and ramifications of social and cultural change in their own identity.
- Students can compare the distinctive methods and perspectives of two or more social science disciplines.

#### Natural Sciences

##### *Program Goal*

Students who major in the natural sciences will become critical thinkers who are able to judge scientific arguments created by others and see relationships between science and societal problems.

#### Outcomes

- Students can apply scientific methodology.
- Students can evaluate the validity and limitations of theories and scientific claims in experimental results.
- Students can identify the relevance and application of science in everyday life.

#### Humanities

##### *Program Goal*

Students who major in the humanities will begin to recognize themselves as “knowers,” be self-conscious about their participation in a particular culture, and cultivate their ability to discover new knowledge for themselves.

#### Outcomes

- Students can identify the contributions of the humanities to the development of the political and cultural institutions of contemporary society.
- Students can analyze the meaning of major texts from both Western and non-Western cultures.
- Students can apply the humanistic perspective to values, experiences, and meanings in their own lives.

<sup>3</sup> Adapted from California State University, Bakersfield, PACT Outcomes Assessment Handbook (1999).

# Chapter 3

## *The Assessment Plan*

Developing a sustainable assessment plan is imperative. An effective assessment plan includes program goals and learning outcomes, learning processes, assessment methods, assessment processes, criteria for success, target groups, timelines, results, and action plans. The assessment plan should be a formal document that can be distributed both inside and outside the department. The most effective assessment plan is closely linked to the program's curriculum and uses available information and resources to the greatest degree possible.

### Curriculum Mapping: Validating Learning Outcomes

If students are expected to attain specific learning outcomes, they should be provided with the opportunities to learn what they need to learn. The purpose of curriculum mapping is to look at the program curriculum in light of intended outcomes to ensure that students receive appropriate instruction and assignments in the desired order and with enough repetition so that learning outcomes are achieved. Curriculum mapping enables a program to identify gaps in the curriculum. Mapping also provides an overview of what each course is attempting to accomplish.

### Sample Curriculum Mapping Matrix

Program Learning Outcomes (PLOs) (List program learning outcomes):
PLO 1:
PLO 2:
PLO 3:
PLO 4:

### Curriculum Alignment: Resources for Assessment

Which courses or activities provide student learning opportunities for the program learning outcome?

Specify whether the material is **(I) introduced**, **(E) emphasized**, **R (reinforced)**, or **A (applied)**.

Department/ Program Courses	PLO 1	PLO 2	PLO 3	PLO 4

Specify whether the PLO is assessed indirectly by placing an X in the appropriate column.

Other activities or indirect measures	PLO 1	PLO 2	PLO 3	PLO 4

Programs may also use matrices that link program goals to specific course assignments, or course outcomes to program goals, or any other configuration that helps connect what the program is currently doing to the program goals and outcomes identified as important for graduates in the major.

## Identifying Appropriate Assessment Methods

Identifying appropriate assessment methods requires that programs know what they want to assess. In general, programs will assess student learning, student attitudes and perceptions, and/or departmental processes.

Programs and program faculty are already assessing student learning through a variety of methods including grades, competency exams, capstone courses, etc. Before designing a program assessment plan, it is important to identify the assessment information that is currently collected to match those data sources to the learning goals and objectives that have been identified.

An assessment matrix is a particularly useful way of linking goals and outcomes to assessment tools, program requirements, or course curricula. In the assessment matrix template below, the link between objectives and data sources is identified in two ways: **direct** measures and **indirect** measures.

**Direct** measures require students to display their knowledge and skills. Some examples of direct methods are objective tests, essays, presentations, and classroom assignments.

**Indirect** measures ask students to reflect on their learning rather than demonstrate it. Some examples of indirect methods are surveys, interviews, and focus groups.

Learning Outcome	Direct Measure	Indirect Measure	Where will evidence be gathered?

### Basic Rules for Identifying Appropriate Methods

- There should be at least one method for assessing each learning outcome.
- Multiple methods should be used to assess outcomes when feasible.

- The ability of assessment to improve student learning depends on the relevance and usefulness of the information that is generated. To be useful, assessment methods must gather evidence that is closely related to the learning outcome. When choosing assessment methods, make sure the methods:
  - Answer questions that are important to the program
  - Follow identified “good practices” in education
  - Are manageable given available resources and skills
  - Result in useful feedback that highlights accomplishments and identifies areas requiring attention.

Additional guidelines for selecting assessment methods are available in Appendix F.

### Assessment Measures

Institution-wide assessment data (see Appendix G) provided by the Office of Institutional Research, Assessment, and Planning is available and may provide information for program-level assessment purposes; however, most established programs should have existing assessment measures that can be used. Existing measures may include:

- Existing exams, assignments, or projects common to groups of students in the major
- Senior assignments accomplished as part of a capstone experience
- Trends in student performance in key courses; tracking of course grades or exam performance over time
- Student internship experiences
- Portfolios
- Surveys, interviews, or focus groups with students, alumni, and/or employers

Programs should consider the ways in which they can use one source of information for a variety of program-level purposes. This will improve the chances that the assessment activity will become embedded into the program’s structure.

For an overview of the advantages and disadvantages of various assessment measures, see Appendix H.

# Chapter 4

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## *Analyzing, Reporting, and Using Results*

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Once outcomes have been identified, methods have been selected, and data have been collected, it is important to analyze, report, and use the results. Results should be analyzed in relation to identified program goals and intended outcomes. Recommendations should be developed based on analysis of data. Programs should consider the extent to which their findings can help them answer the following questions:

- What do the data say about students' mastery of subject matter, of research skills, or of writing and speaking?
  - What do the data say about students' preparation for taking the next step in their careers?
  - Are there areas where students are outstanding? Are there areas where students are consistently weak?
  - Are program graduates obtaining good jobs, being accepted into reputable graduate schools, and/or reporting satisfaction with their education?
  - Are there indicators in student performance that point to weaknesses in any particular skills, such as research, writing, or critical thinking?
  - Are there areas where performance is acceptable, but not outstanding, and where you would like to see a higher level of performance?
- Program processes
    - Advising procedures
    - Use of pretest for admittance to courses
    - Integration of materials across courses
    - Course offerings
    - Out-of-class support
    - Suggested/required order for taking courses
    - Program policies (e.g., grading, attendance, etc.)
    - Faculty course assignments
    - Administrative policies
  - Program inputs
    - Number of faculty
    - Faculty training and expertise
    - Facilities and equipment
    - Budget allocations
  - Assessment processes
    - Choice of methods
    - Standard setting
    - Timing of assessment
    - Sampling Procedures
    - Use of inducements for student participation
    - Faculty responsibilities for the process
  - Program foundations
    - Mission statement
    - Program goals

When programs make use of assessment information, they may consider a number of program facets:

Assessment processes help programs build on strengths and minimize weaknesses incrementally over time. The strength of assessment is not that it provides quick fixes for a problem, but that it promotes active, informed, and systematic improvement of all aspects of a program.

# Chapter 5

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## *Program Assessment and Review at Norfolk State University*

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Program outcomes assessment at NSU is a University-wide, unit-based process to determine unit effectiveness, i.e., to determine how well and in what ways units are meeting their individual and university-wide goals and how the units can improve their performance. NSU identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of improvement based on analysis of the results in each of the following areas:

- **Academic degree programs;**
- **Administrative support services;**
- **Educational support services;**
- **Research units; and**
- **Community/public service units.**

Program outcomes assessment is an ongoing process that runs on an annual cycle and includes the following nine steps:

1. Identifying/reviewing unit goals;
2. Selecting three to five goals for the given annual assessment cycle;
3. Translating the goals into specific, measurable, and observable outcomes;
4. Setting criteria for success or benchmark measures;
5. Identifying methods to collect data;
6. Analyzing, interpreting and reporting results;
7. Developing specific, concrete improvement plans; and
8. Reporting progress made on the plans developed in the previous year.

Educational program outcomes assessment is an intentional, iterative, faculty-driven inquiry process to (i) explicitly articulate expected learning outcomes for program graduates, (ii) coherently integrate the outcomes in the program curriculum, (iii) systematically collect data to review the extent to which the graduates achieve these outcomes, and (iv) implement curricular, co-curricular, and/or advising innovations in the program based on meaningful analysis of the review results.

The primary purpose of assessment activities in degree programs is to determine the extent to which academic programs achieve intended student learning outcomes, maintain a high level of quality and rigor, and meet the needs of students. To help programs initiate a sustainable assessment process, the Office of Institutional Research, Assessment, and Planning (IRAP) manages an assessment SharePoint site. The site serves as a repository for assessment reports and is designed (i) to facilitate and streamline the writing of assessment reports, (ii) to ensure linkages between all steps of the assessment process, and (iii) to standardize assessment reports across the units.

In 1988, assessment became a mandated process of academic review, program approval, and productivity analysis at Norfolk State University. Since 1988, assessment has become a tool to evaluate the effects of change and to contribute to the overall improvement of the academy in terms of student learning outcomes, faculty preparedness, and institutional effectiveness. The University Assessment Advisory

Committee (UAAC) was established in fall 2000 to provide a channel for institutional effectiveness and assessment matters for communication, advice, support and liaison to academic programs, educational support services, and administrative units.

