Identify
Mission, Objectives
& Intended
Outcomes

Define
Criteria for Success

Evaluate
Performance
Against Criteria

Analyze
Assessment Results

Seek
Improvement
Through Actions

University of Bahrain

The Quality Assurance

and Accreditation Center

IDEAS

A University-Wide

Outcome-Based

Assessment Process

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Designed By :
Eman Ali Own Ali

His Royal Highness
Prince Khalifa Bin Salman Al Khalifa
Prime Minister

His Majesty
King Hamad Bin Isa Al Khalifa
King of the Kingdom of Bahrain

His Royal Highness
Prince Salman Bin Hamad Al Khalifa
Crown Prince
Deputy Supreme Commander

IDEAS: A University-Wide Outcome-Based Assessment Process

MESSAGE FROM THE PRESIDENT

The integration of Quality Assurance principles into higher education has become the key factor in the increased worldwide emphasis on assessing and enhancing student learning outcomes, as well as maintaining high quality educational programs. It has expanded significantly in recent years, with major growth in initiatives addressing quality in higher education. New demands for judging quality, such as the extraordinary growth of for-profit higher education and the rapid expansion of online higher education have emerged. This increase in the ability to judge quality has enabled countries and regions to distinguish reliable institutions from those who may be considered more dubious, and to assist students and employers in identifying institutions that provide quality higher education.

The University of Bahrain (UOB) is committed to providing education that is comparable to the highest international standards. Our University's focus on student learning is critical not only to the university's ability to promote and improve curricular and co-curricular learning experiences, and to provide evidence of the quality of educational experiences and programs, but also to fulfill the most basic public expectations and needs of higher education. The focus on student learning outcomes assessment has become something of an "industry standard" for higher education. Sound assessment processes and high academic standards are vital components of maintaining and enhancing the quality of learning at UOB. Indeed, the university asserts that assessment is more than a response to demands for accountability; it is the vital means for curricular improvement.

An important element in the strategies for improvement in the University is the establishment of the Quality Assurance and Accreditation Center (QAAC), which leads and supports quality improvement initiatives. The QAAC is committed to promoting faculty, staff, and students understanding of and engagement in the assessment Process. We are focusing on integrating assessment throughout our campus by continuously examining our effectiveness and making changes to improve.

The Handbook, IDEAS, is prepared by the QAAC to help the university advance in the Outcome-Based Assessment Process. It draws on successful practices both developed at UOB and elsewhere. This Handbook is impressive – thoughtfully prepared and beautifully written – and a tribute to those who worked long and hard to pull together the required information. Reading it will give you a picture of the innovative and forward-looking ways by which UOB has strived to achieve its mission and serve its students.

In closing, I would like to encourage each of you to become familiar with the IDEAS and to fully participate in the outcomes-based assessment process. I would also like to thank you for your contributions to this remarkable process, with special thanks to those who contributed time and energy to produce this handbook which will guide the university's community to better comprehend the outcomes-based assessment process. It is you – the faculty, staff, and students of this university – that make UOB a well-recognized national university and innovator in the delivery of high quality education to our students.

Ebrahim Janahi
President

PREFACE

PREFACE

The intent for this Handbook was to fulfill the need for a reference resource of Outcomes-Based Assessment (OBA) practices and experiences at the University of Bahrain. The Handbook is designed to serve as a guide to the program faculty, constituencies, administrative staff and governing departments, and the public in understanding, planning for and engaging in their program OBA processes. It provides a set of assessment tools for faculty and staff involved in their programs and units' evaluation processes. We describe assessment approaches we have found effective in our own classrooms, approaches which reflect our concept of assessment as an integral part of the teaching and learning process. We prepared this handbook to help "guide" you through this process. All the members of the UoB family should use the Handbook for reference whenever the situation demands its use.

The current emphasis upon OBA in Bahrain's higher education reflect international trend that gained momentum in recent years. Institutions of higher education worldwide have recognized that a full commitment to teaching and learning must include assessing and documenting what and how much students are learning and using this information to improve the educational experiences being offered. While there is certainly a strong external drive for OBA, University of Bahrain's approach to OBA focuses primarily on improving student learning. In many ways, OBA is a commonsense process that we, as educators, follow already. When we articulate the main objectives for a course, check to see whether students achieved them, and then use the results to make our courses better, we're on the way to OBA. At UOB, OBA approach takes advantage of what we are already doing by formalizing the process and broadening our individual efforts.

The work ahead of each program developing OBA is extensive, but if done well, the outcome of the process will provide valuable insights for the improvement and future development of each program. The outcome of effective assessment should be to identify adjustments in methodology employed in the learning process and/or needed financial and human resources to increase the effectiveness of the program to graduate competent students. Effective assessment should therefore be one of a program's goals, and honest assessment, positive or negative, should be seen as the achievement of that goal. Done properly, OBA actually helps to seed a culture of

engagement, an ethos of conscious and intentional reflection and transformation. In the end it matters little what drives the introspection and feedback-seeking as long as stakeholders become engaged in the process.

Assessment plays a fundamental role in achieving the institution's core mission of excellence in teaching and research. Institutions that assess their own effectiveness deliberately and comprehensively will become stronger and more successful. Engaging in systematic self-examination increases the likelihood that members of an institution will share its sense of mission, that programs, departments and support units will work effectively toward meeting the mission, and that academic programs and administrative services will create the most effective learning environment and experiences for students. A sound effectiveness program involves every academic and administrative area of an institution, and become's ongoing function.

The information found in the following pages will, we hope, be very useful to you. It is hoped that each faculty member will become familiar with the contents of this Handbook easily. The handbook is a living document, that will be refined and improved over time as academic programs and support units use it in our continual process of assessment and the evaluation of effectiveness of the institution as a whole.

On behalf of the Quality Assurance and Accreditation Center's staff we want to welcome and thank each of you for agreeing to participate in this momentous process. We extend to you our best wishes for what is certain to be a rewarding and challenging experience. We look forward to working with each of you.

Prof Taj Mohieldin
Dr. Hesham Al -Ammal
University of Bahrain

GLOSSARY

GLOSSARY

Term/Acronym	Description
AACSB	The Associalion of Advance Collegiate Schools of Business
ABET	Formerly the Accreditation Board for Engineering and Technology, for more information go to http://www.abet.org/
AC	Accreditation Committee
AIMS	Assessment Information Management System
CILO	Course Intended Learning Outcomes
Constituencies	A program's constituency is any cohesive body of people bound by shared identity or goals, and an interest in the academic program. Although there are slight differences, the term is used interchangeably with the term stakeholders within this document
DAC	Departmental Accreditation (or Academic) Committee. A committee working at the academic department level, and responsible for the review process. Some departments assign this task to an existing committee such as the Curriculum or Academic committee of the program
HEC	The Higher Education Council at the Ministry of Education
HERU	The Higher Education Review Unit, part of QAAET responsible for reviewing higher-education institutions, please go to http://www.qaa.edu.bh/ for more information

PEO	Program Educational Objective
PILO	Program Intended Learning Outcome
QAAC	The Quality Assurance and Accreditation Center (http://qaac.uob.edu.bh/)
QAAET	Quality Assurance Authority for Education and Training (http://www.qaa.edu.bh/)
QAO	Quality Assurance Office is an office setup within the college to implement QA functions, and works in coordination with QAAC
SER	Self-Evaluation Report
Stakeholders	Groups or individuals who will be directly affected by the academic program
UILO	University Intended Learning Outcomes. An outcome that has been chosen to be required across all University academic programs
University-wide Assessment	Assessment process spanning all university programs and units
UOB	University of Bahrain

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Chapter 1
INTRODUCTION

INTRODUCTION

PURPOSE OF ASSESSMENT

Quality assurance, assessment, and continuous improvement have become essential elements of the educational process. The primary purpose of assessment is to monitor and improve the quality of educational practice by contributing to the *continuous improvement of student learning.* Furthermore, various quality assurance and accreditation bodies mandate conducting student learning outcomes assessment for higher education. Nationally, assessment of student learning for the purpose of continuous quality improvement is a requirement set by the Quality Assurance Authority for Education and Training (QAAET) in both the institutional and program review processes.

The concept of institutional effectiveness presumes that an institution is engaged in an ongoing quest for quality and can demonstrate how well it fulfills its stated purpose. In addition, the University is expected to document quality and effectiveness by employing a comprehensive system of planning and evaluation in all major aspects of the institution. Planning and evaluation of teaching, research, public service, administration, and educational support should be thorough, broad-based, integrated and appropriate. Institutional effectiveness provides documentation of planning, assessment, and the action planning and analysis (use of the assessment results) in decision-making across the campus.

UNIVERSITY–WIDE ASSESSMENT AT THE UNIVERSITY OF BAHRAIN

At the University of Bahrain (UOB) assessment is considered as the foundation for institutional effectiveness and planned improvement. The overall aim is to assure that UOB and its academic programs meet and strive beyond minimum standards. Furthermore, it is intended to help the University fulfill its educational mission as well as to satisfy the needs of the relevant constituencies and stakeholders. Planning and assessment are also important elements in the process of international accreditation for most UOB academic programs.

The units involved in assessment range from individual academic and service programs to the

whole University as an institution. At the program level, each academic program is expected to develop and implement a plan to assess student learning outcomes. At the support units, colleges and university levels, the Quality Assurance and Accreditation Center (QAAC) will integrate learning outcomes data with other information to answer broader questions about *how the University is meeting its mission and the effectiveness of its various educational and support units.* Ultimately, the result of assessment is a purposeful, positive change in institutional programs, processes, and resources.

The University-wide Assessment Process describes the context for academic assessment at UOB; describes the roles and responsibilities of administrators, faculty and academic unit staff; outlines the stratum and levels within which assessment takes place on the University campus; outlines some commonly accepted guiding principles; proposes operational guidelines; and illustrates typical uses of assessment results. Finally, the assessment plan describes and outlines future directions for the work of the QAAC.

For assessment purposes, the term **Programs** is used to refer to *all degrees offered by the University and its colleges and supported by the various services and administrative units.* All programs and units are expected to develop a plan to assess their intended outcomes that may determine the efficacy of student learning outcomes through current practice or determine areas for program improvement. Programs and support services should collect data to inform their Plan and the program should use all available information in making program improvement decisions.

The general model for assessing student learning in academic programs and service units adopted by the University of Bahrain includes an Assessment Plan with five basic steps plus an Annual Report that summarizes assessment findings and anticipated program modifications (see Figure 1-1 below). The process detailed below includes the typical elements needed to be addressed in the University-wide assessment plan.

It is clear that institutional effectiveness and assessment activities do not occur in isolation, but involve every UOB administrator, faculty, staff, student and all other constituencies. The University

QAAC's staff, Colleges Quality Assurance Offices (QAOs), and Departmental Assessment and Accreditation Committees or Curriculum Committees as well as all UOB constituencies such as faculty, students, staff, employers, and alumni will all work closely with the QAAC to design assessment strategies, to identify areas for evaluation, and to assist programs and units.

Identify mission, Educational Objectives, Intended Outcomes

Define Criteria for Success

Evaluate Peformance against Criteria

Analyze Assessment Results

Seek Improvements through actions

IDEAS

Identify

Define

Evaluate

Analyze

Seek

FIGURE 1-1. IDEAS Assessment Plan Steps

OUTLINE OF THE HANDBOOK

This University-wide Assessment Handbook presents an outline and a rationale for an Institution–wide Outcomes-Based Assessment Process at the University of Bahrain in addition to offering a step by step implementation of the plan. In Chapter 2, an overview of the assessment process and more specifically outcome-based assessment and the concept of Intended Learning Outcomes (ILO's) are introduced. Chapter 3 is devoted to the development of the assessment model. Procedures that can be used to assist programs and support units in developing their mission, objectives and/or intended learning outcomes are discussed in details. This is an integral part of an assessment plan and through it the departments should focus on defining clear statements of program level student learning outcomes. Performance Indicators (PIs) as tools for measuring the performance of the students in achieving the intended learning outcomes are also discussed.

The purpose of chapter 4 is to outline guidelines and criteria for selecting appropriate assessment methods. Additionally, it introduces an inventory of assessment methods and techniques that are currently available and can be developed or adapted to the program under review. Chapter 4 also provides an overview of how to document and use the results to develop a program improvement plan. Chapter 5 complements the program assessment process by describing a procedure for assessing administration and support units. An overview of the Assessment Information Management System (AIMS) is given in chapter 6. It introduces the online central repository of the assessment data for all programs at the University of Bahrain wich accessible throughout the University network and on the Internet

Chapter 2

OVERVIEW OF ASSESSMENT

OVERVIEW OF ASSESSMENT

The aim of this chapter is introduce the reader to basic concepts in assessment including assessment types and the concept of learning outcomes which are the basis for assessment processes. Furthermore, the specific University-level outcomes are presented below, along with a brief introduction to the roles and responsibilities of the different levels and units within the university.

WHAT IS ASSESSMENT?

Assessment is the systematic and ongoing process of gathering, reviewing, analyzing, and using information from multiple sources to draw inferences about the characteristics of students, programs and/or an institution for the purpose of making informed decisions to improve the learning process. Assessment involves:

- Making our expectations explicit and public.
- Setting appropriate criteria and high standards for learning quality.
- Systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards.
- Using the resulting information to document, explain, and improve performance.

When it is embedded effectively within larger institutional systems, assessment can help us focus our collective attention, examine our assumptions, and create a shared academic culture dedicated to assuring and improving the quality of higher education.

WHY DO ASSESSMENT?

Assessment is the foundation of systematic, effective change implemented to assure quality and foster improvement in the quality of education that satisfies the needs of the constituencies in a dynamic and competitive environment.

We live in an environment where assessment is an integral part of everyday activity. It takes place continually and on many levels – course, program, department, college and university. It takes many forms – formal and informal, summative and formative, qualitative and quantitative, standardized and customized.

ASSESSMENT TYPES

There are three types of assessment within the context of the UOB-QAAC assessment plan. These are defined briefly below;

1. UNIVERSITY-WIDE ASSESSMENT

University-wide assessment involves the assessment of campus-wide characteristics and issues. It is a public demonstration that the Institution's

- purpose is appropriate to higher education .
- programs and services are sufficient to accomplish its purpose .
- specific objectives and outcomes are consistent with the institution's vision and mission.
- institutional effectiveness and quality enhancement are achieved.

2. PROGRAM ASSESSMENT

Program assessment involves the assessment of students as a group in order to determine what and how an educational program is contributing to the learning and development of its students and to ensure that acceptable academic standards are being met by efficiently utilizing the available resources to design and teach the program's curriculum and continuously assess students' achievements. Involvement of the stakeholders is essentail in defining the objectives and outcomes of programs

3. CLASSROOM ASSESSMENT

Classroom assessment involves assessment of the individual student typically done by the course instructor or coordinator. The goal of classroom assessment is to meet the expectations set out by the program as individual courses are part of the program's curriculum. It ensures alignment between the expected outcomes and the learning process and practice in the class.

Figure 2-1. Assessment types

GOALS OF ASSESSMENT

UOB's goals of assessment are to enhance the quality of:

Teaching	• Learning and teaching in the academic environment; • Experiences beyond the classroom which nurture students' skills • Intellectual, emotional, physical, social, cultural and spiritual development;
Research	• Scholarly and creative activities, and the services that support research;
Service	• Public service programs that fulfill the institution's responsibilities to the citizens of Bahrain.

WHO REQUIRES ASSESSMENT?

Internationally, various organizations that accredit academic programs (e.g. NCATE, ABET, and AACSB) require that institutions assess how well the programs are meeting their objectives to inform improvement efforts. Nationally, article (4) of the Royal Decree No 32 of 2008 states that the Quality Assurance Authority for Education & Training (QAAET) is mandated to "review the

quality of the performance of education and training institutions in light of the guiding indicators developed by the Authority."

Beyond the evolving commitment to continuously assess and improve its academic programs and its learning outcomes, administrative and supporting units; UOB's assessment efforts are guided by two national documents. The first is the Program Review Handbook, published by QAAET. This Handbook outlines the framework of academic program assessment and offers a comprehensive description of the program review method together with notes of guidance and templates. It includes four main indicators for academic programs that consider:

1) Curriculum
2) Efficiency of the program
3) Academic standards of the graduates
4) Effectiveness of quality management and assurance

The second is the Institional Review Handbook also published by QAAET. This handbook provides details about the review process and the 25 indicators against which higher - education institutions will be measured.

Together these documents clarify a range of expectations for assessing student learning and institutional effectiveness. The four program review indicators and the twenty five institution's quality review indicators, which are grouped into 9 themes, are outlined in Appendix A.

WHAT ARE STUDENT-LEARNING OUTCOMES?

Learning outcomes provide the basis for strategies to measure student performance and assess program effectiveness to continuously improve teaching and learning. Learning outcomes are statements that specify what the student will be able to do as a result of a learning activity. The keyword is "do" and that is why learning outcomes should start with "an action verb."

Outcomes usually specify knowledge, skills, or abilities. Learning outcomes help instructors in informing the students more precisely what is expected of them. By doing this, educators assert that they help students learn more effectively. They know where they stand and the curriculum

is made more open to the students who become partners in the learning process. Learning outcomes make it clear what students can hope to gain from following a particular course or lecture. They also help instructors in the design of their materials by acting as a template, and the instructor can then select the appropriate teaching strategy, such as a lecture, seminar, project, or laboratory. Obviously, it makes sense to match the intended outcomes to the teaching strategy. Outcomes also; assist in setting examinations based on the materials delivered and ensuring that the assessment strategies are contributing to the outcomes of the learning process. Fig.2.2 detective the use of learning outcomes.

Figure 2-2. Uses of learning outcomes

Within the context of the process implemented at UOB, there are three types of Intended Learning Outcomes (ILO's): Course, Program, and University. The following is a description of these three different levels of outcomes.

COURSE INTENDED LEARNING OUTCOMES (CILO'S)

The starting point for designing a course is determining what its intended learning outcomes are. The important questions that every instructor should ask are: Why should students take this class? What will they gain from it? Answering these questions will lead to the successive question of how to assess whether students have achieved it or not, and how best to proceed to organize and present the content so that students are more likely to achieve the outcome.

Every course should have clearly stated outcomes that specify the skills, abilities, and knowledge expected from a student who successfully pass the course. Course outcomes can be written for the whole course and/or for individual units of study right down to an individual lesson or segment within a lesson. However, in UOB, at least the course level outcomes have to be stated and published to the students.

PROGRAM INTENDED LEARNING OUTCOMES (PILO'S)

Faculty members design outcomes for their programs by discussing what they believe is essential to student learning in their disciplines. Usually those discussions are rooted in the skills and knowledge that faculty members teach in their own courses. Once faculty members have agreed on program intended learning outcomes for student learning, they can use those outcomes as guides for articulating new or revised learning outcomes for their own courses. This provides a cohesive curriculum and ensures that the course intended learning outcomes (CILOs) serve the program's outcomes. PILO's construction is also guided by any professional or discipline - based societies which may have determined the skills and outcomes required in a graduate in this field.

UNIVERSITY INTENDED LEARNING OUTCOMES (UILO'S)

To ensure educational quality and curricular coherence, UOB has to identify University Intended Learning Outcomes (UILO's) which all students will have achieved upon graduating from the University. These learning outcomes define the measurable expectations of student learning (knowledge, skills and competencies) that are demonstrated by graduates from all program levels and all academic disciplines. UILO's provide guidance to program and faculty in defining their Program Intended Learning Outcomes (PILO's) and Course Intended Learning Outcomes (CILO's) which define the knowledge, skill and abilities of students earning a degree in a specific discipline.