The purpose of the University Assessment Advisory Committee (UAAC) is to provide advice to the Provost's Office on issues related to (i) promotion of an institutional culture of inquiry, evidence-based planning, and continuous quality enhancement and (ii) facilitation of the sustained implementation of the University's assessment policies and procedures in order to ensure that NSU systematically:

- Identifies expected program/unit outcomes,
- Assesses the extent to which programs/units achieve these outcomes, and
- Provides evidence of continuous improvement based on meaningful analysis of the results

The Major tasks of the UAAC are to:

- Serve as a channel for input on assessment and accreditation matters from students, faculty, and other members of the university community;

- Provide updates on university assessment and accreditation processes to campus constituencies;
- Engage in peer review of annual program assessment reports as assigned by the Provost's Office;
- Participate in assessment and accreditation training workshops and information sessions;
- Serve as a resource to the administration for strategic planning, accreditation, and other institutional effectiveness activities; and
- Submit annual report to the Provost's Office documenting strengths and weaknesses of the university's assessment program and propose recommendations for improvement as needed.

UAAC members are nominated by Deans/Division heads and appointed by the Provost's office. All members of the committee are eligible for reappointment. The committee meets at least three times within a semester. Decisions are made by consensus of members present.

The following templates may assist programs in developing both long-term and annual assessment plans.

Norfolk State University Outcomes Assessment Plan (3 – 5 Year Assessment Plan)					
Program/Unit:		Program Assessment Coordinator:			
Student Learning Outcomes	Semester/Year(s) Assessed	Direct Measures	Indirect Measures	Where will evidence be gathered?	What is the expected level of achievement?
<i>SLOs describe in concrete terms what Program Learning Outcomes (PLOs), also referred to as program goals or program objectives, mean. SLOs make PLOs more specific by describing what students will be able to demonstrate, produce, or do as a result of what they have learned in a program.</i>		<i>Describe student work/ assessments that will be used to provide evidence.</i>	<i>Describe instrument (i.e., survey, interview protocol, etc.)</i>	<i>Course, internship, etc.</i>	<i>Include a measurable performance indicator.</i>

**Program Outcomes (PLOs)** *PLOs are broad statements identifying what students should learn, understand, or appreciate as a result of their studies or by the time they finish a program or a major.*

**Curriculum Alignment: Resources for Assessment**

Which courses or activities provide student learning opportunities for the program learning outcome?  
Specify whether the material is (I) introduced, (E) emphasized, R (reinforced), or A (applied).

Department/Program Courses	PLO 1	PLO 2	PLO 3	PLO 4

Other activities	PLO 1	PLO 2	PLO 3	PLO 4

Norfolk State University Annual Outcomes Assessment Report (Academic Programs)	
<b>Academic Program:</b>	<b>Academic Year:</b>
<b>Assessment Coordinator:</b>	<b>Date Completed:</b>

**Program Mission** *(may discuss in the context of the College/School mission and/or the University mission)*

Brief history of the program, including any recent specialized accreditation or audit review. Briefly discuss the history of outcomes assessment in the program.

Individuals/committee responsible for assessment in the program.

Student Learning Outcomes	Semester Assessed	Direct Measures <i>Describe student work/ assessments that will be used to provide evidence.</i>	Indirect Measures <i>Describe instrument (i.e., survey, interview protocol, etc.)</i>	Where will the evidence be gathered? <i>Course, internship, etc.</i>	What is the expected level of achievement? <i>Include a measurable performance indicator.</i>	Results <sup>4</sup>	Improvement Plans

**Use of Results/Improvements Made** *(Discuss in detail the use of the assessment results to improve the program. Changes to curriculum, pedagogy, assessment tools/measures, etc. should be included.)*

**Supporting Documentation** *(e.g., rubrics, sample assignments, test results, surveys, questionnaires, tables, charts, departmental assessment reports showing evidence that the results were disseminated, meeting minutes, etc. If questions arise about what should or should not be included, please contact the Office of Institutional Research, Assessment, and Planning.)*

**Review Process**

Please forward your assessment report to the associate dean or dean of your school/college for review and signature. This review will ensure that the information included in this report is accurate and that your program is engaged in a systematic process of continuous improvement

\_\_\_\_\_  
Department Chair

\_\_\_\_\_  
Date

\_\_\_\_\_  
Associate Dean/Dean

\_\_\_\_\_  
Date

<sup>4</sup> Indicate if the target/expected level of achievement was met for each measure. The results section should be detailed and include the number of students assessed. If a sample is used, a justification should be provided that indicates if the sample is representative of the program's student population. When possible, results should be discussed in the context of results from previous years.

Norfolk State University | Assessment Report Evaluation Rubric

Academic Program:

Report Year:

- Program Mission -

Excellent <input type="checkbox"/>	Acceptable <input type="checkbox"/>	Developing <input type="checkbox"/>
<ul style="list-style-type: none"> <li>• Clear and concise.</li> <li>• Identifies stakeholders.</li> <li>• Specific to the program (<i>identifies what the program does that separates it from others</i>).</li> <li>• Aligned and consistent with the College/School and University missions.</li> </ul>	<ul style="list-style-type: none"> <li>• Clear statement of the program's purpose and its stakeholders</li> <li>• Aligned and consistent with the College/School and University missions.</li> </ul>	<ul style="list-style-type: none"> <li>• General statement of the program's purpose.</li> <li>• Doesn't identify stakeholders.</li> <li>• Fails to demonstrate clear alignment with the College/School and University missions.</li> <li>• Too general to distinguish the program or too specific to reflect the program's priorities and values.</li> </ul>
<p><b>Comments/Notes:</b></p>		

- Program History -

Excellent <input type="checkbox"/>	Acceptable <input type="checkbox"/>	Developing <input type="checkbox"/>
<ul style="list-style-type: none"> <li>• Provides a brief history of the program.</li> <li>• Discusses the history of outcomes assessment in the program.</li> <li>• Includes a brief discussion of accreditation or audit review in the program.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides a brief history of the program.</li> <li>• Discusses the history of outcomes assessment in the program.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides a brief history of the program.</li> <li>• Fails to discuss the history of outcomes assessment in the program.</li> </ul>
<p><b>Comments/Notes:</b></p>		

- Assessment Responsibility -

Excellent <input type="checkbox"/>	Acceptable <input type="checkbox"/>	Developing <input type="checkbox"/>
<ul style="list-style-type: none"> <li>• Multiple (two or more) persons or a committee are assigned responsibility for the design and implementation of the program's assessment process.</li> </ul>	<ul style="list-style-type: none"> <li>• One person is assigned responsibility for the design and implementation of the program's assessment process.</li> </ul>	<ul style="list-style-type: none"> <li>• Responsibility for the design and implementation of the program's assessment process is not clearly assigned.</li> </ul>
<p><b>Comments/Notes:</b></p>		

- Outcomes -

Excellent <input type="checkbox"/>	Acceptable <input type="checkbox"/>	Developing <input type="checkbox"/>
<ul style="list-style-type: none"> <li>• Three to five clearly stated outcomes are provided.</li> <li>• Outcomes are observable and measurable.</li> <li>• Outcomes are described with action verbs.</li> <li>• Outcomes focus on processes and/or student learning.</li> <li>• Outcomes are aligned with the program's mission and the University's strategic goals.</li> </ul>	<ul style="list-style-type: none"> <li>• At least three outcomes are provided. Language may be vague or need revision.</li> <li>• Outcomes are observable and measurable.</li> <li>• Outcomes are described with action verbs.</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer than three outcomes are listed.</li> <li>• Outcomes are not measurable. Unclear how an evaluator could determine whether the outcomes have been met.</li> <li>• Describes a process, rather than an outcome.</li> </ul>
<p><b>Comments/Notes:</b></p>		

- Measures and Achievement Levels -

Excellent <input type="checkbox"/>	Acceptable <input type="checkbox"/>	Developing <input type="checkbox"/>
<ul style="list-style-type: none"> <li>At least two measures are employed for each outcome.</li> <li>Direct measures are emphasized.</li> <li>Both direct and indirect measures are used.</li> <li>Assessment instruments are clearly described and attached, where appropriate.</li> <li>Achievement levels are realistic and clearly defined for each measure.</li> </ul>	<ul style="list-style-type: none"> <li>At least one measure is employed for each outcome.</li> <li>Direct and indirect measures are used.</li> <li>Assessment instruments are described.</li> <li>Achievement levels are identified for each measure.</li> </ul>	<ul style="list-style-type: none"> <li>Not all outcomes have corresponding measures.</li> <li>Few direct measures are used.</li> <li>Achievement levels are not identified for each measure or are too general.</li> <li>Measurement instruments are vaguely described or have not been developed and/or implemented.</li> </ul>
<p><b>Comments/Notes:</b></p>		