UOB'S INTENDED LEARNING OUTCOMES

The following intended student learning outcomes are common to many programs at UOB and are proposed as a first set of University Intended Learning Outcomes for UOB. Furthermore, many accrediting agencies require programs to cover some or all of the UILO's in PILO's.

University of Bahrain's graduates will be proficient in the following areas:

1. **Communication:** *Communicate effectively (orally and in written form) in a clear, well-organized manner to convey ideas with an intended audience in a variety of academic and professional settings.*

2. **Technological Competence:** *Demonstrate competence in the use of information technology broad enough to meet personal, academic and professional needs.*

3. **Critical Thinking and Analysis, Knowledge, and Skill:** *Possess a knowledge base in general education areas and demonstrate and apply critical and creative thinking, and specific knowledge and skills in a major discipline or professional program of study.*

4. **Information Literacy:** *Demonstrate the ability to apply research skills to effectively locate, retrieve and evaluate information and use it ethically.*

5. **Responsibility and Integrity:** *Act purposefully, ethically, respectfully and responsibly within their discipline or profession.*

6. **Life-Long Learning:** *Strive for excellence in life-long learning by planning for the future, participating in continuing education or professional development activities and seeking formal and informal opportunities to enrich their lives.*

ROLES AND RESPONSIBILITIES

Assessment of academic programs and student learning is a shared responsibility of faculty and staff who direct the programs, the college deans, the QAAC, and the Office of the Vice President for Academic Programs and graduate studies. These organizational units work together to support assessment, to minimize redundancy, to stimulate cooperation, to ensure that assessment activities are conducted at the most appropriate local level, and to facilitate the use of assessment to improve student learning.

Program faculty exercise their authority by establishing Program Educational Objectives (PEO's), Program Intended Learning Outcomes (PILO's), designing courses appropriate to achieving those PEO's, and PILO's and assessing student achievement of those PILO's and PEO's using appropriate methods.

Colleges, through their deans, Quality Assurance Offices (QAOs), Departmental Assessment and Accreditation Committees and department's chairs, provide leadership for their departments and programs; conduct college level assessments necessary for informed decision-making, and report to the QAAC regarding assessment activities.

The University QAAC and the Quality Assurance Committee, which is a comprised of directors of the QAO of each college, are the responsible for coordinating resources for assessment-related efforts on campus. Their efforts guide the implementation, review, and update of the assessment plan, and connect those involved in academic assessment.

Figure 2-3. Quality assurane committee

The Office of the Vice President for Academic Programs and Graduate Studies and the QAAC are partners in coordinating, guiding and supporting implementation of a broad range of assessment activities across these organizational levels.

PRINCIPLES

Despite the complex structure of the University and the variety of disciplinary visions, a common set of assessment principles define the philosophy of academic assessment and serve as a yard-

stick for the diverse array of assessment activities on the University campus:

- Academic assessment informs decision-making across several levels: institutional, college, department/program/unit, and course-level.

- Academic assessment is ongoing and periodic; it is used both as a procedure for maintaining program excellence as well as for answering new questions about students' educational experience as those questions arise from national and international quality assurance and accreditation agencies.

- Academic assessment supplements (rather than replaces) curricular, departmental, and other types of ongoing review for improvement.

- Many of the regular activities of academic life are evaluative; when approached from an analytical perspective, they are forms of assessment.

PRACTICES

Assessment of student performance is the responsibility of the departments and units that offer academic programs. UOB's academic programs have a wide array of educational objectives; a "one plan fits all" assessment approach is inappropriate. However, program-specific assessment plans generally incorporate some common elements: Identification of Educational Objectives, Intended Learning Outcomes for academic programs and service courses; a timetable for periodic assessment of students' attainment of these objectives and outcomes; description of methods used, and resources and an explicit assignment of responsibility for assessment activities to an individual or a faculty committee that considers academic and curricular decisions. Exemplary assessment strategies and practices and guidelines for the use of assessment information are outlined in the assessment plan.

UOB identified directions for improvement to strengthen assessment practice. These include short-tern and long-term goals which are listed below.

SHORT-TERM GOALS

1. Develop a "University Assessment Handbook" and an assessment " Web Site " to include all assessment resources.

2. Design the format for the annual report that the college deans submit to the QAAC. An ideal report format would provide a predictable structure, sufficient flexibility to accommodate the differences in assessment practice across campus, and a mechanism for collection and dissemination of assessment tools.

3. Continually organize skills-based assessment workshops.

LONG-TERM GOALS

1. Build resources for assessment, where appropriate, by forging links to those engaged in assessment of other activities, for example, research, student services, or administration.

2. Develop and enhance connections to alumni and employer information needed for assessment.

3. Define students' roles in assessment and communicate that role to students, for example, through a statement in the Undergraduate Catalog.

Chapter 3

DEVELOPING AN ASSESSMENT MODEL

DEVELOPING AN ASSESSMENT MODEL

An assessment model is developed for the University's academic programs to achieve and document assessment goals and objectives. The model is established on a yearly assessment cycle. This chapter outlines the steps involved in developing the Assessment Model used at the University of Bahrain.

The UOB model is used to document continuous review and deliberation of facts for improvement. The Assessment Model is comprised of two elements: An Assessment Plan and an Assessment Report. The findings from the analyses are used to affect continuous improvement of the program or process through a documented improvement plan. Each unit is responsible for maintaining all supporting summary data and other documentation that demonstrates how the program/curriculum is assessed and improved.

The two elements of the model (namely the Assessment Plan and Assessment Report) will:

- Include a full analysis of what is examined.

- Suggest possible improvement based on the analysis.

- Provide evidence of program improvement based on principled and thoughtful analysis.

- Ensure that the findings and results are compared and analyzed with earlier findings (current or historic) for consistency.

The following table shows the steps involved in the assessment process. Each step shown below is more fully described in the following pages.

ELEMENTS OF THE ASSESSMENT MODEL

Table 3-1 summarizes the elements of the Assessment Plan and Report, and the chart in Figure 3-1 shows the priorities and steps in their development.

Table 3-1. Assessment Steps

Assessment Plan	
Assessment Plan	*Step 1:* Mission
• An Assessment Plan is a design of one or more procedures that identify, collect, and prepare data to evaluate the achievement of program outcomes (student learning outcomes and program processes, where applicable).	*Step 2:* Program Educational Objectives
	Step 3. Program Intended Learning Outcomes
• An Assessment Plan includes the Mission, Goals or objectives, Intended Outcomes, and Associated Measures (Indicators).	*Step 4.* Measures (Indicators)
Assessment Report	*Step 5.* Findings and Target Level Achievement (Results)
• A summary of findings is presented with an analysis.	
• The analysis is one or more procedures for interpreting the data and evidence accumulated through assessment practices.	*Step 6.* Analysis and Action Plan (Use of Results)
• Evaluation determines the extent to which program outcomes and program educational objectives are being achieved. Ideally, the judgment results in decisions and actions that improve the program.	
• The Findings and Target Level Achievement.	
• Action Plan and Analysis (Use of Results) comprise the Assessment Report.	

Figure 3-1. Assessment steps and priorities

STEPS IN DEVELOPING THE ASSESSMENT AND IMPROVEMENT PROCESS

Each academic program at UOB is expected to go through the following steps which include the creation of an assessment plan followed by analysis of the findings through a self-evaluation report and an improvement action plan. The following sections include an explanation of the steps involved as well as some examples.

THE ASSESSMENT PLAN

Step 1: Mission

The institution's mission and goals embed the values and vision of the institution that provide an umbrella for colleges, departments, and academic support units in developing their planning and assessment strategies. The expanded statement of institutional purpose reveals and expresses the college/department/unit's relationship to the institutional mission and goals. Whenever feasible, each assessment plan must clearly link to its superior levels and reference the appropriate institutional goals. When developing the unit/program mission statement, refer to superior level mission statements to ensure proper linkage.

Example

The mission of the department of business management and marketing is to

"Prepare students for productive careers in the discipline of chemical engineering or in the discipline of process instrumentation and control engineering. Upon graduation, students will have learned skills in critical thinking, problem solving, and communication necessary for success as practicing chemical engineers or process instrumentation and control engineers or in postgraduate studies. In addition they will be prepared to serve the society through their engineering knowledge in various matters such as national policy, education, standards, and professionalism."

The department's mission statement supports the college mission to

"Educate students for positions of leadership and innovation in engineering, architecture, interior design and related fields; widening the horizon of engineering knowledge through original research, developing and transferring technologies to serve the local and regional needs and to benefit the public through service to industry, government, and the engineering profession."

The department's mission is also congruent with the University's mission

"The University of Bahrain is a national university dedicated to excellence in teaching and learning; innovative research; the generation and dissemination of knowledge; development of the student's personality, skills, and knowledge; and building partnerships with the public and private sectors; through distinction in its academic programs, faculty and staff, student activities, fostering innovation, cultivating a culture for quality, and reaching out to the local, regional, and global communities."

Step 2: Program Educational Objectives (PEO's)

PEO's are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve. They are the expected accomplishments of graduates (employment, graduate school, licensure, responsible citizenship, etc.). The constituencies or stakeholders and the mission play a major role in defining these objectives. They should be stated in terms easily understandable to an external observer such as the constituencies and should concentrate on the ultimate goals of the program and not on the skills and knowledge gained by the student during his enrollment.

Example

Graduates of the Marketing program will be prepared to

1. Hold entry-level professional positions in business or nonprofit organizations.

2. Enter an MBA or other graduate business program.

3. Make significant contributions to marketing decision-making in both domestic and global organizations

Step 3: Program Intended Learning Outcomes

Intended Learning Outcomes are brief, clear, precise, measurable, and descriptive statements that relate to the skills, knowledge, and behaviors that students acquire in their progression through the program. The PILOs should describe what the students will benefit from the program activities and thus outline the expected tangible or observable results. Whenever feasible, result-oriented statements are preferred and should be stated with action verbs that convey what the student is to know, think, do, or value as a result of the experience.

Program faculty and staff discuss and reach agreement on written statements of intended student outcomes. The outcomes statements are of utmost importance as they form the foundation on which the rest of the assessment plan is built. They also form the practical basis on which the program and its activities are based upon.

As programs develop outcomes statements, they also must be guided by expectations from relevant professional associations and accrediting agencies, many of which are increasingly emphasizing outcomes assessment as critical to informing program evaluation and improvement.

Example

Students of the B.S. in Accounting and Information Management program (Example taken from the University of Texas – Dallas) will be able to:

1. *Develop functional knowledge of their specialty: Students will develop functional knowledge of their major specialty, an appreciation of the interrelation of the functional areas, and broad-based current business knowledge.*

2. *Develop competency in communication: Students will develop competency in oral, written and interpersonal communications.*

3. *Analyze and interpret numerical data: Students will develop skills in analyzing and interpreting numerical data, and in reasoning and problem solving through mathematical processes.*

4. *Demonstrate basic applications of technology: Students will be proficient in the use of basic applications of technology.*

5. *Develop a regard for human values: Students will develop a regard for human values and the ability to make judgments based on ethical and environmental considerations.*

6. *Identify multicultural dimensions: Students will recognize the multicultural aspects and international dimensions of the societies and world in which we live and be familiar with knowledge and methods necessary to deal with related problems.*

7. *Analyze and interpret accounting information: Students will develop skills in analyzing and interpreting accounting information as well as an understanding of the decisions faced by various users of financial accounting information.*

8. *Develop competency in professional communications: Students will develop competency in professional communications and knowledge of career paths in accounting.*

9. *Apply accounting controls: Students will demonstrate proficiency in the use of basic applications of accounting controls including technology and security controls as they relate to accounting information.*

10. *Apply financial principles: Students will demonstrate applications of financial principles including those used in the preparation of financial statements.*

11. *Demonstrate managerial accounting concepts: Students will demonstrate managerial accounting concepts and techniques used to support decision-making by managers.*

Step 4: Measures (Performance Indicators)

For each student learning outcome, program faculty and staff discuss and reach agreement on actual student performance indicators that will be assessed and on the assessment instruments and processes that will provide clear and useful information regarding student performance. The performance indicator should be accompanied by the strategy for collecting the data and a standard by which to evaluate the data. Together the means of measure and target performance levels (or criteria for success) form an indicator to measure the stated outcome. To make the assessment feasible, no more than 5 Indicators are suggested for each outcome.

Means of Assessment (Measures)

These are strategies to collect the information that validates or examines the outcome. These strategies stipulate the procedures that identify, collect, and prepare data to evaluate the PILOs. These strategies or measures answer the question "How will we gather information?"

Target Performance Level (Criteria for Success)

Provide the benchmark for judging the results of the assessment. The Target Performance Level (or Criteria) answers the question "What level is considered a success?".
Finally, it is important to note that assessment plans identified by programs should:

• be agreed to and supported by program faculty and staff,
• be closely aligned with stated outcomes,
• include multiple kinds of measures, both direct and indirect,
• be sensitive to the effects of curriculum, instruction or other program components,
• provide useful information for program evaluation and improvement,
• be ongoing and practical enough in terms of time, effort and cost to be sustained over time,
• include mid-program as well as end-of-program measures,
• not be used to evaluate individual courses or faculty.

THE ASSESSMENT REPORT

Step 5: Findings and Target Level Achievement (Results)

Findings and Target Level Achievement (Results) is thorough and meaningful analysis of the findings of the assessment strategy. These objective findings provide the evidence for decision-making and should reveal actions to be taken for program improvement. Summary data are examined on a definitive schedule established by the department. A synopsis of the interpretation of the findings should be included in the annual self-evaluation report.

Step 6: Action Plan and Analysis (Use of Results)

The collected assessment data, sometimes in addition to other available data, are analyzed and presented to faculty and staff for evaluation and consideration of implications. The result is a self-evaluation report which:

- Succinctly describes the dissemination of the assessment results to individuals, advisory boards, committees, and other constituencies.

- Documents how faculty and administrators used the data to make decisions or take actions to effect continuous improvement (changes to policies, programs, or services intended to enhance effectiveness) of the program. This information may be incorporated into one general action plan.

- Defines actions required to address partially met or unmet outcomes as revealed by findings and criteria of target level achievement.

TEMPLATE FOR ACADEMIC PROGRAM ASSESSMENT

Program assessment plan is a document that specifies how a program evaluates student achievement of PILO's and PEO's, and how the information obtained from that evaluation is used to improve the program. The following template is a suggested guideline for creating plans to assess academic programs. The order and format of the information does not need to follow the template exactly. Alternative formats (e.g. those used by specialized accreditation agencies) may be acceptable. If your program intends to use other assessment format, it should first check with the QAAC. Regardless of whether the following template is completed or a program uses an approved alternate format, the following ten steps do need to be addressed in the assessment plan. Several examples for program assessment template are given in Appendix B.

PROGRAM ASSESSMENT TEMPLATE

1. List the Program Educational Objectives (PEO'S)

i.   Objectives are the expected accomplishments of graduates (employment, graduate school, licensure, responsible citizenship, etc.).

ii.   Most programs will have approximately three to six objectives identified for their graduates.

2. Explain how the department or program will know the extent to which PEO'S are achieved (alumni or other surveys, employment data, etc.).

3. List the Program Intended Learning Outcomes (PILO'S).

i.   PILO's are what students are expected to know or do by the time they graduate: knowledge, skills, and abilities that a student should attain by completing the degree program.

ii.   Most programs will have approximately 3 to 11 learning outcomes identified for their graduates.

iii.   Where appropriate, other units (research center, etc.) may substitute service outcomes.

4. List and briefly describe the Measures that will be used to assess each learning outcome.

i.   Measures might include surveys, exit and other interviews, local or standardized exams, focus groups, portfolios, simulations, behavioral observations, etc.

ii.   A single measure may be used to assess multiple outcomes.

iii.   While indirect measures may be used, learning outcomes should also be assessed with direct measures.

iv.   Indirect measures include surveys, interviews, or other means to determine perceived success in achieving outcomes.

v.   Direct measures involve direct examination or observation of student knowledge or skills.

Thus, student responses to a survey question about the education they received are an indirect measure of an effective writing learning outcome, while portfolios of student writing are a direct measure.

5. Describe how learning outcomes are made Measurable and Benchmarks or other determinants of success are set.

6. Describe the process by which Findings will be derived from the measures.

i.   The process should clarify who engages in what sort of analysis of the information generated by the assessment measures.

ii. Broad inclusion of program faculty should be confirmed for all degree programs and, where appropriate, for academic and student support programs.

7. Describe the process by which findings are analyzed to determine what Improvements should be made to better meet objectives and learning outcomes.

i.   The process should confirm that the appropriate faculty, staff, and students are fully involved in this process and notified of its recommendations.

ii. The process should ensure that the conversations are based on findings derived from measures that assessed learning outcomes leading to objectives.

8. Identify a Timetable for assessment.

i.   The timetable should follow a cycle that will probably be 3, 4, or 5 years. When possible/ helpful, the cycle should correspond to assessment requirements of accreditations and licensures associated with the program.

ii. Assessment activity should be specified for each year of the cycle.

iii. Every outcome should be assessed within the cycle, but every outcome does not need to be assessed each year.

9. Briefly explain how the program's assessment plan supports and interacts with Accreditation and Licensure requirements (if applicable)

10. Describe how the objectives and learning outcomes of the program are communicated to students and others constituencies

EXAMPLE OF TEMPLATE FOR PROGRAM ASSESSMENT PLAN

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

1. List the Program Educational Objectives

Graduates from the computer science program will be prepared for many types of careers in the computing industry and prepared for graduate study in computer science and in closely related disciplines. The educational objectives of the computer science program are to prepare students to become:

1. Graduate students and researchers.

2. Leaders in government and law as government employees, policy-makers, governmental advisors, and legal professionals.

3. Entrepreneurial leaders.

4. Business leaders within existing organizations.

5. Actively involved in social and professional service locally, nationally, and globally.

6. Recognized by their peers and superiors for their communication, teamwork, and leadership skills.

7. Software professionals in a variety of organizations, including ones doing traditional software development, technological innovation, and cross-displinary work.

2. Explain how the department or program will know the extent to which OBJECTIVES are achieved (alumni or other surveys, employment data, etc.).

Objectives will be measured using a combination of employer surveys, graduating student surveys, and alumni surveys.

3. List the Program Intended Learning Outcomes

The program enables students to achieve, by the time of graduation:

a. An ability to apply knowledge of computing and mathematics appropriate to the discipline.

b. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.

c. An ability to design, to implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

d. An ability to function effectively on teams to accomplish a common goal.

e. An understanding of professional, ethical, legal, security and social issues and responsibilities.

f. An ability to communicate effectively with a range of audiences.

g. An ability to analyze the local and global impact of computing on individuals, organizations, and society.

h. Recognition of the need for and an ability to engage in continuing professional development.

i. An ability to use current techniques, skills, and tools necessary for computing practice.

4. List and briefly describe the MEASURES that will be used to assess each learning outcome.

Learning outcomes are measured in accordance with the ABET EC2000 rules devised by the Accreditation Board of Engineering and Technology (ABET). EC2000 speculates two distinct continuous loops or iterations. One deals with program-level assessment and improvement, while the other addresses the program outcomes level. In the process for the CS programs, outcomes are achieved through courses in the curriculum. The two iterations (or loops) are related since changes to program level objectives must be reflected by changes in specific course objectives. The following products enable us to measure the learning outcomes:

- **Course Syllabus –** The description of a course via a list of information that is required by ABET.

- **Articulation Matrix –** A mapping of program objectives into the program outcomes.