- Findings and Analysis -

Excellent <input type="checkbox"/>	Acceptable <input type="checkbox"/>	Developing <input type="checkbox"/>
<ul style="list-style-type: none"> <li>Includes clear, complete summaries of results for all measures.</li> <li>Solid evidence that targets were met, partially met, or not met is provided for each measure.</li> <li>Compares new findings to previous results when possible or as appropriate.</li> <li>Includes supporting documentation, (<i>rubrics, surveys, tables, charts, etc., as appropriate</i>).</li> </ul>	<ul style="list-style-type: none"> <li>Includes a clear, well-organized summary of results for most measures; however, some data may still be in the process of being collected and/or analyzed.</li> <li>Some evidence that targets were met, partially met, or not met is provided for most measures.</li> <li>Supporting documentation provided, as appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>Findings omitted or incomplete summaries or summaries that are not matched to the measures provided.</li> <li>Findings do not indicate whether targets were met, partially met, or not met.</li> <li>No supporting documentation provided.</li> </ul>
<p><b>Comments/Notes:</b></p>		

- Use of Results -

Excellent <input type="checkbox"/>	Acceptable <input type="checkbox"/>	Developing <input type="checkbox"/>
<ul style="list-style-type: none"> <li>Assessment results are reviewed and considered in the context of evaluation of the effectiveness of the program.</li> <li>Exhibits a firm understanding of the results and explains implications for the program.</li> <li>Identifies key areas that need to be monitored, revised, or enhanced.</li> <li>Defines specific and logical actions for improvement in response to the findings from each outcome.</li> </ul>	<ul style="list-style-type: none"> <li>Assessment results were reviewed but did not factor into an evaluation of the effectiveness of the program.</li> <li>Identifies key areas that need to be monitored, revised, or enhanced.</li> <li>Defines specific and logical actions for improvement in response to the findings for most outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>Assessment results were not reviewed.</li> <li>Details are not provided in the analysis.</li> <li>Does not describe actions for improvement or improvements are not related to assessment results.</li> </ul>
<p><b>Comments/Notes:</b></p>		

Review Process.

Report has been reviewed and signed by department chair.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Report has been reviewed and signed by associate dean/dean.	Yes <input type="checkbox"/>	No <input type="checkbox"/>

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# Appendix A

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## *Program Goals Worksheet*

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Each faculty member in the department should complete this worksheet. Arrange a time to meet to compare notes and discuss results. The final product of this exercise should be a list of three to five broad goals that describe what program faculty believe should be characteristic of graduates in the major.

1. List any program/department goals. This information can most likely be found in the course catalog, program brochure, or department mission statement.
  
2. Describe your ideal student in terms of strengths, skills, knowledge, and values, and identify which of these characteristics are the result of program experiences.
  
3. Keeping this ideal student in mind, ask what the student
  - a. Knows
  - b. Can do
  - c. Cares about
  
4. What program experiences can you identify as making the most contribution to producing and supporting the ideal student?
  
5. What should every graduate of your program know?
  
6. What are the career achievements of the alumni of which you are most proud?

# Appendix B

## *Classification of Cognitive Skills*

Category	Definition	Related Behaviors
Knowledge	Recalling or remembering something without necessarily understanding, using, or changing it	Define, Describe, Identify, Label, List, Match, Memorize, Point to, Recall, Select, State
Comprehension	Understanding something that has been communicated without necessarily relating it to anything else	Alter, Account for, Annotate, Calculate, Change, Convert, Group, Explain, Generalize, Give examples, Infer, Interpret, Paraphrase, Predict, Review, Summarize, Translate
Application	Using a general concept to solve problems in a particular situation; using learned material in new and concrete situations	Apply, Adopt, Collect, Construct, Demonstrate, Discover, Illustrate, Interview, Make use of, Manipulate, Relate, Show, Solve, Use
Analysis	Breaking something down into its parts; may focus on identification of parts or analysis of relationships between parts, or recognition of organizational principles	Analyze, Compare, Contrast, Diagram, Differentiate, Dissect, Distinguish, Infer, Outline, Point out, Select, Separate, Sort, Subdivide
Synthesis	Creating something new by putting parts of different ideas together to make a whole	Blend, Build, Change, Combine, Compile, Compose, Conceive, Create, Design, Formulate, Generate, Hypothesize, Plan, Predict, Produce, Reorder, Revise, Tell, Write
Evaluation	Judging the value of material or methods as they might be applied in a particular situation; judging with the use of definite criteria	Accept, Appraise, Assess, Arbitrate, Award, Choose, Conclude, Criticize, Defend, Evaluate, Grade, Judge, Prioritize, Recommend, Referee, Reject, Select, Support

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# Appendix C

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## *Learning Outcomes Worksheet*

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This worksheet may be used by faculty to develop specific learning outcomes from the program goals that have been identified. All program faculty should complete the following table. Faculty should then meet to discuss the responses and to try to reach consensus on the desired program goals and learning outcomes. Remember that the outcome is the specific learning behavior that the student should demonstrate. You may have more than one outcome for each goal.

Program Goals	Learning Outcomes
1	a. b. c.
2	a. b. c.
3	a. b. c.
4	a. b. c.
5	a. b. c.

# Appendix D

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## *Taxonomy of Assessment Methods*

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**Direct Methods** require students to display their knowledge and skills as they respond to the instrument itself. Objective tests, essays, presentations, and classroom assignments all meet this criterion.

**Indirect Methods** such as surveys, focus groups, and interviews ask students to reflect on their learning rather than demonstrate it.

**Selected-response tests** also called recognition assessment, present alternative responses, from which the student chooses the correct or preferred answer. Typical selected response types are multiple-choice, true-false, and matching tests.

**Constructed-response tests** also called production assessment, require students to produce an answer or furnish an “authentic response to a given stimulus or test question.” Typical constructed-response formats are sentence-completion tests, essay questions, and performances.

**Quantitative methods** assess teaching and learning by collecting and analyzing numeric data using statistical techniques. Researchers typically work with a small number of predetermined response categories. Emphasis is usually on analyzing a large number of cases using instruments that have been evaluated for their validity and reliability. Examples of quantitative measures and techniques include GPA, grades, exam scores, tests, and forced-choice surveys.

**Qualitative methods** rely on descriptions rather than numbers and usually deal with unknown causes, variables, and an absence of explanatory theories. Qualitative approaches rely on discovery, subjectivity, and interpretation. Qualitative methods are useful for discovery when we do not know enough to formulate a hypothesis and for communicating the results of quantitative methods. Qualitative methods are helpful ways to illustrate and explain results when numbers simply do not portray the extent of student learning. However, qualitative assessment has some challenges. Qualitative assessment depends upon objectivity, which may be hard to find, and it suffers from lack of consistency or reliability in judgment between evaluators and over time. Some examples of qualitative assessment measures are exit interviews, writing samples, and open-ended survey questions.

# Appendix E

## *SMART Outcomes Worksheet*

Student learning outcomes should be SMART. Using the outcomes developed by your program, identify whether each meets the criteria for a SMART student-learning outcome by checking the appropriate box.

**S**pecific – clear, concise, concrete terms; contains action verbs

**M**easurable – a quantifiable target

**A**ttainable – something that students can accomplish

**R**esults – focused on results but also realistic and practical

**T**ime-bound – time bound and tailored to the program

Student Learning Outcome	SMART Criteria				
	Specific	Measurable	Attainable	Results-focused	Time-bound

<sup>5</sup> Adapted from Sterling, P.M. (2004). *Assessing for Learning: Building a Sustainable Commitment Across the Institution*. <https://styluspub.presswarehouse.com/resources/assessingforlearning.aspx>

# Appendix F

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## *Guidelines for Selecting Assessment Measures*

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- **The evidence you collect depends on the questions you want to answer.**<sup>7</sup> In thinking about program assessment, four questions come to mind:
  - Does the program meet or exceed certain standards?
  - How does the program compare to others?
  - Does the program do a good job at what it sets out to do?
  - How can the program experience be improved?
- **Use multiple methods to assess each learning outcome.** The advantages to using more than one method include:
  - Multiple measures can assess different components of a complex task
  - No need to try to design a complicated all-purpose method
  - Greater accuracy and authority achieved when several methods of assessment produce similar findings
  - Provides opportunity to pursue further inquiry when methods contradict each other
- **Include both direct and indirect measures.** Direct methods ask students to demonstrate their learning while indirect methods ask them to reflect on their learning. Direct methods include some objective tests, essays, presentations and classroom assignments. Indirect methods include surveys and interviews.
- **Include qualitative as well as quantitative measures.** All assessment measures do not have to involve quantitative measurement. A combination of qualitative and quantitative methods can offer the most effective way to assess goals and outcomes. Use an assessment method that matches your departmental culture. For example, in a department where qualitative inquiry is particularly valued, these types of methods should be incorporated into the plan. The data you collect must have meaning and value to those who will be asked to make changes based on the findings.
- **Choose assessment methods that allow you to assess the strengths and weaknesses of the program.** Effective methods of assessment provide both positive and negative feedback. Finding out what is working well is only one goal of program assessment.
- **Be selective about what you choose to observe or measure.** Assessment methods should be selected as carefully as you selected your departmental goals and objectives. As you work through this process, remember that:
  - Comprehensive does not mean assessing everything
  - Choosing assessable indicators of effectiveness is key
  - Complex methods are not necessarily the best choice
  - Select a manageable number of methods that do not drain energy or resources

<sup>6</sup> Examples on these pages are adapted from University System of Georgia: Task Force on Assessing Major Area Outcomes, *Assessing Degree Program Effectiveness* (1992); and Western Carolina University, *Assessment Resources Guide* (1999).