- **Course Portfolio –** A collection of the specific materials (content, projects, assignments, examinations, etc.) documenting a course in accordance with ABET requirements.

- **Course Assessment matrix –** individual course assessment done at the end of the course for students to assess their achievement of individual course outcomes using exams, projects, and other assignments.

- **Exit Survey.**

- **Curriculum Outcomes Evaluation –** Mapping of curriculum assessment into Program Outcomes used by the program to review each course and ensure that it is meeting its objectives and outcomes. Sample attached.

- **Instructor Action Report Form –** a form used by the instructor to report actions, if any, taken to address the concerns/recommendations of the program listed in Curriculum Outcome Evaluation.

5. Describe how learning outcomes are made MEASURABLE and BENCHMARKS or other determinants of success are set.

Learning outcomes are made measurable by means of the Articulation Matrix, and curriculum

outcomes evaluation and the associated forms and course portfolio products, with some performing the role of benchmarks.

6. Describe the process by which FINDINGS will be derived from the measures.

The following steps are integral parts of the Program Outcome assessment and improvement.

Determining the Outcomes that are required to achieve Objectives

Recommendations for new or modified objectives coming from the First Loop (Program Objectives) are considered by the Accreditation Committee. If the Accreditation Committee decides to adopt the objective, new outcomes are identified to satisfy the objective.

Recommendations for new or modified outcomes to better achieve existing objectives coming from Second Loop are also considered by the Committee and then presented to the faculty for approval.

In the process of revising outcomes, the program will consult the relevant constituencies for their inputs. All recommendations are ultimately approved by the entire faculty.

Determining methods for achieved the outcomes

In the case of new program outcomes, the Accreditation Committee has the responsibility of working with the faculty and program constituencies to recommend curricular changes including modification of existing course objectives and outcomes or introduction of new courses to meet the new program outcomes. The Articulation Matrix may be updated if needed. All recommendations are ultimately approved by the entire faculty.

Determining methods for outcomes assessment

Assurance that graduates achieve program outcomes by completing the required courses is based on the following.

The program Articulation Matrix documents how the curriculum insures that a student achieves program outcomes via achievement of the course objectives of the courses required for graduation. Course objectives are achieved via course outcomes. Course portfolios verify that students are

actually assessed on achievement of course outcomes. The results of Exit Surveys will be used as an indicator of achievement of program outcomes.

Evaluation and Assessment

Evaluation and assessment of course outcomes occurs at two levels. The first level is performed by the faculty member teaching the course and is documented in the Course Portfolio submitted every semester. The second level is performed by Accreditation committee. The Accreditation Committee members present their evaluation in a Course Outcome Evaluation Form. The Accreditation Committee meets as a group to discuss all course reviews and to consider recommendations from instructors, and submits its findings and recommendations to the Chair, and the instructor of the course.

Instructor Actions Toward Improvement

In response to the recommendations listed in a Course Outcome *Evaluation Form,* the instructor completes an *Instructor Action Report Form,* reporting the actions taken to address the suggestions of the Accreditation Committee.

7. Describe the process by which findings are analyzed to determine what IMPROVEMENTS should be made to better meet objectives and learning outcomes.

The Accreditation Committee members present their evaluation in a Course Outcome Evaluation Form. The AC meets as a group to discuss all course reviews and to consider recommendations from instructors and reviewers. The AC also reviews Student Exit Surveys to ensure student participation and input. The committee reviews this Assessment Plan annually and makes recommendations for improvement to the Chair.

8. Identify a TIMETABLE for assessment.

ABET requirements stresses continuous program outcome assessment and evaluation. Thus the above process is continuously in motion. Considering the large number of courses offered by the CS program, the faculty has decided to assess one half of the courses in each semester.

9. Briefly explain how the program's assessment plan supports and interacts with ACCREDITATION and LICENSURE requirements (if applicable).

The BSCS program is in the final stage of applying for accreditation by ABET under the EC2000 criteria during academic year 2010.
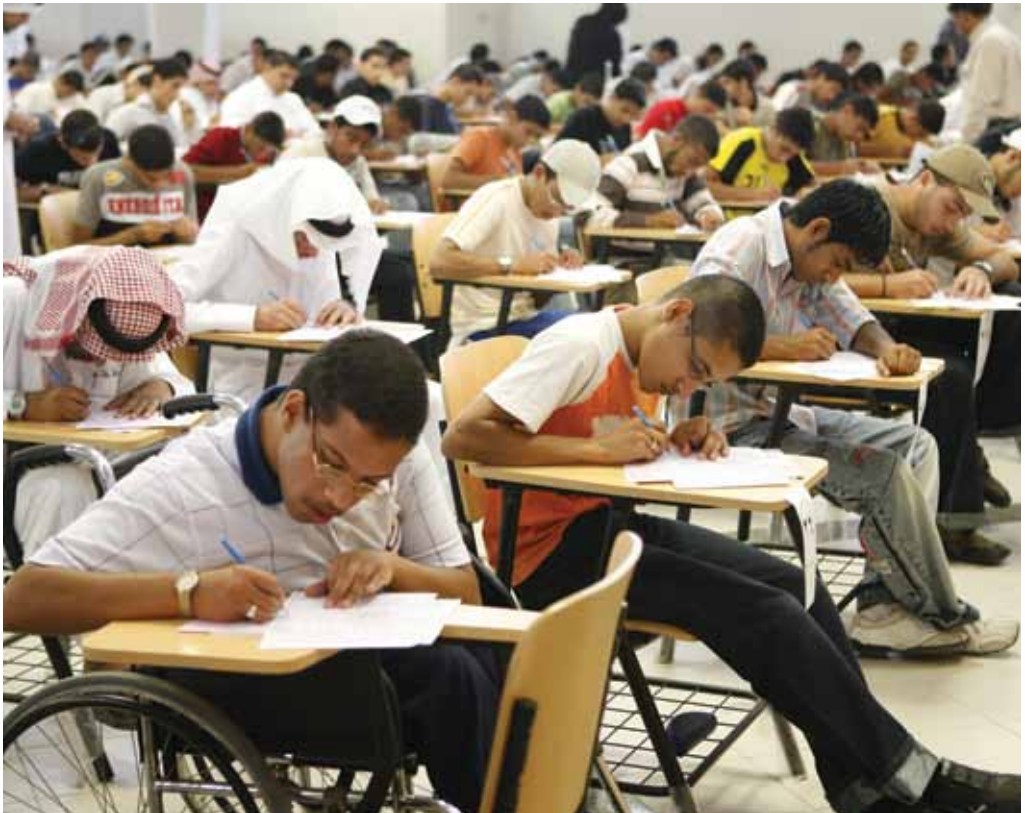
10. Describe how the objectives and learning outcomes of the program are COMMUNICATED to students and others, through

    College Catalog

    College Website

    Department Brochures

    Advising

GUIDELINES FOR PREPARING AND MAPPING OF INTENDED LEARNING OUTCOMES

THE ROLE OF INTENDED LEARNING OUTCOMES

Intended Learning Outcomes (ILOs) in general describe what the student should know, understand, or be able to do after the successful completion of the course. They specify the minimum skills and abilities of a successful student and summarize the core outcome of the course or program. The use of outcomes as the basis of assessing the curriculum has been adopted by most educational quality assurance agencies. The idea of Constructive Alignment *devised by Professor John B. Biggs in 1999* is the basis for using outcomes to guide the learning activities and assessment in the curriculum. There are two basic concepts behind the use of outcomes and course specifications in guiding the learning process:

1. Learners construct meaning from being exposed to the intended outcomes of their course. The stated outcomes guide the learning of the students.

2. The teacher continuously aligns the learning process and the assessment methods with the declared intended outcomes. Thus the outcomes provide the basis for planning of all learning and assessment activities.

Figure 3-2. Uses of intended learning outcomes

Building on Biggs's constructive alignment, the educational institution (such as UOB) can use these stated ILOs to assess the effectiveness of the academic programs and then align the learning process with the Program Outcomes. Since the PILOs are aligned with the PEOs which

are aligned with the University's mission, the institution can assess its effectiveness in achieving its mission through assessment of the outcomes. Assessment results of the outcomes can also serve as evidence of this effectiveness, and thus are adopted by QA agencies. Thus the basic idea behind constructive alignment is that the learning processes and resources should enable the outcome to be achieved and demonstrated.

Figure 3-3. Relationship between mission, objectives, and outcomes

WRITING GOOD INTENDED LEARNING OUTCOMES

Creating good learning outcomes is the basis for effective assessment of both the program and the course. Thus it is essential that the outcomes of the program or the course are stated clearly and correctly.

Statements of ILOs usually follow the following pattern.

Example 1:

Upon successful completion of this course, the student will be able to:

Analyze the relationship between the language of satire and literary form by close examination of a selected number of appropriate texts.

Example 2:

Upon successful completion of this course, the student will be able to:

Compute the standard deviation given a set of data points.

Note that the key word in the statement of an ILO is its action verb. These verbs specify the cognitive ability that is intended for the learner to achieve. The verb also determines the level of this ability and a useful tool for classifying these abilities is shown in the following table, known as Bloom's taxonomy.

Table 3-2 Bloom's taxonomy
(from http://www.ssdd.bcu.ac.uk/outcomes/)

Knowledge and understanding	Intellectual skills				

Recalling important information

Explaining important information

Solving closed-ended problems

Solving open-ended problems

Creating 'unique' answers to problems

Making critical judgments based on a sound knowledge base

1. Knowledge	2. Comprehension	3.Application	4. Analysis	5. Synthesis	6. Evaluation
define	translate	interpret	distinguish	compose	judge
repeat	restate	apply	analyse	Plan	appraise
record	discuss	employ	differentiate	Propose	evaluate
list	describe	use	appraise	Design	rate
recall	recognize	demonstrate	calculate	Formulate	compare
name	explain	dramatize	experiment	Arrange	revise
relate	express	practise	test	Assemble	assess
underline	identify	illustrate	compare	Collect	estimate
	locate	operate	contrast	Construct	
	report	schedule	criticize	Create	
	review	sketch	diagram	set up	
	tell		inspect	organize	
			debate	manage	
			question	prepare	
			relate		
			solve		
			examine		
			categorize		

INCREASING LEVEL OF COGNITIVE COMPLEXITY →

To aid the creator of ILOs, the taxonomy shown in Table 3-2 lists action verbs that can be used when writing an ILO with a certain level of cognitive ability. Note that these abilities increase as you go to the right. A student who achieves level 4 such as in Example 1 above is capable of performing any of the lower abilities in levels 1-3. However, a student who can achieve a lower level ability such as remember or recognize (level 2) cannot be guaranteed to be able to Apply (level 3) or Analyze (level 4).

It is vital when writing the ILO at the program or the course level to keep in mind the exact required level of ability from the student and thus use the suitable verb. Program level outcomes should also be mainly from levels 4-6 as they should concentrate on producing graduates with higher cognitive abilities.

Good intended learning outcomes should follow the following guidelines:

1. ***Measurable:*** The ILOs are the basis of the assessment plan and thus must be measurable. Avoid using vague and general statements that cannot be measured using direct assessment.

2. ***Relevant:*** They should serve the PILOs and the subject matter of the course. Thus they should be relevant and easily mapped to one of the Program Outcomes.

3. ***Similar in Cognitive Ability:*** They should match the cognitive ability that the CILO is trying to achieve. For example, you cannot map a CILO which states that the student should "Understand … " with a program-level outcome that states that the student should be able to "Analyze …" because understanding is at level 2 in Bloom's taxonomy, while analysis is at level 4. Thus the stated CILO can never be used to achieve the stated PILO as the CILO states a lower ability.

4. ***Student Centered:*** The focus of the outcomes should be the student and the learner not the instructor or the course. The ILO should be written from the student's point of view and should focus on central, important, and non-trivial outcomes.

EXAMPLES OF GOOD AND BAD LEARNING OUTCOMES

The following examples illustrate some bad examples of intended learning outcomes and how they were then modified to follow the guidelines above.

All statements below are prefaced by the sentence: "Upon successful completion of the course a student will be able to … "

Table 3-3. Bad vs. good ILOs

Bad ILO Statements	Good ILO Statements
• Have a wonderful and fruitful experience in the classroom.	• Analyze a given document and produce a summary report.
• List some characteristics of sustainable environmental design.	• List three characteristics of sustainable environmental design.
• Clearly understand the principles of thermodynamics.	• Understand the first law of thermodynamics.
• Identify the three main types of audit and identify from the list which type.	• Identify the three main types of audit.
• Understand the concept of time-line based video editing	• Apply the concept of time-line based video editing to produce a short video plan

MAPPING CILOS TO PILOS

Finally, CILOs must be mapped to the Program Intended Outcomes (PILOs) that they aim to achieve. As was discussed above, each CILO should start with a verb that classifies at one of the cognitive levels listed by Bloom's Taxonomy (see Table 1). Since most of the program outcomes have been phrased before the CILOs were created the course coordinator should be careful not to map a course outcome with a verb lower than the program outcome's level in the taxonomy. An Example of mapping of CILOs to PILOs is show in the Table 3.4.

When creating or updating your CILOs please make sure you follow the following guidelines:

1. Since most program outcomes tend to be of a higher level of cognitive ability, make sure the outcomes are of levels 4-6 as much as possible. Only few of them should be made in levels 2-3, and try to avoid level 1 as it only deals with remembering knowledge.

2. As was described above the wording of the outcomes should be simple and specific. This would make it easier for the course instructors as well as the students to comprehend.

3. Avoid joining multiple aims or outcomes of the course in one CILO to avoid confusion.

4. The number of CILOs should not exceed 10 unless necessary and these will be the core skills intended for this course.

5. Students should be involved in understanding and updating the CILOs. At the end of a semester, take into consideration any comments you get from the students, curriculum committee, or instructors when updating or modifying the CILOs.

6. Each CILO must be mapped to the relevant PILO. Remove any CILOs that cannot be mapped to a Program-level Outcome.

7. Any updates to the CILOs should be approved by the department and then should be clearly listed in the course outline and explained to the students in class.

Note that class assessment items such as exams, projects, and home work should serve in measuring achievement of these outcomes. Based on this assessment every instructor should revise his teaching strategy in order to insure these outcomes are achieved.

Table 3.4 Mapping of CILOs to PILOs

Unit Number	outcome 1	outcome 2	outcome 3	outcome 4	outcome 5	outcome 6
101	✓					
102			✓			
103		✓	✓	✓		
104	✓				✓	
105		✓	✓			
106	✓		✓			✓
201					✓	
202	✓			✓		✓
203			✓		✓	✓
204				✓	✓	
205		✓				✓
206			✓			
301			✓			✓
302		✓		✓	✓	
401	✓			✓		
403		✓			✓	✓

Chapter 4

ASSESSMENT METHODS

ASSESSMENT METHODS

The purpose of this chapter is to a discuss guidelines and criteria for selecting appropriate assessment methods. Additionally, an inventory of assessment methods and techniques that are currently available and can be developed or adapted to your program is presented. Each assessment method is described and in some instances, a short list of advantages, disadvantages and considerations associated with each method is also presented.

Traditionally, assessment methods have been categorized as either direct or indirect. These two classifications are based on the distinction between assessing student learning outcomes (ILOs) and student experience. Direct assessors of learning specifically evaluate the competence of students in the program. Indirect assessors are concerned with students' experiences, opinions, or perceptions, rather than their knowledge and skills. These two methods rely on feedback from diverse populations (e.g. curriculum assessment using performance indicators, course portfolio, and assessment matrix, surveys, focus groups, etc.). Some of the materials in this chapter are adopted from Outcomes Assessment Manuals of California State University, University of Central Florida, University of Wisconsin, Madison Assessment website and University of Massachusetts Amherst Office of Academic Planning and Assessment website.

ASSESSMENT METHODS CLASSIFICATION

Assessment methods classified based on the focus of the assessment. There are three areas of assessment to be considered: Student Learning, Curriculum, and Program assessment. The following is a discussion of these three types of assessment.

STUDENT LEARNING

Direct assessment of student learning includes methods that evaluate student learning on the following levels:

- Cognitive skills: What does the student know?
- Performance skills: What can the student do?
- Affective skills: What does the student care about?

Indirect assessment of student learning consists of assessment methods that allow students or other constituencies to report on what students have learned. In other words, the methods are used to evaluate the "perception" of student learning.

- Cognitive skills: What does the student report (perceive) that (s)he knows?

- Performance skills: What does the student report (perceive) that (s)he can do?

- Affective skills: What does the student report (perceive) as important?

CURRICULUM

This area includes assessment methods used to monitor the alignment of the curriculum with intended learning outcomes. Curriculum mapping is effective when used to verify alignment of the curriculum with PILOs. Curriculum mapping ensures that the program's content is actually relevant to the specified program intended learning outcomes.

PROGRAM AND DEPARTMENT PROCESSES

Direct assessment of program and department processes pertains to methods used to assess academic activities and services related to student learning (e.g. advising, teaching, tutoring, etc.).

Indirect assessment of program and department processes includes methods that assess students' perception of academic activities and services (such as advising, content and curriculum, teaching, etc.).

Selecting the appropriate methods for assessment is an essential step to ensure the success of the assessment process. Select assessment methods prudently and ensure that they are good assessors of the effectiveness of a program. A primary objective of assessment is to uncover issues that, when addressed, will lead to improvements. Complex measures are not the key to successful assessment. Instead, consider measures that provide data that are easily interpreted and are not ambiguous. Choose assessment methods that will provide useful information. The intended outcome that is being assessed should allow one to make inferences about student progress.

Assessing curricular requirements, the achievement of a goal, or the completion of an activity may not provide the type of evidence about student achievement, student support services or teaching practices that would provide opportunities for improvement. Successful and useful assessment can be achieved only if you align the assessment method with the outcome that you are trying to assess.

INVENTORY OF ASSESSMENT METHODS

The most important criterion when selecting an assessment method is whether it will provide useful information – information that indicates whether students are learning and developing in ways faculty have agreed are important. The purpose of this section is to present a list of available methods, but you are not limited to using only these techniques. Although many assessment methods have been included in the inventory, there are other methods that you may already be using or you may be considering other measures that have not been listed here.

DIRECT ASSESSMENT METHODS

Direct Assessment Methods require students to demonstrate knowledge and skills and provide data that directly measure achievement of expected outcomes. These measures are outlined in the minimum course content guidelines for those courses used in assessment.

Capstone course assignments and Capstone projects

Capstone courses or projects are typically discipline-based and may be designated as a "senior seminar" or "senior course". Graduates from a program demonstrate their competence in several areas and their ability to synthesize learning in the major with a product or performance. Capstone course assignments or projects can be useful tools for program-level assessment. The assessment of important program learning outcomes can be integrated into a capstone course or project. Assessments structured into the capstone experience can include one or more of the following: exams, integrative papers or projects, research projects, reflective essays, oral reports, surveys, and focus groups. Projects are generally judged by a panel using pre-specified scoring rubrics for the purpose of identifying where to improve the program.

Classroom Assessment

Student learning begins in the classroom. Improved student performance cannot take place when there is no change in teaching and learning in the individual classroom. Changes in teaching techniques will have a much more immediate impact on student performance than changes to the curriculum or academic services. Classroom assessment includes a variety of approaches that can be used to evaluate learning and learning processes. These include minute papers, case studies and hypothetical situations, and simulations.

Advantages

- Classroom assessments are formative in nature and are used to make changes to teaching and learning strategies while a course is being taught. This is a "just-in-time" form of assessment that leads to immediate change if needed. They can occur at multiple times throughout a class and results can be used to improve course content, methods of teaching, and ultimately, student learning.