<sup>7</sup> Adapted from Volkwein, J. (1996). *Program evaluation and assessment: What's the question.*

- **Include passive as well as active methods of assessment.** In addition to assessment methods that require you to interact directly with the student in an instructional or evaluative setting, assessment measures are also available that allow you to analyze assessment information without direct student contact or effort. You can accomplish this goal by analyzing:
  - Student database information
  - Attendance and course selection patterns
  - Employer survey results
  - Transcript analyses

- **Use capstone courses or senior assignments to directly assess student learning outcomes.** Capstone courses and senior assignments promote faculty student interaction and scholarly inquiry; they allow demonstration of academic breadth, and they allow demonstration of ability to synthesize and integrate knowledge and experiences. If you use this method, however, care should be taken that:
  - the course and its assignments are truly representative of requirements for the major.
  - the course curriculum and assignment evaluation (or products) are consistent across sections.
  - students understand the value and importance of the capstone course or senior assignment and take this requirement seriously.

- **Enlist the assistance of assessment and testing specialists when you plan to create, adapt, or revise assessment instruments.** Staff in the Office of Institutional Research, Assessment, and Planning are happy to assist you in finding the appropriate resources. Areas in which you might want to seek assistance include:
  - ensuring validity and reliability of test instruments
  - ensuring validity and reliability of qualitative methods

- identifying appropriate assessment measurements for specific goals and tasks
  - analyzing and interpreting quantitative and qualitative data collected as part of your assessment plan.
- **Use established accreditation criteria to design your assessment program.** Established criteria will help you:
    - respond more effectively to accreditation requirements
    - build on the techniques and measures that you use as part of the accreditation process.

# Appendix G

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## *Types of Institution-Wide Assessment Data at NSU*

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A variety of assessment data are routinely collected at the University level. These data can enhance and elaborate on the data you collect in the department. Institutional data can tell you whether the program is growing, the grade point average for majors in the program, and the retention rate for program majors. Institutional data are generally easily accessible and readily available. The data can be requested from the Office of Institutional Research, Assessment, and Planning. These data are often collected on a systematic and cyclical schedule that can offer programs both current and longitudinal information. Examples of university measures include:

### **Beginning College Survey of Student Engagement (BCSSE)**

BCSSE collects data about entering college students' high school academic and co-curricular experiences, as well as their expectations for participating in educationally purposeful activities during the first college year.

### **Critical thinking Assessment Test (CAT)**

The CAT Instrument is a unique tool designed to assess and promote the improvement of critical thinking and real-world problem solving skills. The instrument is the product of extensive development, testing, and refinement with a broad range of institutions, faculty, and students across the country. The National Science Foundation has provided support for many of these activities.

### **ETS Proficiency Profile**

The ETS® Proficiency Profile assesses four core skill areas — critical thinking, reading, writing and mathematics — in a single, convenient test that the Voluntary System of Accountability (VSA) has selected as a gauge of general education outcomes.

### **Examination of Writing Competency (EWC)**

The Examination of Writing Competency (EWC) is a graduation requirement for all undergraduate students. It is a three-hour proctored exam in which students write an essay that responds to a question from a general category.

### **Faculty Survey of Student Engagement (FSSE)**

The Faculty Survey of Student Engagement (FSSE) was designed to complement the National Survey of Student Engagement (NSSE), which is administered to undergraduate students. The faculty version focuses on: (i) faculty perceptions of how often students engage in different activities; (ii) the importance faculty place on various areas of learning and development; (iii) the nature and frequency of faculty-student interactions; (iv) how faculty members organize their time, both in and out of the classroom.

### **Graduating Student Exit Survey (GSES)**

The Graduating Student Exit Survey (GSES) is administered by The Office of Institutional Research, Assessment and Planning of Norfolk State University (NSU) to provide a continuing institutional performance assessment of NSU's undergraduate or graduate programs for the purpose of program improvement. GSES is a part of the University's ongoing assessment of students' perceptions of NSU's programs. All NSU graduating students (undergraduate and graduate) are invited to complete the survey online.

### **National Survey of Student Engagement (NSSE)**

NSSE annually collects information at hundreds of four-year colleges and universities about first-year and senior students' participation in programs and activities that institutions provide for their learning and personal development. The results provide an estimate of how undergraduates spend their time and what they gain from attending college.

# Appendix H

## *Advantages and Disadvantages of Various Assessment Methods*

Method	Advantages	Disadvantages
<p><b>Alumni Survey.</b> Surveying program alumni can provide a wide variety of information about program satisfaction, how well students are prepared for their careers, what types of jobs or graduate degrees majors have gone on to obtain, starting salaries for graduates, and the skills that are needed to succeed in the job market or in graduate study. These surveys provide the opportunity to collect data on areas of the program that should be changed, altered, improved, or expanded.</p>	<p>Alumni surveying is usually a relatively inexpensive way to collect program data from individuals who have a vested interest in helping to improve the program as well as offering the opportunity for improving and continuing department relationships with program graduates.</p>	<p>Without an easily accessible and up-to-date directory of alumni, they can be difficult to locate. It also takes time to develop an effective survey and ensure an acceptable response rate.</p>
<p><b>Culminating Assignments.</b> Culminating assignments offer students the opportunity to put together the knowledge and skills they have acquired in the major, provide a final common experience for majors, and offer faculty a way to assess student achievement across a number of discipline-specific areas. Their purpose is to integrate knowledge, concepts, and skills that students are expected to have acquired in the program. This is obviously a curricular structure as well as an assessment technique and may consist of a single culminating course (i.e., capstone) or a small group of courses designed to measure the competencies of the students who are completing the program. A senior assessment is a final culminating project for graduating seniors such as a performance portfolio or a thesis that has the same integrative purpose as the capstone course.</p>	<p>Many colleges and universities are using capstone courses to collect data on student learning in a specific major or in general education or core requirement programs.</p>	<p>Putting together an effective and comprehensive capstone course can be a challenge, particularly for those programs that mesh hands-on technical skills with less easily measurable learning outcomes. Also, there is a great deal of start-time needed to develop appropriate and systematic methods for assessing these or other culminating experiences.</p>

Method	Advantages	Disadvantages
<p><b>Content Analysis.</b> Content analysis is a technique that looks at a group of students, such as majors in a program or department, and assesses samples of written work that are produced by the group. This assessment method uses outcomes identified as important prior to the analysis or as the analysis proceeds. For example, a program might want to determine how well program majors write. To use content analysis to assess writing skills, a representative sample of writing is needed. Analysis may include a look at what students are actually writing or at the underlying meaning of their writing. Results are generally presented in written form giving averages and examples of specific categories of outcomes (e.g., spelling errors).</p>	<p>Content analysis allows programs to assess learning outcomes over a period of time and can be based on products that were not specifically created for program assessment purposes. Because writing samples can be re-examined, content analysis also makes it easier to repeat portions of the study and provides an obtrusive way to assess student learning.</p>	<p>Accuracy of the assessment is limited to the skill of the person(s) conducting the analysis. Data are also limited by the set of written work and may not be relevant to technical skills valued by a particular field or major that involve hands-on performance. Pre-testing coding schemes, using more than one analyst per document, and concrete materials and coding schemes can improve the reliability of this technique.</p>
<p><b>Course-Embedded Assessment.</b> Course-embedded assessment refers to methods of assessing student learning within the classroom environment using course goals, objectives, and content to gauge the extent of the learning that is occurring. This technique generates information about what and how students are learning within the program and classroom environment using existing information that instructors routinely collect (test performance, short answer performance, quizzes, essays, etc.) or through assessment instruments introduced into a course specifically for the purpose of measuring student learning.</p>	<p>This method of assessment is often effective and easy to use because it builds on the curricular structure of the course and often does not require additional time for data collection since the data comes from existing assignments and course requirements.</p>	<p>Course-embedded assessment, however, takes preparation and analysis time, and while well-documented for improving individual courses, there is less documentation on its value for program assessment.</p>
<p><b>Curriculum Analysis.</b> Curriculum analysis involves a systematic review of course syllabi, textbooks, exams, and other materials to help you clarify learning objectives, explore differences and similarities between course sections, and/or assess the effectiveness of instructional materials. It offers a way to document which courses will cover which objectives and helps in sequencing courses within a program. See matrices for additional information.</p>	<p>Using curriculum analysis as an assessment tool can be a valuable way of tracking what is being taught where. It can provide assurance that specific learning goals and objectives are being covered in the program and can pinpoint areas where additional coverage is needed.</p>	<p>This method can be time-consuming, particularly in large departments with many courses and different instructors, and where there may be little consistency between how learning objectives are addressed in one course and how they are taught in another.</p>