Disadvantages

- Changes may be necessary and would require flexibility.

- Students may be hesitant to be involved in assessment process.

Content and Embedded Assessment Approaches

Course-embedded questions are predetermined questions that measure student learning in specific areas and can be used to assess students' knowledge, skills, behavior and attitudes within a scheduled test. The test is typically a locally developed test. Often instructors of a particular course use the same questions within their unique course tests at a particular point in the course (e.g. midterm or final). Growth in discipline-specific knowledge, skills or attitudes may be gauged using the same set of embedded questions in tests for different courses throughout the curriculum.

a. Case Studies, Simulations and Hypothetical Situations

A case study is focused, systematic examination of one instance of a phenomenon such as an event, program, process or person. Typically, they involve collection of qualitative and quantitative data such as observations, surveys, and interviews for an in depth study of the phenomenon.

Students can conduct case studies and/or respond to hypothetical situations.

Advantages

• Student work of both a quantitative and qualitative nature can be assessed.

• Useful when a student learning outcome is to comprehensively study and understand a phenomenon of particular interest to the field.

• Provides an opportunity for students to apply learned skills in context.

Disadvantages

• Tend to be expensive, labor-intensive, and time-consuming, which can be prohibitive within a course.

b. Portfolio Assignments

A portfolio is a collection of samples of student work. The contents of these can vary widely, from a collection of photographs, to written assignments, to a collection of computer programs. Sometimes an electronic portfolio is used to facilitate storage and access of the samples of student work. A rubric may be used to evaluate a collection of students' work (e.g. writing, homework, etc.) over a period of time. This method of assessment can provide longitudinal data to gauge growth of particular skills or understandings, as well as an opportunity for student reflection. Typically, each assignment included in a portfolio has been reviewed and graded. A committee or a designated group of faculty members may review portfolios in a program for the purpose of identifying where improvements in the program are needed.

c. Assessment of Papers, Projects with Standard Scoring Rubrics

A rubric is an assessment tool that can be used to specify scoring criteria for a paper, project, performance or other method of assessment. Usually all of the key elements of an assignment and their weighting on the total score are identified. A rubric is most effective when it is shared with students prior to the start of an assessment assignment.

d. Research Paper

This is an assessment method which can be used to evaluate students' abilities to analyze,

synthesize, and/or evaluate information that has been taught. A scoring rubric makes evaluation criteria clear when assessing research papers. On the program assessment level it could be part of a capstone project or a tool used in the senior year to determine if students have achieved programmatic learning outcomes.

e. Essays

Essays may be designed to measure specific learning outcomes, e.g. writing skills, appreciation for art, appreciation of diversity, etc. These essays are scored using rubrics established by a panel of faculty. The rubrics may be reviewed for the purpose of identifying elements needing more emphasis in the academic program.

f. Internship or Summer Training

Evaluations of student knowledge and skills from internship or required training in many programs. This may include written evaluations from supervisors focused on specific knowledge or skills or evaluation of student final reports or presentations from internship or summer training experiences.

g. Professional Jurors or Evaluators

Assessment of student projects, papers, portfolios, exhibits, performances, or recitals.

INDIRECT ASSESSMENT METHODS

Indirect Assessment Methods such as surveys and interviews ask students to reflect on their learning.

Student Surveys

This category includes locally developed surveys that focus on evaluating satisfaction with academic programs and service experience, perceived program educational objectives and learning outcomes, plans for further education and employment, further education, and/or employment placement and plans of undergraduate and graduate students.

Graduating Senior Exit survey is an excellent tool to get the opinion of students about their specific

academic program and the support services offered at the university as well as program-specific services. Exit survey should focus on student learning (knowledge, skills abilities) in addition to student satisfaction. The questions should be designed to gain insight into student knowledge and skills. The questions might also focus on student experiences such as internships, participation in research, independent projects, numbers of papers written or oral presentations given, and familiarity with tools of the discipline.

Advantages

Surveys can be an important tool in understanding student's academic needs and their perception of their educational experience. Additionally, surveys can be used to determine students' satisfaction with the services offered at the university as well as program-specific services such as advising, etc.

Disadvantages

Surveys are used to gather data regarding the perceptions of individuals about personal experiences. In most instances, this method does not provide direct evidence of knowledge, skills and abilities. When this method of assessment is implemented a direct measurement approach should be used as well.

Focus Group

Individuals that are users of the program or that benefit from the academic preparation made possible as a result of completing the program (e.g., employers, alumni, faculty, parents, etc.) can provide important qualitative data that can be used to identify strengths and weaknesses within the program.

a) Faculty Surveys aimed at getting feedback about perceptions of student knowledge and skills.

b) Alumni Surveys aimed at evaluating perceptions of knowledge, skills, and abilities gained while studying in the program, and student preparation for lifelong learning.

c) Surveys of Employers aimed at evaluating specific competencies, skills, objectives or outcomes.

Advisory Committees

Individuals who are experts in the field can assess student preparedness and curriculum content. This method of assessment provides a current and relevant level of analysis which is beneficial to the development of the curriculum as well as the assessment of students' knowledge, skills and attitudes.

Structured Interviews

One-on-one structured interviews with students, faculty, employers and alumni conducted by a trained interviewer can provide useful information. This information can be used to identify strengths and weaknesses within the program.

Student Activity and Study Log

A log that reflects the amount of time a student spends studying or involved in specific activities can provide important data that can be used to identify opportunities for improvement. This can be managed electronically in a spreadsheet by individuals and combined into a group for assessment purposes.

Institutional Data

Institutional level data such as retention rates, graduation rates, demographics, time-to-graduation and enrollment in graduate level programs by former graduates can provide useful information regarding the strengths and weaknesses of a program.

MEASURING THE PROGRAM'S INTENDED LEARNING OUTCOMES

The measurement of ILOs is usually done using direct methods. In this section we will introduce the concept of Performance Indicators and how they can be used within an assessment plan.

What are Performance Indicators, Measures, and Success Criteria?

Performance indicators (PIs) are tools for measuring the performance of the students in achieving the intended learning outcome. PIs describe how an outcome is measured and provide the constituencies and management with information for decision making, performance evaluation, and improvement.

Each indicator should include a definition of acceptable performance levels *(or success criteria)* that can be used to judge the success of the program in this outcome. The success criteria will be associated with a measure of the performance indicator. Each PI can have multiple *measures* which describe how and where within the delivery of the academic program this indicator is measured. There are *direct* and *indirect* measures of PIs, however, for each indicator *there must be at least one direct measure* defined by the program assessment team. Indirect assessment measures of the indicators can be used to supplement the measurement of the indicator.

Since measurements can be interpreted differently by different observers, a **rubric** (or a measurement method) should be devised to define how the result of the measurement will be assigned. Samples of student work or other necessary evidence should be stored (in a file) to enable external reviewers to verify the measurement of the indicator. Rubrics can be designed for judging performance in a variety of activities such as writing skills, oral presentation, exam questions, etc.
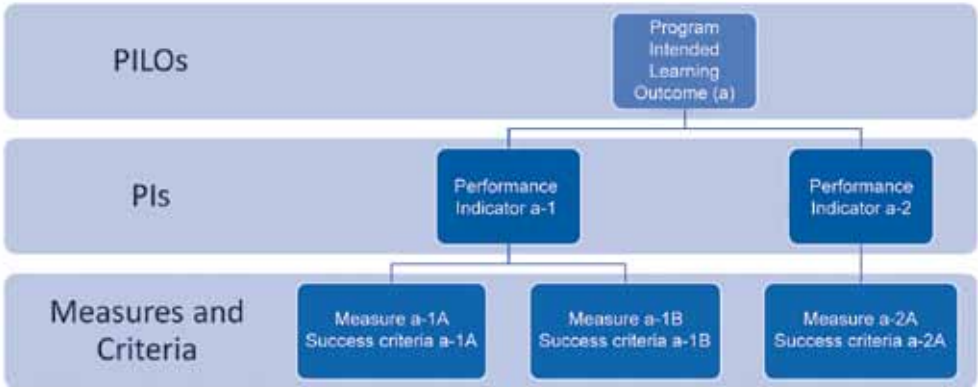

Figure 4-1. Measuring PILOs

Developing the Assessment Plan

The ultimate goal of any assessment plan is measuring how much the program outcomes have been achieved. To do so we must define performance indicators which will help us assess these outcomes, and the plan must determine where these indicators will be tested within the curriculum. To aid the faculty in determining the success of the students in these measures, an associated rubric must be defined and a success criterion must be set. This leads to the following model for the assessment of the program outcomes.

Program Outcomes: Developed by the department and approved by the constituencies

Performance Indicators: Each Program outcome is measured by a set of performance indicators (at most 5). The department approves the PIs.

Measures: The department will specify how each PI is measured. At least one of the measures must be direct. The measures must directly match the PI.

Success Criteria: A designated criteria should be specified for each measure, preferrably in a numeric format. Percentages or acceptable performance levels can be used to define the success criteria.

Figure 4-2. Deriving PIs and success criteria

The department is responsible (through its Departmental Accreditation Committee or DAC) for developing a comprehensive plan for assessing the program outcomes through the following

steps which will eventually lead to a summary of the program's performance in terms of the PI results as well as an improvement plan.
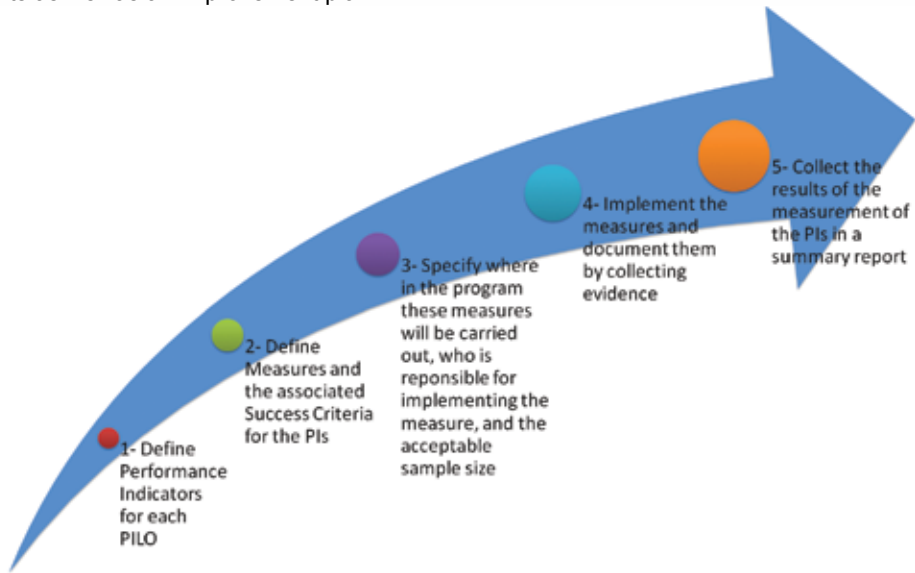

Figure 4-3. Overview of assessment steps

Example 1

To illustrate the process of implementing up to step 3, here is an example of the creation of performance indicators and measures needed for the assessment. Consider the following PILO which is common in most academic programs and serves one of the university's intended learning outcomes.

Program Outcome (f): An ability to communicate effectively with a range of audiences.

Step 1: DEFINE THE PERFORMANCE INDICATORS FOR THE PILO

In order to gauge the success of the program in producing students with outcome (f) two indicators were defined by the department. Since communication skills can generally be divided into oral and written, the indicators were defined to assess these two skills.

Note that since most indicators should directly measure the outcome and thus will be a decomposition of the outcomes statement into smaller measurable statements as this example illustrates.

A student successfully graduating from the program must be able to

Indicator (f)-1: Demonstrate effective oral communication skills and tools

Indicator (f)-2: Demonstrate effective use of written communication skill and tools

Step 2: DEFINE MEASURES AND SUCCESS CRITERIA

Given the two performance indicators that were defined, the DAC then specifies the measures that will be used as well as the rubrics associated with them and the success criteria for each measure.

Again, the measures should directly reflect the skills or knowledge stated in the performance indicator. The DAC must define where within the curriculum this measure will be implemented including an associated rubric for interpreting the student's performance.

In order to simplify and unify the results, all rubrics will use a scale from 4 to 1. Where
   • 4 = Excellent performance
   • 3 = Good performance
   • 2 = Fair performance
   • 1 = Poor performance
Note that different skills will have different rubrics as you can see in the example below.

Finally, a success criterion must be defined for each measure. As an example, this department suggested its success criteria as 70% of the students scoring Excellent (=4) or Good (=3) grades on the rubric.

A student successfully graduating from the program must be able to		
Indicator (f)-1: Demonstrate effective oral communication skills and tools		
Measures	**Actions**	**Success Criteria**
(f)-1A Make oral presentation using effective nonverbal behavior (eye contact and movement)	Students are assessed in the senior project 1 presentation according to rubric 1.	70% of the students score 3 or 4
(f)-1B Speak clearly and uses appropriate technical terminology	Students are assessed in the senior project presentation according to rubric 1.	70% of the students score 3 or 4
(f)-1C Use presentation tools/ software and props/audio-visual equipment	Students are assessed in the senior project presentation according to rubric 1.	70% of the students score 3 or 4
Indicator (f)-2: Demonstrate effective use of written communication skill and tools		
(f)-2A Use correct grammar and vocabulary in written reports	Student's senior project reports are marked on this issue according to rubric 2	70% of the students score 3 or 4
(f)-2B Write well structured technical report using correct structure of a technical report	Student's senior project reports are marked on this issue according to rubric 2	70% of the students score 3 or 4
(f)-2C Correctly use and present literature and references	Students are assessed in the senior project presentation according to rubric 2	70% of the students score 3 or 4

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1 This type of assessment can also be performed in other similar courses such as

mock trials in the College of Law, or other project based courses which contain a presentation.

The following are the rubrics that were used to judge the student's work. Note that these are general and certain departments or disciplines can customize them to match the needed skills within their profession.

Rubric 1. Used for assessing oral communication skills.			
1= (poor)	*2= (fair)*	*3= (good)*	*4= (excellent)*
Student showed little ability in the presentation and oral communication skills associated with this measure.	Student showed some ability in the presentation and oral communication skills associated with this measure.	Student showed good ability in the presentation and oral communication skills associated with this measure.	Student showed outstanding ability in the presentation and oral communication skills associated with this measure.

Rubric 2. Used for assessing written communication skills.			
1= (poor)	*2= (fair)*	*3= (good)*	*4= (excellent)*
Student showed little ability in • Producing a well structured and organized report. • Correctly using references and bibliography. • Avoiding plagiarism. • Using correct grammar and vocabulary.	Student showed some ability in • Producing a well structured and organized report. • Correctly using references and bibliography. • Avoiding plagiarism. • Using correct grammar and vocabulary.	Student showed good ability in • Producing a well structured and organized report. • Correctly using references and bibliography. • Avoiding plagiarism. • Using correct grammar and vocabulary.	Student showed excellent ability in • Producing a well structured and organized report. • Correctly using references and bibliography. • Avoiding plagiarism. • Using correct grammar and vocabulary.

Step 3: SPECIFY A PLAN FOR TESTING THESE MEASURES THROUGH THE CURRICULUM

The DAC will now specify who's responsible for testing these measures within the curriculum. Usually a course will be assigned for each measure and the coordinator and course instructors will be responsible for conducting the measure and collecting the evidence. Note that in order to get useful results the sample size shouldn't be less than 15 students.

Continuing the example, here's the sample plan that was prepared by the DAC for implementing these measures. Although the two indicators that were chosen to measure this outcome were implemented in projects, others might use embedded questions within other assessment methods including

- Final exams.
- Midterms.
- Quizzes.
- Homework assignments.

A student successfully graduating from the program must be able to

Indicator (f)-1: Demonstrate effective oral communication skills and tools

Measures	Actions	Success Criteria	Responsibility/Time
(f)-1A Make oral presentation using effective nonverbal behavior (eye contact and movement)	Students are assessed in the senior project presentation according to rubric 1.	70% of the students score 3 or 4	ITCS 499 -Dr. Taher Homeed / Final project presentation
(f)-1B Speak clearly and uses appropriate technical terminology	Students are assessed in the senior project presentation according to rubric 1.	70% of the students score 3 or 4	ITCS 499 -Dr. Taher Homeed / Final project presentation
(f)-1C Use presentation tools/software and props/audio-visual equipment	Students are assessed in the senior project presentation according to rubric 1.	70% of the students score 3 or 4	ITCS 499 -Dr. Taher Homeed / Final project presentation

Indicator (f)-2: Demonstrate effective use of written communication skill and tools

(f)-2A Use correct grammar and vocabulary in written reports	Student's ITCS420 project reports are marked on this issue according to rubric 2	70% of the students score 3 or 4	ITCS 420 -Dr. Amjad Mahmood / Final project presentation
(f)-2B Write well structured technical report using correct structure of a technical report	Student's ITCS420 project reports are marked on this issue according to rubric 2	70% of the students score 3 or 4	ITCS 420 -Dr. Amjad Mahmood / Final project presentation
(f)-2C Correctly use and present literature and references	Student's ITCS420 project reports are marked on this issue according to rubric 2	70% of the students score 3 or 4	ITCS 420 -Dr. Amjad Mahmood / Final project presentation

Step 4: IMPLEMENT THE MEASURE AND SUMMARIZE THE RESULTS

The responsible course coordinator (with the help of the other instructors) will now implement the measure and grade it according to the assigned rubric and summarize the results. Evidence must be collected and filed to support the results according to the following procedure.

Procedure for implementing the measures

1. For each measurement for the performance indicators a question, assignment, or project within a suitable course will be given in the normal assessment of the students.

2. The question should then be approved by consulting with one of the DAC members to check if it fits the intended measure.

3. A sample of at least 15 student answers will then be marked according to the rubric and assigned a number from 1 to 4.

4. The responsible staff member will fill out the following form and enclose copies of the graded sample papers/student work (at least 15).

5. The form along with the graded assessment will then be submitted to the DAC committee to be reviewed and stored in the Performance Indicators file.

The following form should be used for summarizing the results of each measure. Note that in this case the evidence might be a video of the student presentations.

Measure Implementation Result Form

Program Outcome (f): *An ability to communicate effectively with a range of audiences.*			
Performance Indicator: *Indicator (f)-1: Demonstrate effective oral communication skills and tools*			
Measure: *(f)-1A Make oral presentation using effective nonverbal behavior (eye contact and movement)*			
Course: *ITCS499*	Semester: *2nd*		Academic year: *08/09*
Coordinator:	*Dr. Taher Homeed*		
Prepared by:	*Dr. Taher Homeed*		
Sample size:	*20*		
Results according to the associated rubric	Ranking	Count	Percentage
	1 (Poor)	*2*	*10%*
	2 (Fair)	*4*	*20%*
	3 (Good)	*8*	*40%*
	4 (Excellent)	*6*	*30%*
Total students who scored Good or Excellent.		*14*	*70%*

Success Criteria: At least 70% of students should score Good or Excellent.

Has this goal been achieved?   _X_ Yes   ___ No

If the answer is No, please outline some of the reasons why this goal has not been achieved.

1. _____
2. _____
3. _____
4. _____

Please attach copies of the marked imbedded questions and submit this form with the copies to the DAC committee.

_____   _____

Submission Date: Signature:

One of the most important information collected by the program will be the comments given by the course instructors and coordinator summarizing the reasons why a success criterion has not been met. The person responsible for filling out the summary form should try his best to include useful comments and improvements that might help the program reach its success criteria in the future.