Method	Advantages	Disadvantages
<p><b>Delphi Technique.</b> The Delphi technique is used to achieve consensus among differing points of view. In its original form, a team of experts, who never actually meet, are asked to comment on a particular issue or problem. Each member's response is reviewed and a consensus determined. Any member whose response falls outside of the consensus is asked to either defend or rethink the response. The anonymity provided by this technique offers more junior members of the team an equal chance to get their ideas out, as well as permits a challenge to the ideas of senior members that might never occur in an open forum. More recently, the Delphi technique has been modified so that teams of individuals are brought together to discuss an issue or problem face-to-face to reach a consensus. For instance, a team of faculty members might meet to review possible goals and objectives for their department in an effort to develop a set of goals and objectives on which they can agree.</p>	<p>The Delphi technique can be useful in bringing together diverse opinions in a discussion forum.</p>	<p>This technique fails when the facilitator lacks objectivity or when the participants feel unsafe or insecure in voicing their real opinions. For instance, faculty members discussing intended goals and objectives might not be comfortable in disagreeing openly with the department head. For this technique to succeed, care must be taken to appoint an impartial facilitator and to convince participants that differing opinions are welcome.</p>
<p><b>Employer Survey.</b> Employer surveys help programs determine if graduates have the necessary job skills and if there are other skills that employers particularly value that graduates are not acquiring in the program. This type of assessment method can provide information about the curriculum, programs, and students outcomes that other methods cannot. This method has the potential to provide on-the-job, field specific information about the application and value of the skills the program offers.</p>	<p>Employer surveys provide external data that cannot be replicated on campus and can help faculty and students identify the relevance of educational programs.</p>	<p>As in any survey, ambiguous, poorly worded items will generate problematic data. Additionally, though data collected this way may provide valuable information on current opinion, responses may not provide enough detail to make decisions about program specific changes in the curriculum. Also, it is sometimes difficult to determine who should be surveyed, and obtaining an acceptable response rate can be cost and time intensive.</p>
<p><b>Focus Groups.</b> Focus groups are structured discussion among homogenous groups of 6-10 individuals who respond to specific open-ended questions designed to collect data about the beliefs, attitudes, and experiences of those in the group. This is a form of group interview where a facilitator raises the topics for discussion and collects data on the results. Emphasis is on insights and ideas.</p>	<p>Focus groups can provide a wide variety of data about participants' experiences, attitudes, views, and suggestions, and results can be easily understood and used. These groups allow a small number of individuals to discuss a specific topic in detail, in a non-threatening environment.</p>	<p>Data collected in this way is not useful for quantitative results, and qualitative data can be time-consuming and difficult to analyze because of the large amount of non-standardized information. Ultimately, the success of this method depends on a skilled, unbiased moderator and an appropriate group of participants.</p>

Method	Advantages	Disadvantages
<p><b>Institutional Data.</b> A variety of departmental and student data are routinely collected at the university level. These data can enhance and elaborate on data collected in the program. Institutional data can tell you whether the program is growing, the grade point average of program majors, and/or the retention rate of program majors.</p>	<p>Institutional data are generally easily accessible and readily available. This data can be requested through the Office of Institutional Research, Assessment, and Planning. Student and departmental data are collected on a systematic and cyclical schedule that can program both current and longitudinal information.</p>	<p>These data sets are generally large and may be difficult to sort through, particularly for those individuals who are not used to working with large databases. The data may be less useful to specific departments or programs because the information collected is very often general (age, gender, race, etc.) and may not relate directly to program goals and objectives.</p>
<p><b>Matrices.</b> At its most basic, a matrix is a grid of rows and columns used to organize information. For assessment purposes, a matrix can be used to summarize the relationship between program objectives and course syllabus objectives, course assignments, or courses in a program or department. Matrices can be used for curriculum review, to select assessment criteria, or for test planning. A matrix can also be used to compare program outcomes to employer expectations.</p>	<p>Using a matrix can provide programs with an overview of how course components and curriculum link to program objectives. It can also help program faculty tailor assignments to program objectives and can lead to useful discussions that in turn may lead to meaningful changes in courses or curricula.</p>	<p>Because a matrix can offer a clear picture of how program components are interconnected and reveal where they are not, acknowledging and responding to discrepancies may involve extensive discussion, flexibility, and willingness to change.</p>
<p><b>Observations.</b> Observation as a method of assessment is an unobtrusive tool that can yield significant information about how and why students learn. Any relevant interactive event (e.g., classes, club meetings, or social gatherings) may be observed. Observation is generally used when there is an interest in how students study, the effectiveness of study sessions, or other supplementary activities, or when the focus is on the relationship between out-of-class behavior and in-class performance. Data collected through observation can be correlated with test scores and/or course grades to help provide further insight into student learning.</p>	<p>Data collected through observation can yield important insight into student behavior that may be difficult to gauge through other assessment methods. This method is typically designed to describe findings within a particular context and often allows for interaction between the researcher and students that can add depth to the information collected. It is especially useful for studying subtleties of attitudes and behaviors.</p>	<p>Observed data is not always precise and cannot be generalized to larger populations. Conclusions may be suggestive rather than definitive, and others may feel that this method provides less reliable data than other collection methods.</p>

Method	Advantages	Disadvantages
<p><b>Performance Assessment.</b> Performance assessment uses student activities to assess skills and knowledge. These activities include class assignments, auditions, recitals, projects, presentations, and similar tasks. At its most effective, performance assessment is linked to the curriculum and uses real samples of student work. This type of assessment generally requires students to use critical thinking and problem-solving skills within a context relevant to the major. The performance is rated by faculty or qualified observers and assessment data are collected. The student receives feedback on the performance and evaluation.</p>	<p>Performance assessments can yield valuable insight into student learning and provide students with comprehensive information on improving their skills. Communication between faculty and students is often strengthened, and the opportunity for student self-assessment is increased.</p>	<p>Performance assessments are labor-intensive, sometimes separate from the daily routine of faculty and students, and may be seen as an intrusion or an additional burden. Articulating the skills that will be examined and specifying the criteria for evaluation may be both time-consuming and difficult.</p>
<p><b>Pre-test/Post-test Evaluation.</b> This method uses locally developed and administered tests and/or exams at the beginning and end of a course or program in order to monitor student progression and learning across pre-defined periods of time. Results can be used to identify areas of skill deficiency and to track improvement within the assigned time frame. Tests used for assessment purposes are designed to collect data that can be used along with other institutional data to describe student achievement.</p>	<p>Pre-test/post-test evaluations can be an effective way to collect information on students when they enter and leave a particular program or course, and they provide assessment data over time. They can sample student knowledge quickly and allow comparisons between different student groups or the same group over time.</p>	<p>Pre-test/post-test evaluations require additional time to develop and administer and can pose problems for data collection and storage. Care should be taken to ensure that the tests measure what they are intended to measure over time (and that they fit with program learning outcomes), that there is consistency in test items, administration, and application of scoring standards.</p>
<p><b>Reflective Essays.</b> Reflective essays may be used as an assessment tool to gauge how well students understand course content and issues. They are generally short writings (5 to 10 minutes) on topics related to the course curriculum and may be given as in-class assignments or homework assignments. Reflective essays may be voluntary or required, and may include open-ended questions on surveys required in student portfolios or capstone projects.</p>	<p>Reflective essays as an assessment tool can offer data on student opinions and perspectives at a particular moment in a course. Essays will likely provide a wide array of different responses and might lead to increased discussion among faculty and students.</p>	<p>Poorly worded, ambiguous questions will yield little, and student opinions and perceptions may vary in accuracy. Analysis of content may take additional time and expertise.</p>

Method	Advantages	Disadvantages
<p><b>Standardized and Local Test Instruments.</b> Selecting a standardized instrument (developed outside the institutional for application to a wide group of students using national/regional norms and standards) or a locally-developed assessment tool (created within the institution, program or department for internal use only) depends on specific needs and available resources. Knowing what you want to measure is key to successful selection of standardized instruments, as is administering the assessment to a representative sample in order to develop local norms and standards. Locally-developed instruments can be tailored to measure specific performance expectations for a course or group of students.</p>	<p>Locally-developed instruments are directly linked to local curriculum and can identify student performance on a set of locally important criteria. Standardized tests are immediately available for administration and, therefore, are less expensive to develop than creating local tests from scratch. Changes in performance can be tracked and compared to norm groups and subjectivity/misinterpretation is reduced.</p>	<p>Putting together a local tool is time-consuming as is development of a scoring key/method. There is also no comparison group and performance cannot be compared to state or national norms. Standardized measures may not link to local curricula and purchasing tests can be expensive. Test scores also may not contain enough locally relevant information to be useful.</p>
<p><b>Student Surveys and Exit Interviews.</b> Surveys and interviews ask students to respond to a series of questions or statements about their academic experience. Questions can be both open-ended (respondents create answers) and close-ended (respondents answer from a list of simple and unambiguous responses). Surveys and interviews can be written or oral.</p>	<p>Surveys can be relatively inexpensive and easy to administer, can reach participants over a wide area, and are best suited for short and non-sensitive topics. Surveys can provide a sense of what is happening at a given moment in time and can be used to track opinions. Data is reasonably easy to collect and tabulate. An interview can follow-up on evasive answers and explore topics in-depth, collecting rich data, new insights, and focused details.</p>	<p>Ambiguous, poorly written items and insufficient responses may not generate enough detail for decision-making. The respondent, who may feel a lack of privacy and anonymity, may distort information. The success of the interview depends ultimately on the skills of the interviewer.</p>
<p><b>Syllabus Analysis.</b> Syllabus analysis (as well as systematic review of textbooks, exams, and other curricular material) involves reviewing the current course syllabus (written or oral assignments, readings, class discussions, projects and course expectations) to determine if the course is meeting the goals and objectives of the instructor or program.</p>	<p>Syllabus analysis can be used when faculty or programs want to clarify learning outcomes, explore differences and similarities between sections of a course, or assess the effectiveness of instructional materials. Syllabus analysis can provide invaluable information to enhance any assessment plan.</p>	<p>This review can be time consuming, and as there may be more than one reviewer, there may not be adequate consistency in collecting and analyzing the data.</p>
<p><b>Transcript Analysis.</b> Transcript analysis involves using data from student databases to explore students' course taking patterns as well as grade patterns. This analysis can provide a picture of students at a certain point in their academic careers, show what classes students took and in what order, and identify patterns in student grades. In sum, transcript analysis provides a more complete picture of students' actual curricular experiences. Specific information can be drawn from transcripts to help answer research questions, and course pattern sequences can be examined to see if there is a coherence to the order of courses taken.</p>	<p>Transcript analysis is an unobtrusive method for data collection using an existing student database. This information can be linked to other variable such as gender or major, or used to measure outcomes.</p>	<p>It is important to keep in mind that course patterns may be influenced by other variables in students' lives that don't show up on their transcripts. Also, solutions that arise from results of the analysis may not be practical or easily implemented. It is critical to have specific questions whose answers can lead to realistic change before conducting the analysis.</p>