Step 5: COLLECT THE RESULTS IN A SUMMARY REPORT OF ALL MEASURES AND PIS

Since the ultimate goal of this exercise is the assessment of the Program Outcomes, the results from the measures should be summarized by the program's DAC or the department in a summary report that is similar to the following table. To aid the programs in following up with this data, the QAAC will provide an online system for collecting these PI results summary. This will also aid in the measurement of the University's Intended Learning Outcomes (UILOs) and for providing decision makers and planners with information about the performance of the different programs within the university.

CSPO(f): An ability to communicate effectively with a range of audiences				
CSPI(f)-1	*Demonstrate effective oral communication skills and tools*			
Measures	**Course**	**Success criteria**	**Result**	**Sample size**
A- Make oral presentation using effective nonverbal behavior (eye contact and movement)	ITCS499	70%	83%	25
B- Speak clearly and uses appropriate technical terminology	ITCS499	70%	73%	25
C- Use presentation tools/software and props/audio-visual equipment	ITCS499	70%	55%	25
D- Respond well to questions	ITCS499	70%	75%	25
CSPI(f)-2	*Demonstrate effective use of written communication skill and tools*			
Measures	**Course**	**Success criteria**	**Result**	**Sample size**
A- Use correct grammar and vocabulary in written reports	ITCS420	70%	45%	20
B- Write well structured technical report using correct structure of a technical report (objectives, procedures, results and conclusions, graphs and tables correctly presented)	ITCS420	70%	65%	20
C- Correctly use and present literature and references	ITCS420	70%	73%	20
D- Uses appropriate software tools for producing a written report	ITCS420	70%	75%	20

COURSE PORTFOLIO DEVELOPMENT

Marinating a Course portfolio is a systematic mechanism for documenting teaching and learning activities. It is a proven and effective way of demonstrating excellence in both teaching and student learning. It provides an opportunity to investigate the intersection between pedagogy and learning and to determine relationships between what we do as teachers and what students do as learners. It also offers significant potential for the purpose of assessment, whether for the evaluation of departmental teaching performance during program reviews, or for accreditation purposes.

Through such a portfolio, faculty members document the design and execution of a particular course, including collection of student work, representing student activities, accomplishment and achievement over specific period of time. Once the portfolio data analysis is completed, some issues may be identified. The faculty may decide to change its rubrics to tune the assessment process, rephrase or update the course learning outcomes, change the course assessment methods, or open possibilities for reflection and formative feedback. The portfolio review process may lead to restructuring of the program curriculum, strengthening service courses, or the introduction of new pre-requisites. Accreditation bodies are particularly interested in this process for overall review and data driven decision-making.

The components of a course portfolio might be difficult to standardize for each program at UOB. But, the QAAC has developed a minimum course portfolio contents to satisfy both the national and international quality assurance requirements. The value of a course portfolio results from highlighting essential features of a course. If it includes every scrap of instructional and assessment material or student works the overall effect can be numbing, instead of informing.

THE CONTENTS OF THE COURSE PORTFOLIO

Based on this justification, QAAC has developed the following minimum course portfolio contents.

1. Checklist

The portfolio begins with checklists, which are intended to help remind course coordinator or instructor to place material into the portfolio as well as to let others know what information have been placed in the course portfolio.

2. Course Syllabus

The course syllabus should follow the QAAC template. Detailed Syllabus breakdown, including assignment schedule date, and grade distribution, should also be included.

3. Course Assessment

The assessment part includes the followings:

3.1 Mapping of CILO's to PILO's

3.2 Mechanisms used to assess student learning

3.3 Assessment results: refers to student performance based on learning outcomes, which should rely on evidence of student learning and may include demonstrated competencies, understandings, and skills

3.4 Faculty personal reflections including discussion and analysis of the assessment results

3.5 Future plans of improvements and recommendations

4. Grade Distribution Sheet

A Copy of the grade distribution sheet.

5. Assignments and Exams

The original copy of assignments, including exams, projects, lab reports, term papers, home works, etc.

6. Sample of Graded Assignments

Three samples of graded students work (high, average & low performance) should be maintained in the course portfolio for at least two consecutive semesters. Old collected material from previous semester should be removed to avoid piling of papers. An e-portfolio is preferred if it could be well maintained by the academic program. Whenever necessary, more than one folder should be used for a single course.

Students graded work includes, (but not limited to): Final exam, tests, quizzes, project reports, term papers, presentation, home work, etc.

Courses with multiple instructors

The QAAC recommendation is for each instructor to contribute to their course's portfolio. One instructor (or the course coordinator) may be designated to create or revise the portfolio, but all instructors should collaborate in the process. Every instructor should assess his own section and provide course assessment sheet. If the assignments and exams are completely independent, then every section should have its own file.

Service or Cross-listed Courses

The QAAC recommends that the "home" program (i.e. the department offering and maintaining the course) of service or cross-listed courses be responsible for those course portfolios. The program using this service course can then obtain a copy of the portfolio and can collaborate with the home program with regards to the assessment of the course intended learning outcomes.

THE SELF-EVALUATION REPORT (SER)

In order to document and summarize the program's assessment results, the department responsible for the program will produce a self-evaluation report (SER) that analyzes and reviews the academic performance of the program. This report will provide periodic feedback to decision makers and the constituencies about the effectiveness of the program and will be the basis for the improvement plan.

When writing the SER, the department should keep in mind that this is the culmination of the assessment process. A good self-evaluation report should satisfy the following requirements:

1. **Balanced:** The SER should reflect strengths as well as weaknesses and areas for improvement. Being a self-evaluation it should be frank and reflective of the department and program to be effective.

2. **Summarized:** The writing should be as concise as possible.

3. **Evaluative:** The report should keep description to the minimum necessary to explain the context.

4. **Evidence-based:** Each evaluative comment should be substantiated by evidence (and sources of evidence are referenced).

5. **Clear and Illustrative:** The write up should make effective use of graphs and tables to minimize words and add clarity to the analysis.

6. **Consistent:** Although many staff members might participate in the write-up process, the tone and conclusions should be reviewed for consistency.
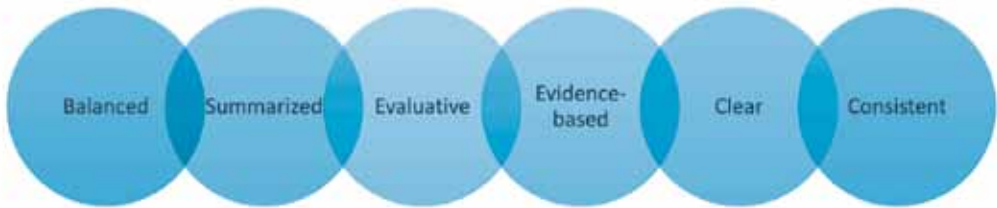
Figure 4-4. Elements of a good Self-Evaluation Report (SER)

The reporting process should consider the following:

1. Any contextualization needed for the audience of the report. For example, it might be necessary to mention normal practices or guidelines within the academic discipline; or discuss local Bahraini context that might affect the program.

2. Improvements that are already in place (sometime called wet-paint, the report may include any actions or improvements that are in the processes of being implemented, as long as they are genuine).

3. Evidence of outcomes and performance measures. Any evaluation should be done based on the program objectives and outcomes that have been developed by the department and constituencies.

4. Areas of strength and best practice cases.

5. Areas of improvements and weaknesses discovered by the assessment or the analysis of the results.

6. Priorities of actions within the improvement action plan.

Since compliance with national QA regulations is one of the main functions of the QAAC, the following proposed structure of the SER is mainly based on the structure proposed by the QAAET's Program Review Handbook version 1.0. However, some amendments have been made to cater to the quality assurance needs of the University of Bahrain. Some ideas have also been adopted from a recent version of the ABET Self-Study Questionnaire.

The following are the main sections of the SER with questions or comments to describe the contents of each section.

Self-Evaluation Report Structure

The following is a proposed structure for the self-evaluation report. Some notes and questions have been included to help the authors in the contents of each section.

1. **Title Page:**
    a. The university and QAAC logo.

    b. Displays the program name, department, and college.

    c. The date the report was prepared.

2. **Introduction:**
    a. Brief background history of the program.

    b. The College and Department mission statements.

    c. The program constituencies.

    d. The Program Educational Objectives (or Aims).

    e. Context of the program.

    f. Last date program was amended/reviewed.

    g. Method and model used for periodic review of the program.

    h. Method used to collect evidence for review.

3. Curriculum:

a. Program Educational Objectives

- Does the program have clear PEOs?
- Are they used to inform all aspects of the program?
- Are they still relevant to the constituencies?

b. Intended Learning Outcomes

- Program Intended Learning Outcomes
  - o Do the PILOs relate to the PEOs?
  - o Do the PILOs relate to the UILOs?
- Course Intended Learning Outcomes
  - o Do the CILOs contribute to the PILOs?
- Syllabus
  - o Provide information about the course syllabus and its structure.
  - o Does content and organization of the syllabus match the emerging needs of the constituencies?
  - o Are teaching and learning methods aligned with international trends and the student profile?
  - o Do the assessment methods match the PEOs, PILOs, and CILOs?
  - o Do the process of marking and verifying results provide high confidence?
  - o Are the students provided with prompt and enough feedback on their performance?
- Assessment of the PILOs
  - o Assessment plan including Performance Indicators, Measures, and Success Criteria.
  - o Summarize the results of the implementation of the assessment plan.
  - o Analyze the data collected regarding the Performance Indicators.

4. **Efficiency and Resources:**

   • Summarize the program's faculty including teaching load.

   • Summarize other support staff available for the program.

   • Program facilities such as lecture rooms, laboratories, multimedia rooms, etc.

   • Does the program have the best possible profile of academic and non-academic staff?

   • Are the physical resources deployed efficiently?

   • Are there enough supporting resources such as the library and e-learning facilities?

   • Are the trends in the ratio of the graduates to admission and other ratios favorable?

   • Summarize the results from the senior exit survey and other students' surveys regarding the resources.

5. **Academic Standards:**

   • Are the program's external reference points valid?

   • Is the program producing graduates with subject specific and general skills and knowledge required by the community in sufficient numbers?

   • Is the program producing graduates with the required University Intended Learning Outcomes?

   • Does the program have or is seeking accreditation?

6. **Effectiveness of the Quality Assurance Process:**

   • Is the internal system for quality assurance working effectively and providing continuous improvements of the program?

   • Are engagements with the stakeholders and constituencies providing high value information?

   • Do the current arrangements promote confidence in the quality of the academic standards?

   • Is there an effective strategic approach to ensure that changes to the program are matched by appropriate developments in the resources and other components of the infrastructure?

7. **Conclusions and Recommendations:**

   a. Highlight good and best practices within the program.

   b. Identify the needs for medium and long term improvements.

   c. Identify the main recommendations for the future of the program

   d. Recommendations may cover any factors that contribute to the program including supporting units, or internal factors such as staff and curricula

8. **Appendix A. Improvement Action Plan**

   a. Program name:

   b. Academic year addressed by the improvement plan

   c. Date:

   d. Person responsible for follow up:

   e. A table containing the following information:

   - Priority

   - Action Proposed

   - Individual Responsible

   - Action Start Date

   - Action Completion Date

9. **Appendix B. Program Faculty CVs and profile.**

EFFECTIVE USE OF ASSESSMENT RESULTS

The best use of assessment results is to share it with faculty members and constituencies and use the information as a tool for facilitating discussion about the continuous development and improvement of the curriculum or degree program. It should be used to justify things that are working well in the program or curriculum and to identify areas for development or improvement. Assessment information is of little value unless it is shared with appropriate audiences and used in meaningful ways. For this reason, all academic programs are asked to describe uses of assessment results in their annual reports.

At the program level, the dominant reason for assessing student performance is to help guide analysis, discussion and decisions regarding improving curriculum and instruction. In developing a program assessment plan, each program has clearly stated its educational mission and objectives along with its student intended learning outcomes and associated performance indicators and assessment methods. The mission and learning outcomes serve as reference points for evaluating the curriculum, while data gathered in assessing the performance indicators provide evidence of achievement. The assessment plan is the product of the faculty and the evaluation and use of results should be as well.

In most instances, program faculty will review assessment results once or twice a year at faculty meetings. Student performance on all outcomes will prompt discussions about what is working well and should be continued or expanded, as well as outcomes where students' performance is below expectations. Discussions about what, if any, program modifications can and should be made, along with decisions regarding actions to be taken will be made at these meetings. In some cases, a change in the program assessment plan may be indicated, in others a change in some aspect of the curriculum may be deemed appropriate. It is a program-level decision. Programs are asked to complete a report at the end of each academic year and to submit that report to the QAAC. The report will summarize the extent to which students have achieved each of the program's student learning outcomes. The QAAC will provide results of graduating Senior Exit Survey, Faculty Survey, alumni and employer surveys. University level data will be disaggregated to the program level, as well as at the departmental, college and support unit's levels.

The intention of the QAAC is to provide an online database that includes the above data along with considerable data from the University's student and faculty information system database. All of this information will be available to programs through the online database. Programs will be able to query any and all of these related data and receive a summary report in a few minutes. This process helps transform data into customized information that should be very useful for faculty discussions about program improvement. The database will grow as new data are obtained and updated, thereby permitting analyses of changes over time as well.

SOME INTENDED USES OF ASSESSMENT RESULTS
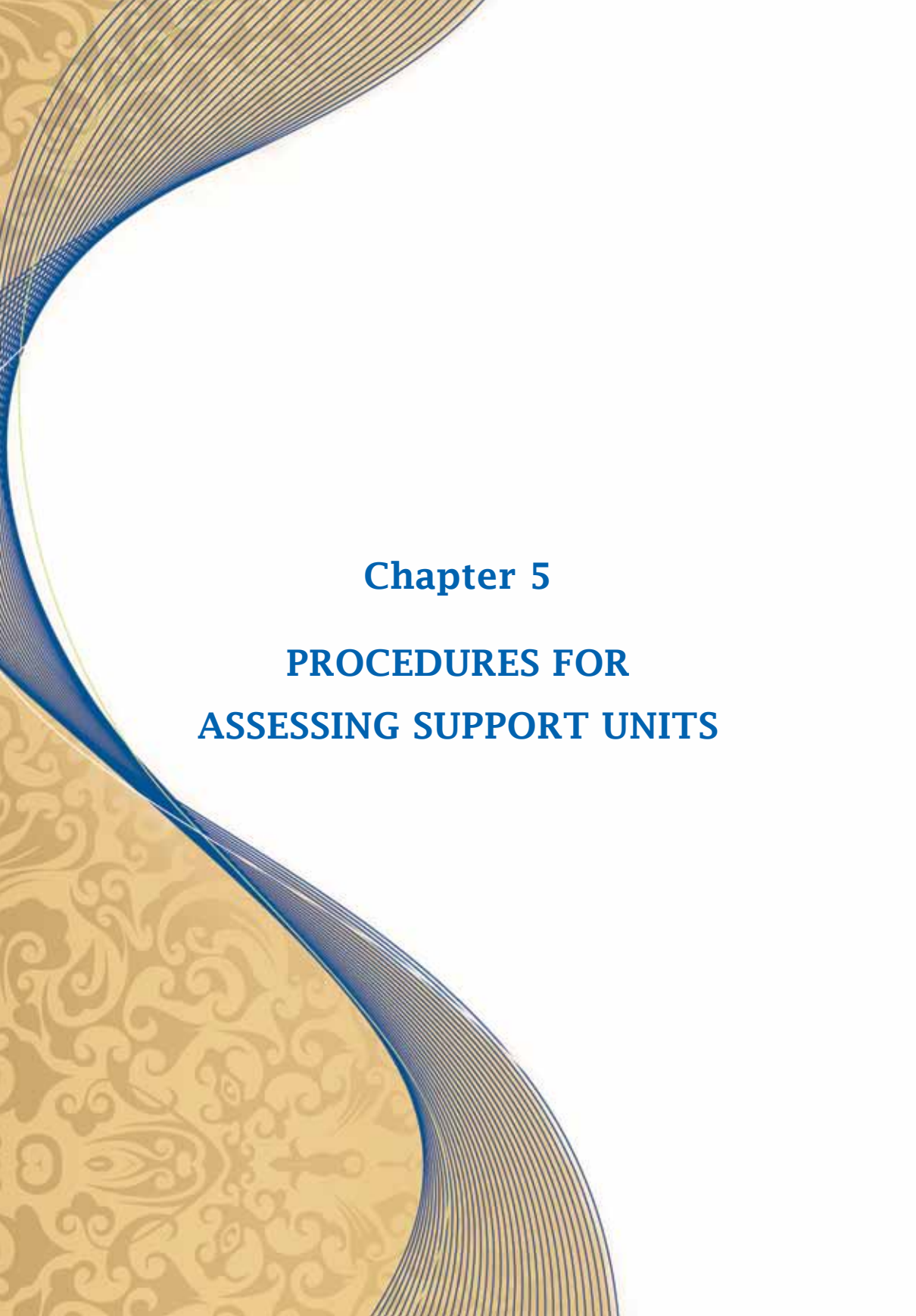
The following are all valid results of the use of the assessment results. These are the ultimate goal of doing assessment, namely improvements in the curriculum structure, courses, faculty development, etc. The following list is not an exclusive one, and the department or reviewers can probably add more uses for the results.

- Changes in course content.

- Addition / deletion of courses or changes in course sequences.

- Changes in degree requirements or degree sheet options.

- Changes in emphasis for new or vacant faculty positions.

- Facilitate curriculum discussions at faculty meetings, and curriculum meetings.

- Use of assessment information to guide changes in degree programs and development of new degree program options.

- Changes and to show program improvement resulting from those changes.

- Changes in advising processes.

- Development of academic services for students.

- Changes to student academic facilities such as computer labs, sciences labs, and study areas.

- Sharing assessment information to alumni and Program Industrial Advisory Committee.

- Further refine the assessment methods or to implement new assessment methods.

Chapter 5

PROCEDURES FOR ASSESSING SUPPORT UNITS

5

Development of
an online Quraan
center system

project objectives:

UOB

ONLINE COMPUTER S

PROCEDURES FOR ASSESSING SUPPORT UNITS

Administrative and support units are any deanship, department, or unit that is not directly involved in offering academic programs within the University. This includes units that are directly connected with the learning process within UOB such as the Deanship for Scientific Research, Deanship for Student Affairs, Deanship for Admission and Registration, the Library, and the eLearning Center; but also include other units which play a supporting role such as the Maintenance Department, Financial Departments, the IT Center, and Human Resources. These support units play a vital role in enabling the University to accomplish its mission and be successful in its core function of learning, research, and community service.

However, as these units are not directly offering academic programs, the outcome-based assessment method presented in the previous chapters is not directly applicable in ensuring their quality and performance. In this chapter we outline an excellence model that has been adopted from the Bahrain Excellence Model (similar to the EFQM model) as well as some of the Malcolm Baldridge Excellence Model to help these units in excelling in supporting the learning process. The model is supported by a process which includes self-evaluation and improvement planning and is outlined in the following sections.

THE PROCESS

The overall process for assessing such units includes the following steps:

1. Define a mission statement that is aligned with the University mission.

2. Determine the stakeholders and the beneficiaries of the service provided by the unit.

3. List unit's objectives and map them to the university mission and the needs of the stakeholders.

4. Determine Performance Indicators for each objective and specify success criteria.

5. Create a plan for measuring the Performance Indicators.

6. Examine the results and write a Self-Evaluation Report.

7. Produce and Improvement Action Plan.

Figure 5-1. Process overview

THE BAHRAIN EXCELLENCE MODEL CRITERIA

In order to facilitate the implementation of this process an excellence model has to be adopted which will guide the units with its criteria. The following model was adopted from several excellence models (including those developed by the Bahrain Center for Excellence and The Baldrige Educational Excellence Criteria) to be used for review and self-evaluation by the University of Bahrain's supporting units. The criteria can be used in guiding the unit for writing its self-evaluation report.

The following figure shows the overall model categories. The questions below will also aid the unit in the SER write-up, and the template below shows one way of starting to collect information on the unit by filling the self-analysis worksheet by identifying the unit's strengths or **opportunities for improvement** (OFI) in each category.
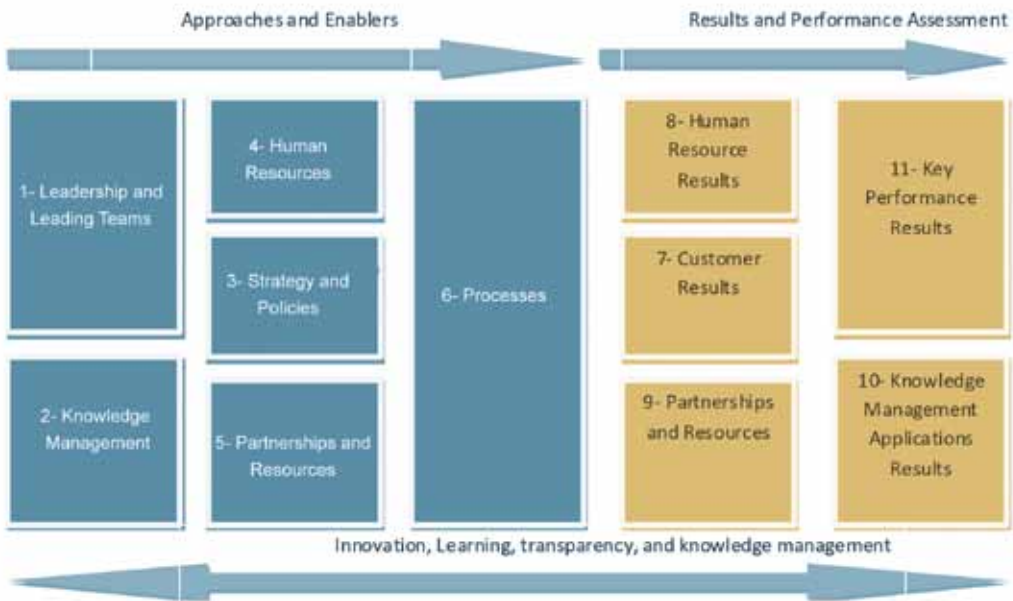
Figure 5-2. The Bahrain Excellence Model – Bahrain Center for Excellence

Approaches and enabler criteria

1. Leadership and Leadership Teams

It is the ability to develop effective leadership and leadership teams that possess excellence qualities and apply continuous improvement, dealing with stakeholders, rewarding effective efforts, possess a studied approach of change management through establishment, development and effective personal involvement in the improvement activities.

1.1 Clarity of vision and development of role models toward excellence

1.2 Establishment and application of sustainable approaches

1.3 Engage/deal with customers and stakeholders

1.4 Reward and encourage effective efforts

2. Knowledge Management

Applications, approaches and mechanisms that are employed for knowledge management, exchange and knowledge empowerment.

   2.1 Planning to launch initiatives and strategy for the application of knowledge management

   2.2 Identification and management of knowledge assets

   2.3 Knowledge management and exchange

   2.4 Knowledge management in the organizations today and in the future

3. Policies and Strategy

This criterion reflects the approach of preparing policies and strategic plans, including the applications of updating and improvement.

   3.1 Approaches for developing the strategic plan

   3.2 Comprehensiveness of planning and strategy information

   3.3 Implementation of the strategic plan

   3.4 Updating and improving the strategic plan

4. Human Resources

Planning, development and evaluation of the human resources while focusing on the importance of Bahrainisation in all jobs and with appropriate competencies, with attention to creative initiatives and measurement of the staff satisfaction, as well as approaches for excellent human resources care and reinforcing the team spirit.

   4.1 Human resources planning

   4.2 Human resources development

   4.3 Human resources evaluation

   4.4 Communication between the organization and human resources

   4.5 Reward, recognition and care for human resources

   4.6 Recruit and maintain the outstanding employees

5. Partnership and Resources

A number of approaches, mechanisms and initiatives for resource management (management

of technical resources, financial asset management, portfolio management, government facilities management, and supplier management) and partnerships with other public/private sector organization and community partnership.

5.1 Define the requirements of organizational partnership

5.2 Initiatives toward the management of organizational partnerships

5.3 Types and initiatives of community partnership management

5.4 Efficiency of financial management

5.5 Resource, buildings, equipment and materials management

5.6 Technology management for ensuring sustainability of the pursuit for excellence

5.7 Supplier management for achieving creative projects

6. Process Management

Approaches that involve the design and improvement of the key processes and documentation of work systems, streamlining procedures, product development and innovation in the provided services and customer service.

6.1 Identification, management and design of key processes

6.2 Implementation of process improvement approaches and streamlining procedures

6.3 Applying change management in processes improvement

6.4 Innovation in the field services provided to customers and stakeholders

6.5 Use of e-government and Internet technology in providing services

Results, outcomes and performance assessment criteria

7. Customers Results

Monitoring the availability of measures of the customer's expectations and satisfaction of services.

7.1 Provide measures for measuring customer perceptions

7.2 Measurement of customer satisfaction indicators

8. Human Resources Results

This criterion monitors the success of professional development plans and development of

human resources, and the extent of (delegation of authority) devolution of powers, equal opportunities and participation of employees in decision-making, and the extent of satisfaction with the work environment, facilities and services, job security, salaries and benefits with the job requirements and incentives, and the extent of satisfaction with superiors relations and learning methodologies.

8.1 Provide measures for measuring human resources perceptions

8.2 Measurement of human resource satisfaction indicators

9. Community Partnership Results

The extent of commitment of serving the community and embodying national and transparency ethics, cooperation and coordination among public sector organizations, and the impact on the national economy and the commitment to the environment, safety and equality between the sexes and persons with special needs.

9.1 Provide measures for measuring community partnership perceptions

9.2 Measurement of community partnership indicators

10. Knowledge Management Applications Results

Monitors the prevalence of the culture and application of knowledge management and e-government applications, the implementation mechanisms, and the extent of the organization's contribution to the national economy and the extent of direct and indirect support toward the knowledge economy.

10.1 Provide measures for measuring knowledge management applications perceptions

10.2 Measurement of knowledge management applications indicators

11. Key Performance Indicators Results

It is criterion that monitors the path of excellence outcomes and success in the management of financial resources, property and new technologies and benefit information, (time to market) the time it takes to access the service and speed in dealing with government requirements, learning and innovation in the organization.

11.1 Extent of existing approaches to measure the key performance outcomes of the organization

11.2 Measurement of the key performance indicators

PROCEDURE FOR SELF-EVALUATION

RADAR

At the heart of the Bahrain Excellence Model lies the RADAR logic. RADAR is an acronym for Results, Approach, Deployment, Assessment and Review. It can be used as a tool to plan and access the opportunities for improvement. RADAR logic can be seen graphically in figure …
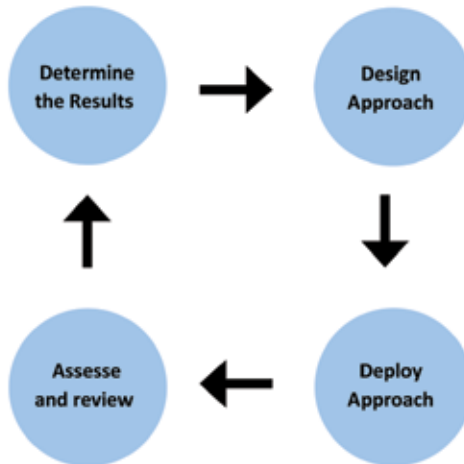
Figure 5-3. RADAR

- **R**esults: How 'Excellent' is the unit?
- **A**pproach: How 'Effectively' are the activities organized?
- **D**eployment: How 'Efficiently' are activities organized?
- **A**ssessment: How is 'Evaluation' of activities organized?
- **R**eview: How is 'Enhancement' of activities organized?

Enable → Approac → Sound, Integrated

Enable → Deployme → Implemented, Systematic

Enable → Assessment &Review → Measuring and Assessment, Learning, Improvement

Result → Result → Trends, Targets, Comparisons, Causes, Scope
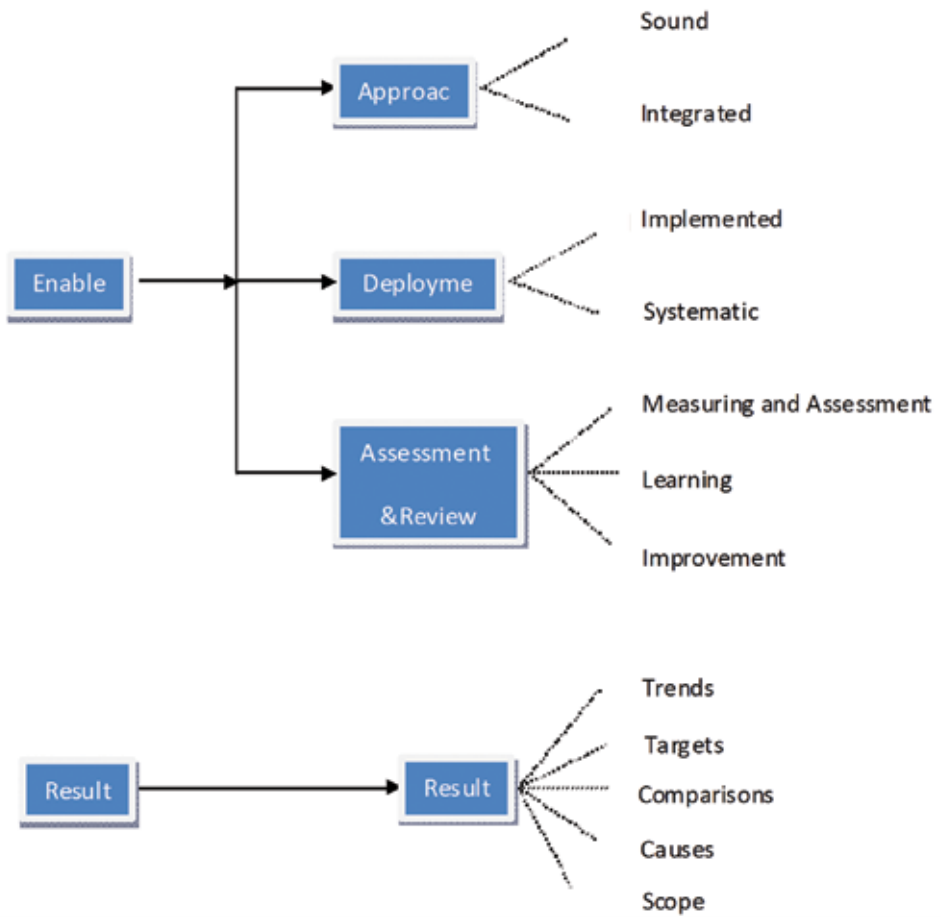
Approach "A"

- The Approach is good if it:

  - is sound and shows common sense.

  - well integrated with other PMS.

Deployment "D"

- The Deployment is good if it:

  - Done systematically.

  - Properly implemented.

Assessment & Review "A" & "R"

- The Assessment and Review mean that:

  - The critical areas are measured.

  - Decision based on facts.

  - Learning takes place.

Results "R"

- Results are better if:

  - they constantly show good performance.

  - the trends in the results is positive.

  - they are good relative to own objectives.

  - they are good relative to external benchmarks.

  - they relate to all processes.

  - they relate to all divisions, departments, sections, services.

STARTING A SELF-ANALYSIS EXERCISE

The following self-analysis worksheet can also be helpful in preparing both the Self-Evaluation Report (SER) and the units' Improvements Action Plan. This sheet can then lead to further analysis and the creation of an action plan to implement the improvements as well as using it as the basis for writing the self-evaluation report for the unit. The sheet was adopted from the Malcom Baldridge program for excellence (for information visit: http://www.nist.gov/baldridege/)

Criteria Category	Importance High, Medium, Low	For High-Importance Areas			
		Stretch (Strength) or Improvement (OFI) Goal	What Action Is Planned?	By When?	Who Is Responsible?
Category 1—Unit's Organizational Profile					
Strength					
1.					
2.					
OFI					
1.					
2.					
Category 2—Strategic Planning					
Strength					
1.					
2.					
OFI					
1.					
2.					
Category 3—Customer Focus					
Strength					
1.					
2.					
OFI					

Criteria Category	Importance High, Medium, Low	For High-Importance Areas			
		Stretch (Strength) or Improvement (OFI) Goal	What Action Is Planned?	By When?	Who Is Responsible?
1.					
2.					
Category 4—Measurement, Analysis, and Knowledge Management					
Strength					
1.					
2.					
OFI					
1.					
2.					
Category 5—Human Resource Management					
Strength					
1.					
2.					
OFI					
1.					
2.					
Category 6—Process Management					
Strength					
1.					
2.					

Criteria Category	Importance High, Medium, Low	For High-Importance Areas			
		Stretch (Strength) or Improvement (OFI) Goal	What Action Is Planned?	By When?	Who Is Responsible?
OFI					
1.					
2.					
Category 7—Results					
Strength					
1.					
2.					
OFI					
1.					
2.					

Chapter 6

THE ASSESSMENT INFORMATION MANAGEMENT SYSTEM (AIMS)

The Assessment Information Management System (AIMS)

INTRODUCTION

The Assessment Information Management System (AIMS) is an online central repository of the assessment data for all programs at the University of Bahrain. It is accessible throughout the University network and on the Internet. The repository includes updated information about the learning outcomes at all levels of the educational experience within the University of Bahrain. Furthermore, it is the main information system for providing evidence-based excellence in learning and for managing the data needed by quality assurance and accreditation agencies.

AIMS INTERFACES

AIMS has two interfaces: a public interface and an internal one. The public interface (also called Guest View) allows visitors who access the website at http://qaac.uob.edu.bh/aims/ to select Active academic programs that are Published by UoB colleges and then to view these programs information.

Figure 6-1. AIMS Home Page - Public Interface

When a visitor selects a program, he/she have the opportunity to obtain any needed information regarding a single program, starting from University's Mission to the courses contained in this program along with their syllabus. More significantly, the published data also includes the relevant objectives and learning outcomes that are of importance to the constituencies and stakeholders of the academic programs.

Figure 6-2. Single program public page

The second interface is the internal one, and it is mainly used by QAAC and QAO, and the Academic Department. This interface or view requires an authorized username and password to use the different AIMS functions.

AIMS uses a concept of Roles (defines the set of tasks a user is allowed to perform); designed to give the system administrator the ability to control and assign what users can and cannot do. AIMS has four pre-defined Roles: Administrator, Dean, QAO and Department. Nevertheless, any new role and role's privileges can be created and managed dynamically. Every user has a list of departments (listed under User Departments) where he/she can perform his/her role. When an AIMS user logs in, the first page he/she will see is the account dashboard, and it's appearance will be different according to the user's role. AIMS dashboards are meant to be used as a monitoring tool, and were designed to keep users on top of the vast amounts of information. Beside it can be a used as a shortcut to gain access to specific information which increases information accessibility for authorized users.
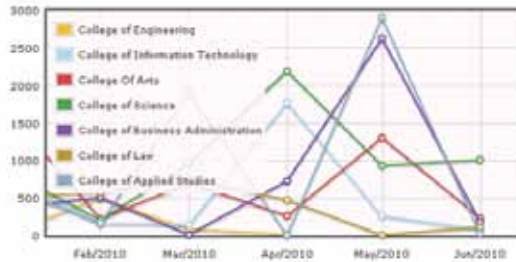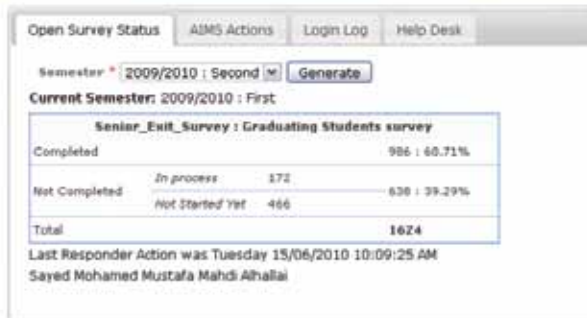
Figure 6-3 (a). Administrator Dashboard

Figure 6-3(b). Administrator Dashboard

AIMS PROJECT HISTORY

The AIMS project was started in July 2009 and developed in the QAAC. In October 2009, AIMS was deployed on the server. However, AIMS developments and enhancement is an ongoing process. After AIMS deployment a series of workshops were conducted to train and support users in UOB. Several tools were developed to support users in 7 colleges such as a help desk system to report user's problems and suggestions and track their requests. Furthermore, a handbook titled "AIMS User Guide Manual and Standard Operational Procedure (SOP)" was designed to guide and assist AIMS's users.

AIMS STRUCTURE

AIMS is an enterprise online system that serves QA processes in multiple layers starting with University Intended Learning Outcomes (UILOs) and ending at the Course Intended Learning Outcomes (CILOs). AIMS facilitates monitoring and tracking the updates on the level of college, department, academic programs and even that program versions which is an edition of an academic program applied to students of a program from certain year. Usually a new version is added when program curriculum is changed. Moreover, AIMS aids faculty in examining a program and program version assessment (e.g. stakeholder surveys) results over the years.

The following figure illustrates AIMS's structure:

Figure 6-4. AIMS Hierarchy Chart

AIMS FUNCTIONS

The system is a repository for all information needed for assessing the programs as well as the results of surveys and direct assessment. The major capabilities of AIMS can be summarized as:

1. Managing academic program specification and program versions including :

    a. Program's Educational Objectives (PEOs).

    b. Program Intended Learning Outcomes (PILOs) and it's mapping with UILOs, PEOs and Domain.

    c. Program QA committees' (i.e. PAC, SAC, DAC) members, meetings.

    d. Program societies' events and event gallery.

    e. Program stakeholder (or constituency) representatives.

    f. Program curriculum, including course specification, outcomes and assessment.

2. Managing the faculty's online profile and CV for different programs.

3. Conducting online surveys that are dynamically created, since these surveys are university-wide surveys, AIMS support a standardized set of questions with the ability to add a program's custom questions where only program's responders can answer them. These surveys including:

    a. The Senior Exit Survey which is implemented with the aid of an integrated interface with the Registration Department's online system.

    b. The Faculty Survey which is conducted with cooperation with HR online System.

    c. The Alumni Survey that is implemented by sending alumni a custom email with all information to do the survey and is usually administered by the departments or program owners.

    d. The Employer Survey uses the same method as the Alumni Survey.
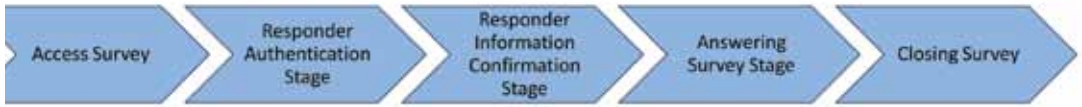
These survey's responders go through the following stages:

Figure 6-5. Survey responding process

AIMS enables survey responders to pause filling a survey and return back to it starting from the section he/she left.