# Appendix I

## Survey Development

The creation and validation of a survey or questionnaire is time consuming. Many steps are involved in the development of a series of items. The most efficient way to develop appropriate items is to create a Table of Specifications (ToS). The ToS delineates the main topics of the survey. Under each topic area, there may be subconcepts or subtopics. In essence, the ToS becomes an outline of the content of the survey.<sup>8</sup>

Sample Table of Specifications

	QuestionNo.
Demographic data	
Sex	1
Clinical practice setting	2-3
Years of experience as an athletic trainer	4-6
Understanding the role of the clinical instructor	
Accreditation requirements	7-11
Board of Certification requirements	12-16
Institutional requirements	17-19
Academic preparation to be a clinical instructor	
Formal instruction: Approved Clinical Instructor Course	20-29
Formal didactic teaching education	
1. Teacher preparation	30-35
2. Workshops	36-40

Common Types of Survey Questions

Types of Questions	Advantages	Disadvantages	Examples
<b>Open-Ended Questions.</b> Stimulates free thought from the respondents. Elicits information that respondents can recall without difficulty when there are a very large number of possible answers and listing all of them as response choice makes answering the question difficult.	The questions simulate free thought, solicit suggestions, probe people's memories, and clarify positions.	The questions require people to find the terms with which to express themselves. Answers may be incomplete, uninterruptible, or irrelevant. Information may be difficult to analyze.	What should be done in order to improve the program?  To what professional organizations do you belong?

<sup>8</sup> Adapted from Turocy, P. S (2002). Survey research in athletic training: The scientific method of development and implementation. *Journal of Athletic Training*, 37(4), 174-179.

Types of Questions	Advantages	Disadvantages	Examples
<p><b>Closed-Ended Questions with Ordered Answer Choices.</b> Determines intensity of feeling, degree of involvement, and frequency of participation. Ordered choices provide specific limits to responses.</p>	<p>The questions are less demanding to answer. Answers may be combined to form a multiple-item scale.</p>	<p>The responses may not be exhaustive.</p>	<p>How many hours a week do you study?</p> <ul style="list-style-type: none"> <li>• 0-3 hours</li> <li>• 4-7 hours</li> <li>• 8-11 hours</li> <li>• 12-15 hours</li> <li>• 16 or more hours</li> </ul>
<p><b>Close-Ended Questions with Unordered Answer Choices.</b> Provides independent choices representing different concepts.</p>	<p>Questions of this type are often used to establish priorities among issues and decide among alternative policies.</p>	<p>Preferred options of all respondents may not be stated. Respondents must balance several ideas at once, especially if asked to rank 10 – 20 items.</p>	<p>Rank in order of importance the following reasons for attending NSU.</p> <ul style="list-style-type: none"> <li>– Reputation of the university</li> <li>– Close to home</li> <li>– Friends attend</li> <li>– Size of the university</li> </ul>
<p><b>Partially Close-Ended Questions.</b> Provides for responses that might be overlooked by survey developers.</p>	<p>The questions allow respondents to give answers when the available choices don't apply to them.</p>	<p>A sufficient number of additional responses to warrant analyses may not be obtained.</p>	<p>What are your plans for next year?</p> <ul style="list-style-type: none"> <li>• Continue prior job</li> <li>• Start a new job</li> <li>• Start graduate school</li> <li>• Other _____</li> </ul>

#### Common Response Items

Types of Questions	Advantages	Disadvantages	Examples
<p><b>Likert Scale</b> Often used with attitude and opinion items. Respondents are asked to indicate the degree to which they agree or disagree with statements. Statements are usually worded fairly strongly, and can be worded both positively and negatively.</p>	<p>Questions are easily understood and quantified. Undecided responses can be accommodated. Allows for depth of response. Provides a meaningful way to group a series of items. Overall scores can be computed.</p>	<p>Method is less direct than using some other answer categories that more closely match the items.</p>	<p>General education classes are very important.</p> <ul style="list-style-type: none"> <li>• Strongly Disagree</li> <li>• Disagree</li> <li>• Undecided</li> <li>• Agree</li> <li>• Strongly Agree</li> </ul>
<p><b>Semantic Differential Scale.</b> Best used to describe a series of attitudes toward a complex concept. The question presents the topic or issue, and the semantic differential scale asks the respondent to choose a number between two opposite adjectives.</p>	<p>Generally strong at finding particularly favorable or objectionable aspects of multi-faceted issues and concepts. Provides an overall scale score (average) for the concept.</p>	<p>Limited applicability</p>	<p>Do you feel that computer instruction is:</p> <p>Efficient -3, -2, -1, 0 1, 2, 3 Inefficient</p> <p>Useful -3, -2, -1, 0 1, 2, 3 Useless</p> <p>Boring -3, -2, -1, 0 1, 2, 3 Interesting</p>

## Ordered Response Options <sup>9</sup>

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Never	Occasionally	Fairly Many Times	Very Often	Always
Never	Rarely	Sometimes	Most of the Time	Always
Not At All	Occasionally	Frequently		
None	Some	Quite a Bit	An Extreme Amount	All
Far Too Little	Too Little	About Right	Too Much	Far Too Much
Much Lower	Slightly Lower	About the Same	Higher	Much Higher
One of the Worst	Below Average	Average	Above Average	One of the Best
Very Poor	Poor	Fair	Good	Very Good
Never	Rarely	Sometimes	Often	All of the Time
Not Important	Somewhat Important	Very Important	Essential	
No Chance	Very Little Chance	Some Chance	Very Good Chance	
Much Weaker	Weaker	No Change	Stronger	Much Stronger
None	Little	Some	Substantial	

# Appendix J

## *Test Development*

The creation and validation of test items is time consuming and requires a Table of Specifications (ToS). The ToS is a two-dimensional table that relates the instructional goals and intended learning outcomes to course content. A completed table describes the number of test items needs to obtain a balanced measure of the instructional goals and the course content emphasized in instruction.

Sample ToS for a 50-item test in economics

	General Learning Outcomes			
	Knows basic terms	Comprehends concepts and principles	Applies principles	Interprets Data
Content Areas				
Forms and functions of money	3	4	3	
Operation of banks	4	3	5	3
Role of Federal Reserve System	4	6	3	2
State regulation of banks	4	2	4	
<b>Total number of test items</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>5</b>

The numbers listed in the table indicate the number of test items to be constructed for each area. The relative emphasis should reflect the emphasis given during development of intended learning outcomes and during instruction. This is accomplished by assigning weights to each outcome and to each content area during the construction of the table. The usual procedure is first to distribute the total number (or percentage) of test items over the outcomes and content areas and then to distribute the items among the individual points.

### Suggestions for Item Writing

- Write items directly after instruction when possible.
- Write more items than needed – 25 percent more is a good rule of thumb.
- Keep reading and vocabulary levels simple unless you are testing those skills (i.e., avoid superfluous wording).
- Make sure the problems posed in the item stems (i.e., the part of a test item that poses the question or sets up the problem situation; the stimulus) are clear and unambiguous.
- Use “concrete” situations and pictorial, graphic, or tabular stimuli when possible.
- Use novel material in formulating problems to measure higher-level mental processes (i.e., analysis and application type items); however, guard against overuse of this strategy.
- Avoid lifting statements verbatim from a text unless your intention is to test memorization or knowledge for simple and basic information.
- Avoid single and double negative items; phrase in a positive format if possible.
- Be careful of answer clues within the item stem.
- When developing item responses, avoid, if possible, noun modifiers like always or never.
- Order the response options in some parallel way (e.g., alphabetically, chronologically), but avoid creating response patterns (e.g., an alternating true-false pattern, overuse of the “C” option in a set of multiple-choice items).

### Suggestions for Multiple-Choice Items

- Avoid highly technical response options.
- Avoid having the correct answer longer than the incorrect options.
- Use responses that are plausible and homogenous in some way.
- Use between three and five options. Try to use the same number of options for all items; however, do not create superfluous options just to maintain a parallel format.