4. Generate various customizable reports in many formats (Web, PDF, MS Excel) and in different levels (i.e. University, College, Program and Program Version).

5. Provide tools and dashboards that display information in easy-to-understand visual representations to help users be on top of their program's progress. These tools transform raw data into usable charts and graphs. "Survey Result Summary" and "Maturity Chart" are just example for these tools.
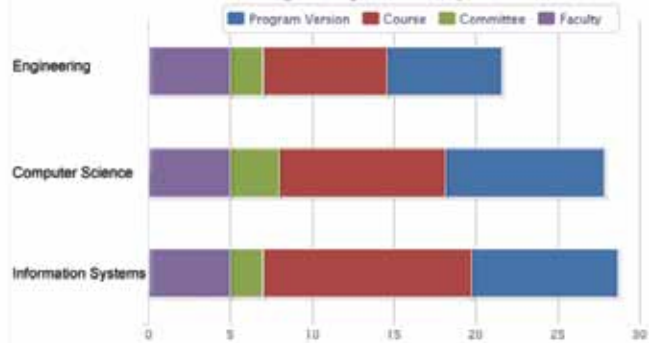
Figure 6-6 (a). College's Programs Maturity Chart

Figure 6-6(b). College's Programs Maturity Chart

Figure 6-7. The Survey Results Summary Tool

Demographic characteristics of Survey Sample (Gender)

Count of Responder

Male
Female

Demographic characteristics of Survey Sample (GPA)

Legend:
- GPA Average
- GPA Average Female
- GPA Average Male

Category	GPA Average	GPA Average Female	GPA Average Male
Applied	2.29	2.29	2.3
Law	2.56	2.58	2.46
IT	2.62	2.64	2.58
Education			2.67
Science	2.64	2.63	2.64
Engineering	2.76	2.94	2.66
Business	2.78	2.81	2.69
Arts	2.55	2.54	2.59
UOB	2.6	2.61	2.57
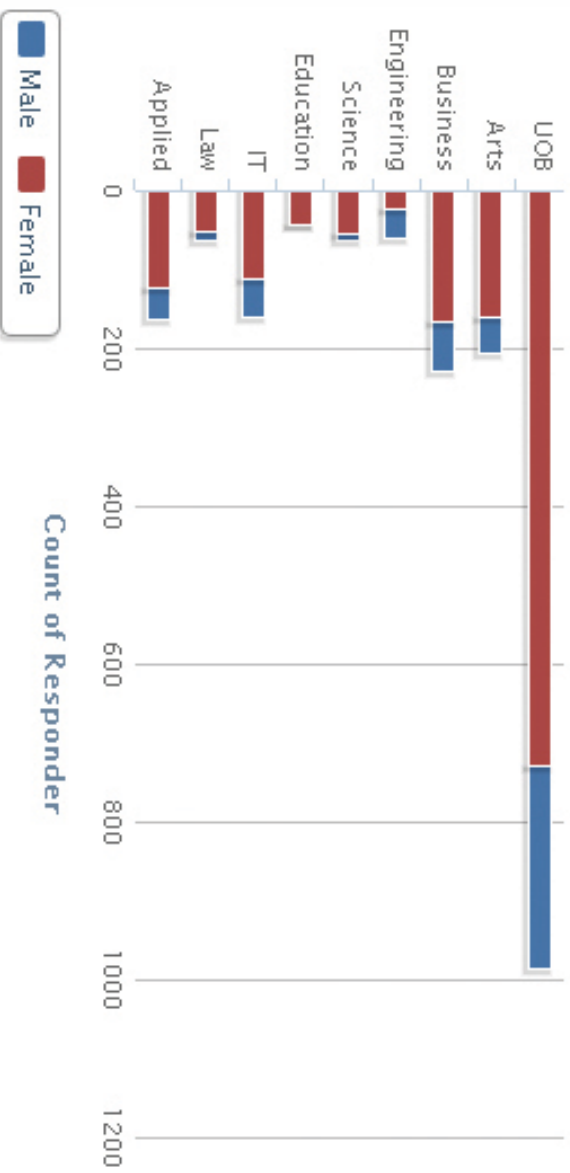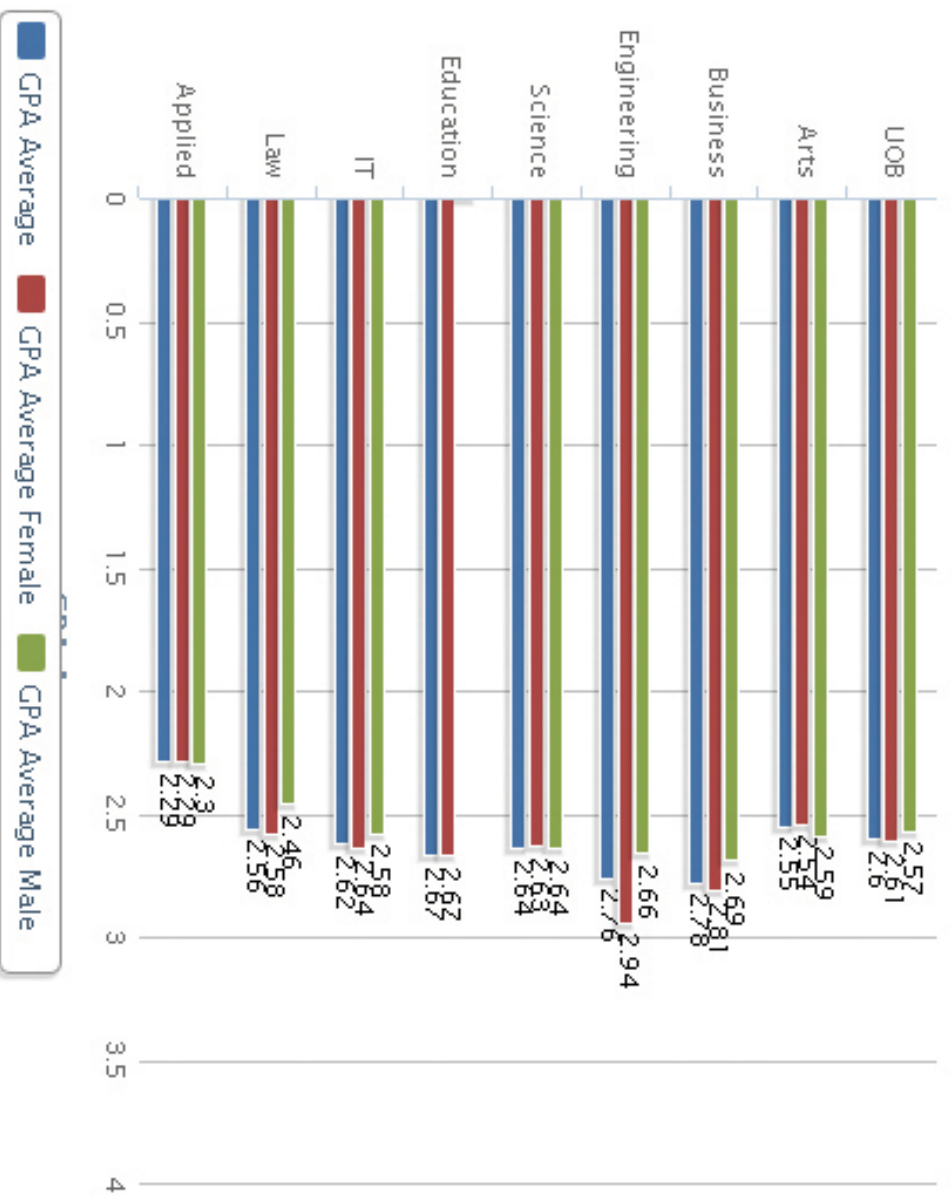
Do you currently have at least one job offer?

College Yes Percentage   ■ Yes   ■ No

College	Yes Percentage
Applied	31.29
Law	32.26
IT	35.22
Education	56.82
Science	22.58
Engineering	33.9
Business	38.26
Arts	37.68
UOB	35.7
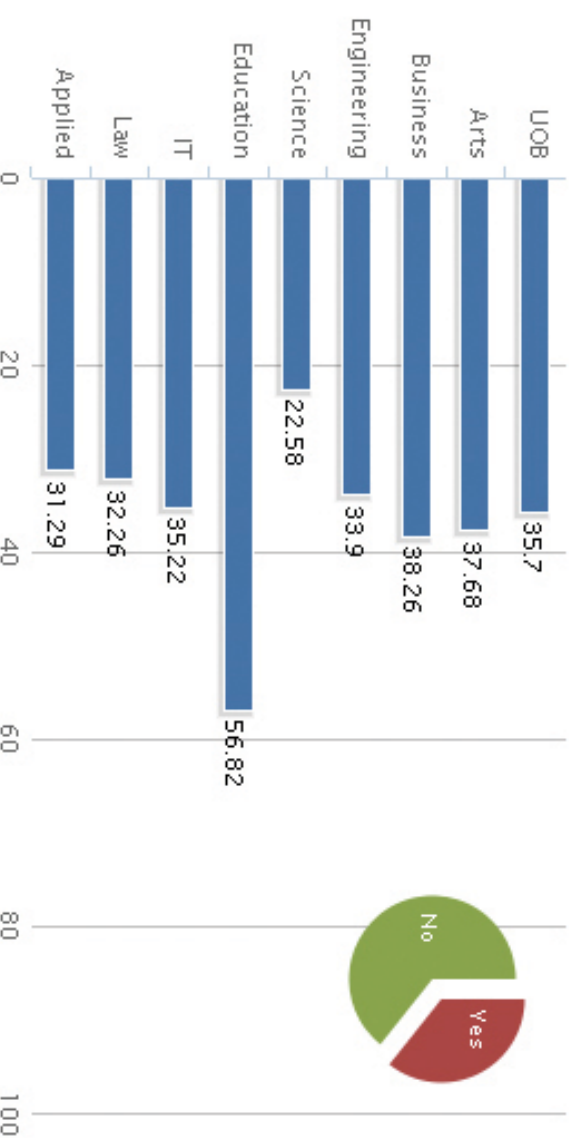
Total Questions Responds: 986 Responds
UOB Question [Yes] Responds: 35.70 %
UOB Question [No] Responds: 64.30 %
College of Maximum [Yes] Responds : Education : 56.82 %
College of Minimum [Yes] Responds : Science : 22.58 %

APPENDIX

APPENDIX A-1
QAAET PROGRAM REVIEW INDICATORS

1. Curriculum

The program complies with existing regulations in terms of the curriculum, the teaching and the assessment of students' achievements; the curriculum demonstrates fitness for purpose.

1.1 The program has clear aims (that is, the broad purposes of providing the program) that relate to the missions of the institution and the faculty and comply with the Higher Education Council's regulations.

1.2 Intended learning outcomes are expressed in program and course specifications.

1.3 The syllabus (curricular content) is accurately documented in terms of breadth, depth, relevance, appropriate references to current and recent professional practice and published research findings.

1.4 The curriculum is organized to provide academic progression year-on-year, suitable workloads for students, and balances between knowledge and skills, and between theory and practice.

1.5 Teaching and Learning approaches are adopted which support the attainment of aims and intended learning outcomes; these approaches relate to the range of methods, participation in learning by students, exposure to professional practice or applications of theory, encouragement of personal responsibility for learning and the development of the habit of self-learning or independent learning after graduation.

1.6 Suitable arrangements are in place, and known to all faculty and students, to assess students' achievements; these arrangements address formative and summative functions with clear criteria for marking, appropriate mechanisms to provide students with prompt feedback on their progress and performance that assists further learning, a match of what is assessed to the program aims and intended learning outcomes, and mechanisms for ranking students' achievements with fairness and rigor.

2. Efficiency of the program

The program is efficient in terms of the use of available resources, the admitted students and the ratio of admitted students to successful graduates

2.1 The profile of admitted students matches the program aims and available resources.

2.2 Faculty members and others who contribute to the program are adequate in quantity and the range of academic qualifications, relevant professional experience and profile of recent and current academic research and teaching or educational development match the program aims and curricular content.

2.3 Physical and material resources are adequate in number, space, style and equipment; these include classrooms, teaching halls, laboratories and other study spaces; IT facilities, library.

2.4 The students make appropriate use of the available resources.

2.5 Arrangements are in place for orienting newly admitted students (including those transferring from other institutions with direct entry after Year 1) and for ensuring that all students receive appropriate continuing guidance and support.

2.6 The ratios of admitted students to successful graduates including rates of progression, retention, year-on-year progression, length of study and first destinations of graduates, are sound.

3. Academic standards of the graduates

The graduates of the program meet acceptable academic standards in comparison with equivalent programs in Bahrain and worldwide

3.1 Academic standards are clearly stated in terms of aims and intended learning outcomes for the program and for each course.

3.2 Benchmarks and internal and external reference points are used to determine and verify the equivalence of academic standards with other similar programs in Bahrain and worldwide.

3.3 The level of achievements of graduates meet program aims and intended learning outcomes,

as expressed in final results, grade distribution and confirmation by internal and external independent scrutiny.

3.4 The level of achievements as expressed in samples of students' assessed work is equivalent to similar programs in Bahrain and worldwide.

4. Effectiveness of quality management and assurance

The arrangements in place for managing the program, including quality assurance, give confidence in the program, if:

4.1 The institution's policies, procedures and regulations are applied effectively.

4.2 There are arrangements for regular internal review and reporting.

4.3 The structured comments collected from, for example, students' and other stakeholders' surveys are analyzed and the outcomes are used to inform decisions and made available to the stakeholders.

4.4 Improvement planning and other mechanisms for continuing improvement are demonstrated.

4.5 The arrangements for identifying continuing professional (staff) development needs and meeting them are effective.

There are adequate records of the development and conduct of the program, including the impact of the most recent improvement plan(s).

APPENDIXA-2
QAAET INSTITUTIONAL REVIEW INDICATORS

Theme I: Mission, Planning, and Governance

Indicator 1 "The institution has higher education as its primary purpose and a clearly stated mission that is relevant to the institution's national and international context, together with a sound strategic planning process."

Indicator 2 "The governance of the institution demonstrates sound management practices that emphasize the maintenance of a high standard of academic achievement and academic culture."

Indicator 3 "The institution has a clear organization and management structure and opportunities for student participation in decision-making."

Indicator 4 "The institution has a comprehensive suite of policies and regulations for academic conduct and administrative operations."

Indicator 5 "The institution protects and promotes academic and financial integrity in all its operations."

Theme II: Academic Standards

Indicator 6 "The institution's programs and credit hours accord with the Bahraini qualifications framework and international norms for the amount of study required for each degree offered by the institution."

Indicator 7 "The institution accurately sets out its relation with other higher education institutions and has appropriate formal agreements for all programs offered by or in partnership with other institutions."

Indicator 8 "The institution has appropriate and rigorously enforced admission criteria for all its programs."

Indictor 9 "The institution ensures that all programs and subjects have clearly formulated learning outcomes."

Indicator 10 "Assessment of student learning is appropriate for the learning outcomes sought and accurately reflects the academic standards achieved by students."

Indicator 11 "The institution maintains accurate individual and aggregated data for all students and uses these data to improve student performance and/or the maintenance of academic standards."

Theme III: Quality Assurance and Enhancement
Indicator 12 "The institution has defined its approach to quality assurance (QA) and quality enhancement (or continuous quality improvement)."

Theme IV: Quality of Teaching and Learning
Indicator 13 "The institution has rigorous processes for approval and review of programs and revision of curricula, to assist in achieving sound academic standards."

Indicator 14 "Staff teaching is informed by current scholarship in the discipline and makes use of a variety of effective learning."

Indicator 15 "The institution systematically monitors the satisfaction of students and alumni with the quality of programs and the quality of their learning experience, and takes action to improve student satisfaction."

Theme V: Student Support
Indicator 16 "The institution provides efficient and effective student administration and support services, and encourages the personal development of students."

Theme VI: Human Resources
Indicator 17 "The institution employs human resources that are sufficient in number and appropriately qualified to achieve the mission and to provide the educational quality it claims to offer."

Indicator 18 "The institution values its human resources and has sound recruitment, retention, promotion and performance management processes."

Indicator 19 "The institution has a systematic approach to staff development and provides opportunities for all staff to remain up-to-date in their areas of teaching, research and/or administration."

Theme VII: Infrastructure: Library, Information and Communication Technology (ICT), and Physical Resources

Indicator 20 "The institution provides sustained access to sufficient information and learning resources to achieve its mission and fully support all of its academic programs."

Indicator 21 "The institution provides coordinated information and communications technology (ICT) resources that are adequate for its mission and the effective support of student learning."

Indicator 22 "The institution has adequate resources to ensure its financial sustainability and uses these resources to provide physical infrastructure that is safe and demonstrably adequate for the conduct of its academic programs."

Theme VIII: Research

Indicator 23 "The institution has implemented a plan for the development of research and monitoring of its research output, together with policies and process to ensure the ethical and effective conduct of research."

Indicator 24 "Where the institution offers higher degrees by research (e.g. masters by research, doctorates), it provides effective supervision and resources for research students and ensures that its research degrees are of a good academic standard."

Theme IX Community Engagement

Indicator 25 "The institution has defined the ways in which it will serve and engage with local, national and regional communities."

APPENDIX B
QUALITY ASSURANCE AND ACCREDITATION CENTER (QAAC) WEBSITE

QAAC website is the online identity and the public interface of Quality Assurance and Accreditation Center (QAAC). Besides it's one of many tools developed by QAAC to sustain an interactive and informative communication channel with UoB constituency and website visitors. "Collaboration and shared resources" is a major QAAC value and website's role to support visitor by providing various formats of resources (i.e. QAAC Forms, AIMS Frequently Asked Questions (FAQ),

Using AIMS video tutorials, est.). Other main function of the website is enable visitors having a close up look at QAAC's activities, achievement. Furthermore, it facilitates for Quality Assurance Offices (QAO) to present their news and events in QA Office section. QAAC's Website can be accessed by http://qaac.uob.edu.bh/

QAAC website has an elegant and attractive design and developed in an organized manner to ease visitor navigation through website sections. In website home page a visitor can notice the feature news slider and navigation menu on the top guide visitors through the site. Both News and Event Calendar sections were dedicated to update visitor with QAAC's activities, projects, and achievements. QAAC have the commitment to build an excellence and quality improvement culture in UoB. And since "A picture is worth a thousand words", gallery section was added to help visitor observe QAAC's seriousness. "About QAAC" is another main section that assists visitors to preview QAAC profile, mission statement, vision and values. College Assessment menu placed in the left side of the website, as menu is an interface between QAAC Website and Assessment Information Management System (AIMS) which is be discussed in chapter 6.

APPENDIX C
EXAMPLES OF TEMPLATE FOR PROGRAM ASSESSMENT PLAN

Example 1: B.S. MARKETING

1. *List the Educational Objectives of the program.*

    Graduates of the Marketing Major program will be prepared to:

    1. Hold entry-level professional positions in business.

    2. Enter an MBA or other graduate business program.

    3. Make significant contributions to marketing decision-making in both domestic and global organizations.

2. *Explain how the program will know the extent to which Program Objectives are achieved.*

    i.   Alumni Surveys sent every other year to graduates of the two-year period.
    ii. Employer survey sent every year to graduates.
    iii. Job placement and Career Services data gathered annually.

3. *List the Intended Learning Outcomes of the program.*

    Students will be able to:

    a. Suggest appropriate marketing research for marketing problems and interpret marketing research results.

    b. Describe the internal and external influences on marketing.

c. Provide examples of consumers influenced by multiple cultures and explain how the resulting consumer behavior affects marketing decisions.

d. Suggest appropriate marketing strategies and tactics for both domestic and global business situations.

e. Explain strategic planning and develop a marketing plan for an organization.