### Suggestions for Matching Items

- Provide more choices than the number of statements to be answered unless a choice can be used more than once.
- Have students choose answers from the column with the least amount of reading.

### Suggestions for True-False (Alternative Response Items)

- Avoid ambiguous and indefinite terms of degree or amount (i.e., “frequently,” “in most cases,” etc.).
- Avoid negative and double negative statements.
- Keep true and false statements approximately the same length.
- Have approximately the same number of true and false items on the test.

### Suggestions for Writing Completion or Short Answer Items

- Draft items that require a single-word answer or a brief and definitive statement.
- Avoid statements that may be logically answered by several terms.
- Indicate the unit of expression (i.e., date, percentage) when answers require numerical information.

### Suggestions for Writing Essay Items

- Select items carefully because of the limited number that can be given in a single time frame.
- Make items clear and specific so that scoring can be done easily.
- Establish a framework within which the student will write:
  - Limit the area covered by an item.
  - Indicate the value of items and suggest time parameters.
  - Decide, in advance, the factors considered in evaluation and note them in the instructions.

# Appendix K

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## *Cautions/Advice for and Illustrative Examples of Select Assessment Methods*

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### **Case Studies**

- The study of a single case should not be haphazard and unstructured.
- Be cautious about making generalizations. The broader the sample of cases, the more confidence in the findings.
- Case studies often involve observing or studying only one subject at a given time; therefore, results may not generalize beyond the specific observed situation.
- Keep your objectives as you select and analyze the case.

### **Content Analysis**

- Summaries based on concrete materials and coding schemes are more reliable.
- No coding scheme should be used unless it has been carefully pre-tested.
- It is essential that the coding scheme distinguish between units of analysis (e.g., students) and units of observation (e.g., paragraphs with documents).
- Summarize the extent of agreement or similarity among respondents numerically (e.g., 40 percent of the students reported problems locating relevant articles in the library).
- When providing counts, report the base from which the counting is done (e.g., 3 spelling errors per page).
- Compare the results of two or more independent analysts examining the same documents to check the reliability of the coding scheme.

### **Focus groups**

- Clearly identify the focus groups goals through discussions with program stakeholders.
- Carefully select those you invite and encourage their participation – recruiting the right participants is essential.

- Anticipate what kind of information you want in the final report and be sure to include questions and participants that will allow you to obtain that information.
- Do a pilot focus group to determine the effectiveness of your approach.
- Record sessions on audio/video and type transcripts for subsequent analysis.
- Conduct more than one focus group to test for the consistency of results across groups.
- Use more than one data analyst as a check on the reliability of the coding process.

### **Suggestions for Focus Groups**

1. What does the program do well? What are its greatest strengths in the eyes of students? How could the program be made stronger?
2. What aspects of the curriculum do students consider most important for their careers? For grad school? For life?
3. What are the most serious obstacles to student success in your program? How might these obstacles be removed or minimized?
4. What is the experience of students when they first enter the program? What could make the transition more effective?
5. What types of students are best/worst served by the program? How can we serve them better?
6. Do students have access to needed program information in a timely fashion?
7. What skills and knowledge do employers most want in your graduates? How well does the program provide opportunities to learn the desired skills and knowledge?
8. What are things about your work situation that make it difficult to perform as you would like?

9. If you could change one thing about your work situation that would help you do a better job, what would it be?

### **Interviews**

- Shorter interviews require less time and are more likely to gain student participation.
- An impressive letter from the campus president may encourage participation.
- Students who agree to be interviewed may need to be reminded.
- Student schedules and pressures must be considered. Do not schedule interviews during exam periods or vacations.
- Interviewers need training in interview techniques.
- Every question should serve a purpose.
- Remember that the process is to evaluate the program, not individuals.
- Avoid setting up situations with strong demand characteristics that may distort the types of responses you get from interviewees (e.g., professors should not interview students who are taking or will take classes from them).
- Avoid judgmental or evaluative statements, which are likely to inhibit the interviewee.
- Replace “Why?” questions with “Tell me...” or “How did it happen that...” questions.
- Do not give false reassurance.
- Remember to respect confidentiality and the right to decline participation.

### **Examples:**

1. Truman State University. Freshmen and juniors were each interviewed by two co-interviewers using a 20 minute structured interview, with questions like “What is a challenging course?” Students received lunch.
2. Kansas State University. Seniors were interviewed in groups (each was paid \$25), and three faculty interviewed individual students for 45-50 minutes.
3. University of Kansas. Students were interviewed for 45-50 minutes to assess their general education program.
4. Ball State University. A student panel (Reflection and Assessment Panel) was interviewed several times per year. Students were paid up to \$350.
5. Portland State University. Student, faculty, and community interviews were used to assess the impact of service learning.

### **Locally-Developed Exams: Essay Questions**

- Be sure that questions are clearly phrased so student writing will be focused on your objective.
- Consider pilot testing your essay questions on relevant students and faculty.
- Examine the reliability and validity of scores.
- Consider using Blooms’ taxonomy. Do your essay questions address relevant levels?

### **Types of Essay Questions**

1. Compare and contrast X and Y in regard to given qualities.
2. Present arguments for and against a given issue.
3. Illustrate how a principle explains facts.
4. Illustrate cause and effect.
5. Describe an application of a rule or principle.
6. Evaluate the adequacy, relevance, or implication of an arrangement, or materials, etc.
7. Form new inferences from data.
8. Organize the parts of a situation, event, or mechanism and show how they relate to the whole.
9. Sort out the relevant parts as distinct entities from a total situation, event, or mechanism.

Key words in essay questions are summarize, evaluate, contrast, explain, describe, define, compare, discuss, criticize, justify, trace, interpret, prove, and illustrate. A formula for writing essay questions generally involves three parts: a role, an audience, and a task. For example, “As a certified financial planner [the role] you are asked to explain to a jury [the audience] how to estimate a thirty-year –old carpenter’s loss of lifetime earnings after an accident [the task]. Be sure to take into account savings, investments, inflation, and post-retirement earnings. The carpenter is no longer able to lift anything over ten pounds and is hoping to find work in retail sales.”

### **Locally-Developed Exams: Objective Questions**

- **Multiple-Choice Questions.** Multiple-choice questions can measure many objectives in a short period of time and are better than true-false items because the chance of a correct guess is less than 50 percent.

Example: Jacob's literature review clearly supports the effectiveness of a new sleeping pill, but he did not get significant results in his study of three research subjects.

What is the most reasonable conclusion?

- a. The drug is not effective.
- b. Jacob probably made a Type 1 error.
- c. Jacob's study lacked sufficient power to reveal the drug's effect.
- d. Jacob's study probably had a restriction of range.

- **Matching items.** Matching items generally consist of two columns. One column includes the stem, and the other column contains the responses from which answers are to be chosen. Increase item difficulty by including more answers than items or by allowing answers to be used more than once. **Example:**

Mark the letter of the word best described by the following:

- |   |             |
|---|-------------|
| __1. An indicator of central tendency     | A. variance |
| __2. The square of the standard deviation | B. t-test   |
| __3. Used to compare two means            | C. Spearman |
| __4. a type of correlation                | D. mean     |
| __5. a two-parameter correlation          | E. normal   |
|   | F. median   |

- **Completion items.** Completion items must be developed carefully. These items require recall, rather than recognition.

Examples:

1. The \_\_\_\_\_ is the square of the standard deviation.
2. The two major issues of inferential statistics are \_\_\_\_\_ and \_\_\_\_\_.

### Observations

- For program assessment, purposive sampling may be the most efficient.
- Sometimes note taking can be simplified by preparing a standardized recording form in advance.

### Phone Surveys / Interviews

- The survey generally should not take more than 20 minutes to complete.

- A very structured interview should be used, questions should be asked at a reasonably quick pace so respondents do not get bored.
- The issue of interest should be well defined and articulated.
- Although closed-ended questions are generally more desirable, it is possible to include a very limited number of open-ended items.
- Probability sampling designs are essential for obtaining reliable and valid data that generalize to populations of interest.

### Portfolios

- Anticipate what you want the portfolio to tell you about the program and be sure to structure the portfolio assignment to provide that information.
- Do not expect reliable and valid results if students do not understand the process or the rationale. Provide guidance through handouts and advising, and create a culture of understanding by embedding portfolio awareness throughout the curriculum.
- Student self-evaluation and program evaluation should be an integral part of the portfolio.
- If you want to assess student progress, ask for early and late examples of products so that change can be observed.
- Reduce costs by setting priorities (e.g., assess a limited number of outcomes each year and/or assess a sample of students rather than all students in the program).
- Increase faculty motivation to participate by recognizing the portfolio process in the workload or by other incentives.
- Increase student motivation by providing credit for participation, or by encouraging students to recognize the educational and career value of the process for them.
- Develop a holistic scoring rubric with a written scoring protocol and examples of different levels of performance. This allows faculty to assess portfolios more efficiently and reliably, and it provides a way of communicating to others what each level of performance means. Share the rubric with students.

## Reflective Essays

### Examples

- Before you came to NSU, what did you think college would be like? [What expectations do students bring to NSU?]
- Write about the ways in which your NSU experience has changed your thinking about college. [A quick look at impact]
- What have you read, observed, heard, or done in the past semester that caused you to recognize and examine your assumptions about people different from yourself? [Diversity]
- Share what you liked best about your classes last semester and what you liked least. [Pedagogy feedback]
- Describe a course assignment that asked you to identify and work on a question, issue, or problem. [Critical thinking assignments]
- Describe an assignment that asked you to collaborate with other students on a project. To what extent did working with others help or hinder your learning? [Collaborative learning impact]
- What did you expect to gain from being a \*\*\*major and were expectations met? [Match between intended learning outcomes identified by faculty and students]
- Standardized test scores. Do SAT or ACT scores relate to success in the major?
- Graduate program success. Are successful graduate students different from unsuccessful graduate students in their academic histories?
- Type of student. How many of your majors are full-time vs. part-time? What proportion are transfer students? What proportion has not completed relevant GenEd requirements?
- Needed courses. How many majors are cued up to take Course X? How many sections must be scheduled for this course next year?
- Outcomes data. How do transcript records relate to performance on core competency assessments?

## Transcript Analysis

- Curriculum sequencing. Did students take courses in the expected order? Did deviations from the expected pattern result in lower grades? Should formal prerequisite sequences or better advising be instituted?
- General Education sequencing. When were GenEd courses taken? Did delaying one of the basic goals affect achievement in other courses, persistence, or graduation?
- Possible prerequisite sequences. Did students who took English 200 before taking Psychology 100 do better? Should the department consider making English 200 a prerequisite?
- Transfer students. How do they differ from native students in upper-division coursework in the major? Should a transition course, experience, or competency exam be created?
- Drop-outs vs. Stop-outs vs. Graduates. What course patterns, if any, distinguish between these three groups?

# Appendix L

## Outcomes Assessment Plan (3 – 5 Years)

Norfolk State University   Outcomes Assessment Plan (3 – 5 Years)					
Program/Unit:		Program Assessment Coordinator:			
Student Learning Outcomes <i>SLOs describe in concrete terms what Program Learning Outcomes (PLOs), also referred to as program goals or program objectives, mean. SLOs make PLOs more specific by describing what students will be able to demonstrate, produce, or do as a result of what they have learned in a program.</i>	Semester/Year(s) Assessed	Direct Measures <i>Describe student work/assessments that will be used to provide evidence.</i>	Indirect Measures <i>Describe instrument (i.e., survey, interview protocol, etc.)</i>	Where will evidence be gathered? <i>Course, internship, etc.</i>	What is the expected level of achievement? <i>Include a measurable performance indicator.</i>

<p><b>Program Outcomes (PLOs)</b> <i>PLOs are broad statements identifying what students should learn, understand, or appreciate as a result of their studies or by the time they finish a program or a major.</i></p>

### Curriculum Alignment: Resources for Assessment

Which courses or activities provide student learning opportunities for the program learning outcome?  
Specify whether the material is (I) introduced, (E) emphasized, R (reinforced), or A (applied).

Department/Program Courses	PLO 1	PLO 2	PLO 3	PLO 4

Other activities	PLO 1	PLO 2	PLO 3	PLO 4

**Norfolk State University | Annual Outcomes Assessment Report (Academic Programs)**

<b>Academic Program:</b>	<b>Academic Year:</b>
<b>Assessment Coordinator:</b>	<b>Date Completed:</b>

**Program Mission** *(may discuss in the context of the College/School mission and/or the University mission)*

Brief history of the program, including any recent specialized accreditation or audit review. Briefly discuss the history of outcomes assessment in the program.

Individuals/committee responsible for assessment in the program.

<b>Student Learning Outcomes</b>	<b>Semester Assessed</b>	<b>Direct Measures</b> <i>Describe student work/assessments that will be used to provide evidence.</i>	<b>Indirect Measures</b> <i>Describe instrument (i.e., survey, interview protocol, etc.)</i>	<b>Where will the evidence be gathered?</b> <i>Course, internship, etc.</i>	<b>What is the expected level of achievement?</b> <i>Include a measurable performance indicator.</i>	<b>Results<sup>4</sup></b>	<b>Improvement Plans</b>

**Use of Results/Improvements Made** *(Discuss in detail the use of the assessment results to improve the program. Changes to curriculum, pedagogy, assessment tools/measures, etc. should be included.)*

**Supporting Documentation** *(e.g., rubrics, sample assignments, test results, surveys, questionnaires, tables, charts, departmental assessment reports showing evidence that the results were disseminated, meeting minutes, etc. If questions arise about what should or should not be included, please contact the Office of Institutional Research, Assessment, and Planning.)*

**Review Process**

Please forward your assessment report to the associate dean or dean of your school/college for review and signature. This review will ensure that the information included in this report is accurate and that your program is engaged in a systematic process of continuous improvement

\_\_\_\_\_  
Department Chair

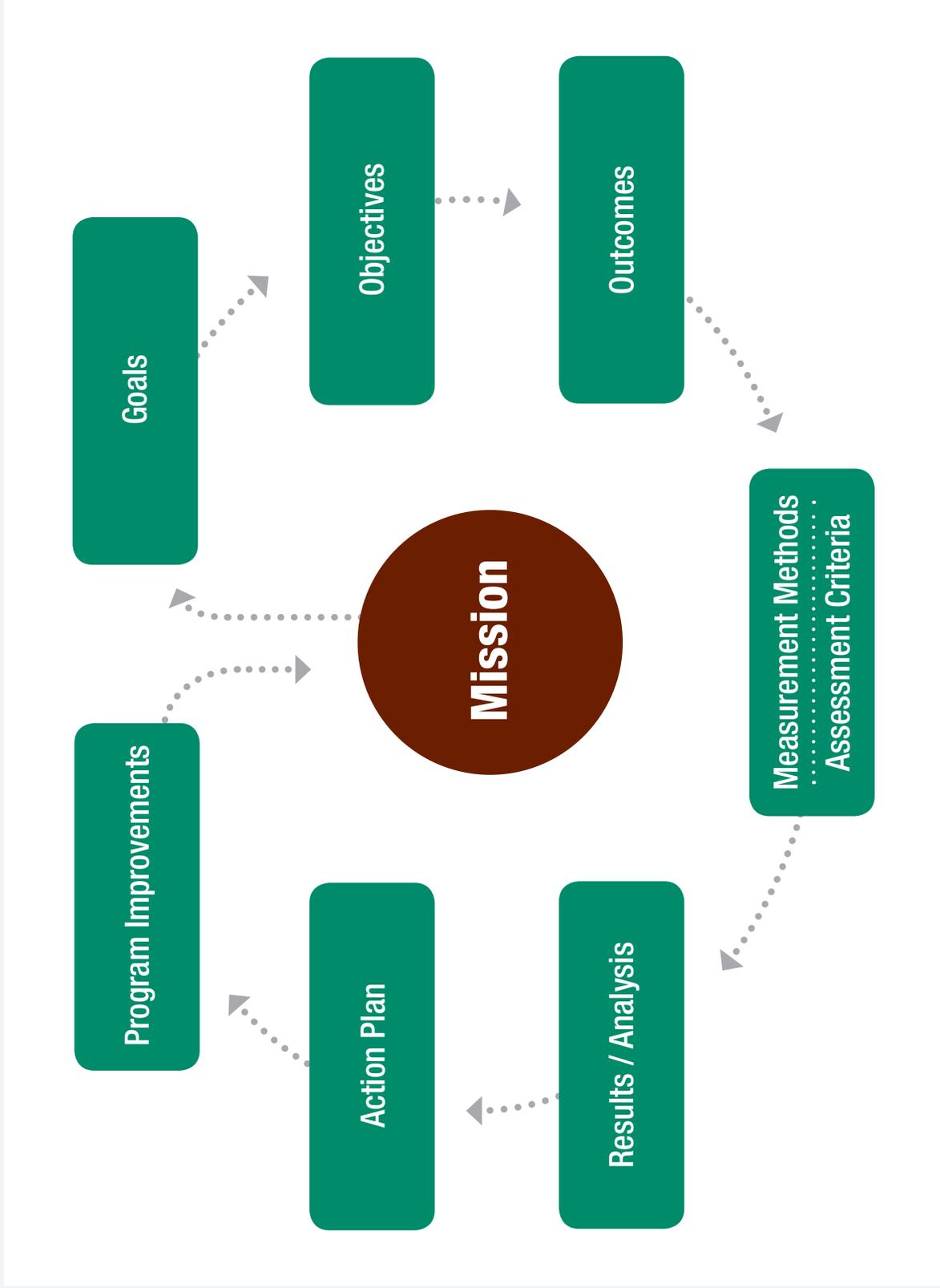
\_\_\_\_\_  
Date

\_\_\_\_\_  
Associate Dean/Dean

\_\_\_\_\_  
Date

<sup>4</sup> Indicate if the target/expected level of achievement was met for each measure. The results section should be detailed and include the number of students assessed. If a sample is used, a justification should be provided that indicates if the sample is representative of the program's student population. When possible, results should be discussed in the context of results from previous years.

# Assessment Process



Norfolk State University

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