4. *List and briefly describe the MEASURES that will be used to assess each learning outcome.*

Course Assessment Teaching Portfolio: Each professor of each required "major" class is responsible for turning in a teaching portfolio for the course that describes the efforts made in the course to produce the relevant learning outcomes.

Senior Exit Surveys: Written exit interviews of each graduating student are completed during the student's final quarter. The exit interview surveys the perceptions of the student with regard to the preparation the program provided them for the learning outcomes.

Student Focus Group Interviews: Focus groups of students are conducted every other year to gain the perceptions of students with regard to the program's ability to provide the learning outcomes.

Alumni Survey: A survey is sent to a sample of alumni. This surveys the perceptions of the alumni with regard to program educational objectives and learning outcomes and relevance to their current needs.

5. *Describe how learning outcomes are made MEASURABLE and BENCHMARKS or other determinants of success are set.*

i. A grid developed by the Marketing Department Curriculum Committee matches learning objectives to courses. A criterion-based evidence scale, also developed by the committee, is used by the committee to judge the learning outcomes exhibited in the teaching portfolios.

ii. The exit interview, asks for written responses that relate to the students' perceptions of the program's ability to provide the five learning outcomes. The results are compiled by the committee.

iii. The results of the focus groups and alumni survey are analyzed by the Marketing Department Assessment Curriculum Committee in relation to the perceptions of the program's ability to provide the five learning outcomes.

6. *Describe the process by which FINDINGS will be derived from the measures.*

i. The Chair of the Marketing Department receives the summary results of the focus groups, exit interviews, and alumni surveys and writes a report for each comparing the results to the prior years. The reports are sent to the Marketing Department. Curriculum Assessment Committee.

ii. The Chair of the Marketing Department receives the results of the application of the criterion-based scales to the teaching portfolios and writes a report for each class. This report is sent to the appropriate faculty.

7. *Describe the process by which findings are analyzed to determine what IMPROVEMENTS should be made to better meet objectives and learning outcomes.*

i. Each faculty member who has taught a required marketing major course during the year submits to the Marketing Department Curriculum Assessment Committee a paragraph describing his/her reaction to the teaching portfolio report and includes any plans for improvement in showing evidence of student opportunity to achieve the learning outcomes.

ii. The Marketing Department Curriculum Assessment Committee analyzes the reports of the exit interviews, focus groups and alumni surveys related to the perceptions of students regarding the program's ability to provide the learning outcomes. The conclusions from the report are considered in the plans for continuous improvement

of the curriculum and included in the Annual Assessment report sent to the College Assessment and Accreditation Office.

iii.	The Annual Assessment Report includes recommendations of the Marketing Department Curriculum Committee based on the findings from alumni surveys, employment data, student exit interviews, and other miscellaneous reports regarding the Marketing major program. This report is sent to the College Assessment and Accreditation Office.

## 8.	Identify a TIMETABLE for assessment.

i.	The AACSB accreditation cycle is the shortest accreditation cycle, comprised of five years, so the Marketing Major program is on a 5-year cycle. 2009 is the first year of the cycle. The first college interim cycle report is due on September 15, 2010.

ii.	Exit interviews will be completed each semester beginning Semester II 2010. Focus Group interviews and Alumni surveys will be completed every two years beginning Semester II of 2010.

iii.	An assessment report is submitted annually to the College Assessment and Accreditation Office. It is written by the department Curriculum Assessment Committee and includes all information assessed in that year. These assessments will come from the teaching portfolio reports, focus group reports, exit interview reports, and alumni surveys.

## 9.	Briefly explain how the program's assessment plan supports and interacts with ACCREDITATION and LICENSURE requirements.

AACSB accreditation requires learning outcomes and measurement of those outcomes with timetables and results of assessment and plans for improvement.

10. Describe how the objectives and learning outcomes of the program are COMMUNICATED to students and others.

i.   Marketing Department curriculum brochure will describe the program objectives, learning outcomes, and courses and provide information to manage the expectations of the entering student.

ii.   Course Syllabi describe learning outcomes for the course and how they will be measured, will be available online as well as in the college catalogue.

iii. Assessment reports will be shared with students, alumni, faculty, and other stakeholders either through mail, newsletters, email or presentation.

iv.   New marketing department majors will be provided with a description of the program, including objectives, learning outcomes, and how they will be measured.

EXAMPLE 2: PSYCHOLOGY B.A. AND B.S. PROGRAMS

Both the B.A. and the B.S. programs provide students with opportunities to gain substantial understanding of psychology as a science and its applications to multiple areas of life. Compared to the B.A. program, the B.S. program provides more opportunities to develop research skills. Unless noted otherwise, the information below is applicable to both programs.

1. *List the Program Educational Objectives(PEOs).*

    1. Graduates will be prepared to apply knowledge of psychological theory, research and methods to education, career and interpersonal relations.

    2. Graduates will be prepared for employment in occupations related to knowledge and skills in psychology (e.g., administration, advertising, community relations, human resources, human services, market research, and sales).

    3. Graduates will be prepared for entrance into graduate programs in psychology, related areas of human services (e.g., counseling), or to professional schools (e.g., psychology, medicine, dentistry, veterinary medicine, and law).

2. *Explain how the department or program will know the extent to which Educational Objectives are achieved (alumni or other surveys, employment data, etc.).*

    i. Surveys completed by graduates who rate the degree to which their knowledge of psychology has been useful in multiple areas of their lives including education, career and interpersonal relations.

    ii. Data regarding percentage of graduates who report existing employment in occupations related to knowledge and skills in psychology (e.g., administration, advertising, community relations, human resources, human services, market research, and sales).

iii.   Data regarding the percentage of graduates who report successful admission into graduate programs or professional schools.

3.   *List the Program Intended Learning Outcomes (PILOs).*

a.   Be familiar with current theory and research in diverse areas of psychology including at least seven of the following: cognitive, learning, perception, behavioral neuroscience, social, personality, developmental, abnormal, tests and measurements, health, industrial/organization, and engineering psychology.

b.   Have fundamental research design and mathematical/ statistical skills needed to understand psychological science.

c.   Communicate effectively in both written and oral forms.

d.   Have skills in integrating and communicating about psychological knowledge in a final "capstone" course taken during the senior year.

e.   B.S. program only: Have advanced research design, mathematical/statistical, and computing skills needed to critically evaluate and conduct research in a self-selected area of interest in psychology (e.g., cognitive, personality, developmental, social, learning, perception, or behavioral neuroscience).

4.   *List and briefly describe the Measure that will be used to assess each learning outcome.*

i.   Senior Exit survey will be sent to graduating students in which they will be asked to rate the degree to which the curriculum provided opportunities to meet each of the learning outcomes listed in #3.

ii.   Open-ended comments will also be solicited in which graduating students indicate how the curriculum might be changed to provide better opportunities to meet learning outcomes for future students.

iii.   Ratings by faculty teaching the required capstone (senior) courses in which students' level of knowledge of psychological concepts and research methods, skills in writing literature reviews and research reports, and oral communication skills are evaluated using a structured set of rating scales with responses ranging from 1 (not at all) to 5 (excellent).

iv.   B.S. program only: Ratings by faculty teaching one of the required advanced methods courses in which students' ability to design sound psychological studies, to conduct appropriate statistical analyses, and to communicate findings effectively in both oral and written forms are evaluated using a structured set of rating scales with responses ranging from 1 (not at all) to 5 (excellent).

5.   *Describe how learning outcomes are made MEASURABLE and BENCHMARKS or other determinants of success are set.*

i.   Benchmarks regarding the percentage of students reporting employment in psychology-related areas and the percentage of students successfully admitted into a graduate program will be revised as experience with these measures are acquired.

ii.   The surveys completed by graduating seniors will be analyzed to determine the percentage of students who gave a rating of 3 or more (on a 5-point scale) regarding the extent to which the program provided opportunities for meeting the learning outcomes listed in #3 above.

iii.   The ratings of faculty who teach the senior courses will be analyzed to determine the percentage of students who earn ratings of 3 or greater (on a 5-point scale) on the learning outcomes related to level of knowledge of psychological concepts and research methods, skills in writing literature reviews and research reports, and oral communication skills.

iv. B.S. program only: The ratings of faculty who teach the advanced methods courses will be analyzed to determine the percentage of students who earn ratings of 3 or greater (on a 5-point scale) on learning outcomes related to students' ability to design sound psychological studies, to conduct appropriate statistical analyses, and to communicate findings effectively in both oral and written forms.

6. ***Describe the process by which FINDINGS will be derived from the measures.***

Findings will be summarized annually by the College Assessment and Accreditation office and the program Curriculum Committee and reviewed by the entire faculty. Descriptive statistics (e.g. means and standard deviations) will be derived from the surveys completed by graduating seniors, ratings by faculty teaching capstone courses, and ratings by faculty teaching methods courses. The open-ended comments derived from the surveys of graduating seniors will be content-analyzed to identify consistent themes.

7. ***Describe the process by which findings are analyzed to determine what IMPROVEMENTS should be made to better meet objectives and learning outcomes.***

Based on average ratings that fall below the benchmarks indicated above and consistent themes identified in the open-ended comments of graduating seniors regarding ways to improve the program, the Curriculum Committee will make recommendations for changes in the programs to the entire faculty who will review and vote on these recommendations.

8. ***Identify a TIMETABLE for assessment.***

i. The survey of graduating seniors will be sent 2 weeks before the end of the semester in which students will graduate.

ii. The ratings made by faculty teaching senior courses will be made 2 weeks before the end of the semester in which the course is taught.

iii. B.S. program only: The ratings made by faculty teaching methods courses will be made during the last week of the semester in which the course is taught.

iv. A summary assessment report will be provided to the entire faculty each fall semester.

9. *Briefly explain how the program's assessment plan supports and interacts with ACCREDITATION and LICENSURE requirements (if applicable).*

N/A

10. *Describe how the objectives and learning outcomes of the program are COMMUNICATED to students and other constituencies.*

i. Objectives and learning outcomes are presented in the psychology undergraduate handbook that is available to all students as either a paper hard copy or online at the website of the Department of Psychology or both.

ii. Learning outcomes and opportunities for achieving them are identified on advising sheets that are available to all students as either a paper hard copies or online at the website of the Department of Psychology or both.

iii. Learning outcomes relevant to the capstone and advanced methods courses are identified on the syllabus of each course.

EXAMPLE 3: BA ART HISTORY

1. *List the Program Educational Objectives (PEO'S).*

   1. Graduates will be technically and aesthetically knowledgeable

   2. Graduates who wish to find employment in the field will be equipped to do so

   3. Graduates who wish to attend graduate school will be qualified for acceptance into good programs

   4. Graduates will be committed to life-long learning

2. *Explain how the department or program will know the extent to which PEO'S are achieved (alumni or other surveys, employment data, etc.).*

   i. Alumni Surveys (once every 2 years)

   ii. Graduate and/or Professional School Admissions

   iii. Employment Data (gathered in surveys)

3. *List the Program Intended Learning Outcomes (PILO'S).*

   a. Graduates will display writing proficiency.

   b. Graduates will display knowledge of the methodology employed by historians.

   c. Graduates will display the ability to critically analyze primary and secondary materials and to arrive at coherent and well organized conclusions.

d. Graduates will display an awareness and appreciation of most of the following: the diversity of cultures, ideologies, and/or economic, political, social and religious systems at different points in time and place.

4. **List and briefly describe the Measures that will be used to assess each learning outcome.**

i. Portfolios – The Portfolio will consist of a research paper submitted in History 401, a Historiography paper submitted in History 400 and one additional paper submitted in a 400 level course.

ii. Written exit questionnaire to be filled out by the student in the last semester before the student expects to graduate.

iii. Exit interview conducted by the Chair during last semester before graduation.

5. **Describe how learning outcomes are made Measurable and Benchmarks or other determinants of success are set.**

Outcomes will be measured by the Department Accreditation Committee which will review each portfolio and determine whether each outcome has been achieved. The committee, therefore, as it reviews the portfolio will have the task of determining each of the following: A scoring system of one to ten will be employed for evaluation of the student Portfolios, where 6 to 10 meets acceptable level of performance in terms of the criteria listed below. At least ninety percent (90%) of the Portfolios will be required to meet a level of 6 or above in the evaluation process.

1. Does the student's work demonstrate a command of the methodology employed by historians?

2. Does the student's work demonstrate writing proficiency?

3. Does the student's written work demonstrate a grasp of subject matter, historiography and interpretation?

4. Does the student's written work demonstrate the analytical, organization and critical skills desired?

5. Does the student's work demonstrate an awareness of different cultures, ideologies, economic, religious, social and/or political systems?

6. Exit interviews and exit questionnaires will help to demonstrate that students about to graduate are adequately prepared and that the program accomplished its goals.

6. *Describe the process by which Findings will be derived from the measures.*

   i. Copies of student's papers in History 400, 401 and one additional 400 level class will be placed in the Student's Portfolio.

   ii. The Department's Accreditation Committee, serving as an assessment committee in conjunction with the Chair, will assess the Student Portfolios.

   iii. Each Portfolio will contain a Check sheet with each of the objectives to be measured listed.

   iv. As the Portfolio is reviewed, the Committee shall check off each of the objectives to be measured, indicating whether the objective has been achieved, partially achieved or if the papers assessed failed to achieve the objectives that are being measured.

   v. The committee will attach a brief overall assessment to each portfolio. Students will be required to achieve an average score on all objectives measured of 70%.

7. *Describe the process by which findings are analyzed to determine what Improvements should be made to better meet objectives and learning outcomes.*

i. Portfolio Assessment will be done each semester for graduating seniors. The Department Accreditation Committee will undertake an assessment of the Portfolios of students who have applied to graduate.

ii. The student questionnaire and exit interview will be done the semester when students are scheduled to graduate. The questionnaire will be filled out anonymously and the exit interview will be conducted by the Chair.

iii. The results of the Portfolio review, the exit questionnaire and the exit interviews will be shared with the department. The Department Accreditation Committee will submit a written report to the department with the results of its quarterly assessment.

iv. The Department Accreditation Committee and the Chair will recommend changes, if needed, as dictated by the results.

v. The department will determine what changes need to be implemented to achieve stated objectives, should it find that objectives are not being realized.

8. *Identify a Timetable for assessment.*

Assessment activity will be ongoing and changes will take place annually as is indicated. A broad assessment will be conducted every 3 years to determine whether or not measures (see # 4) indicate that we are achieving our objectives and learning outcomes (see # 3 & 4). This assessment will consist of a review of our annual reports. At the end of the third year, the Department Accreditation Committee after having reviewed the results of its annual reports from previous years, will develop a comprehensive assessment report, and recommend changes, if needed, to the department faculty.

i. The faculty and Chair will determine what changes, if any, need to be implemented and will implement those changes, if required, on an annual basis but by no later than the conclusion of the third year.

9. *Briefly explain how the program's assessment plan supports and interacts with Accreditation and Licensure requirements (if applicable)*

N/A

10. *Describe how the objectives and learning outcomes of the program are communicated to students and others constituencies*

   i.   Catalogs and Web Site will contain a mission statement, including a statement regarding objectives, learning outcomes and course syllabi

   ii. Departmental handouts, brochures, and or our website will contain a mission statement which will include a statement regarding objectives and outcomes.

   iii. Course syllabi will discuss the objectives of the course as well as contain a brief summary of the Department of History's objectives and learning outcomes.

EXAMPLE 4: B.S PHYSICS

1. List the Program Educational Objectives (PEO'S).

Graduates will be prepared for:

1. Employment as a practicing physicist in a laboratory environment.
2. Entrance to a graduate program in physics or a related field.
3. Life-long learning

2. Explain how the department or program will know the extent to which PEO'S are achieved (alumni or other surveys, employment data, etc.).

i. Alumni Surveys (once every 2 years)
ii. Employer Survey (once every 2 years)

3. List the Program Outcomes (PO'S).

a. Sound knowledge of several core areas of physics, such as mechanics, modern physics, electricity and magnetism, thermodynamics, optics and instrumentation.
b. Ability to understand and conduct research in physics at a level appropriate to an undergraduate major.
c. Ability to communicate research results effectively.

4. List and briefly describe the Measures that will be used to assess each learning outcome.

i. The oral presentation of the student's senior research project will measure all three outcomes with data solicited from faculty members attending the student's presentation. In particular, these faculty will be asked how well the student met each of the three outcomes above, with possible answers very well, fairly well, not well, and cannot judge, with comments to accompany each response.

ii. Data solicited from faculty who mentor and teach the senior research project required of all seniors, PHY 435, with the same questions as in item 4a above measuring outcomes 3a and 3b. The student's written report on the project will be a measure of outcome 3c.

iii. Data solicited from faculty teaching selected advanced undergraduate courses with the same questions as in item 4a above measuring outcome 3a.

iv. Written Senior Exit Survey and Exit interviews with recent graduates will be used to measure all three outcomes.

5. *Describe how learning outcomes are made Measurable and Benchmarks or other determinants of success are set.*

Learning outcomes will be measured and benchmarks set based on the first data that becomes available from items 4 above.

6. *Describe the process by which Findings will be derived from the measures.*

Findings will be derived from the measures by the Department's Accreditation Committee that will also gather, analyze and summarize data

7. *Describe the process by which findings are analyzed to determine what Improvements should be made to better meet objectives and learning outcomes.*

Based on the findings, recommendations for improvements in meeting objectives and learning outcomes will be made by the Department's Accreditation Committee and communicated to the entire faculty.

8. *Identify a Timetable for assessment.*
The assessment timetable will follow a three-year cycle. All outcomes will be assessed

each year. Starting in 2009-2010 and every third year thereafter, an alumni survey will be conducted. Based on the outcome assessments and the alumni survey, a summary and recommendations will be compiled every three years, starting in 2009-2010.

9. ***Briefly explain how the program's assessment plan supports and interacts with Accreditation and Licensure requirements (if applicable)***

N/A

10. ***Describe how the objectives and learning outcomes of the program are Communicated to students and others constituencies***

Each physics major, upon acceptance into the program, is assigned a faculty advisor who will communicate the objectives and learning outcomes in writing to the student at their first meeting.

EXAMPLE 5: B.S. ELECTRICAL ENGINEERING

1. ***Educational Objectives of the program.***

    1. Prepare students for employment as electrical engineers.

    2. Prepare students for success in graduate studies.

    3. Prepare students to solve real world engineering problems using modern electrical engineering analysis and design techniques.

    4. Offer a program recognized for the quality and strength of the laboratory component.

2. ***Explain how the department or program will know the extent to which Objectives are achieved (alumni or other surveys, employment data, etc.).***

    These Objectives are assessed through alumni surveys and employer surveys.

3. ***List the Intended Learning outcomes of the program.***

    a. An ability to apply knowledge of mathematics, science, and engineering.

    b. An ability to design and conduct experiments, as well as to analyze and interpret data.

    c. An ability to design a system, component, or process to meet desired needs.

    d. An ability to function on multi-disciplinary teams.

    e. An ability to identify, formulate, and solve engineering problems.

    f. An understanding of professional and ethical responsibility.

g. An ability to communicate effectively.

h. The broad education necessary to understand the impact of engineering solutions in a global and societal context.

i. A knowledge of contemporary issues.

j. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

k. A recognition of the need for, and an ability to engage in life-long learning in Electrical Engineering.

4. *List and briefly describe the MEASURES that will be used to assess each learning outcome.*

These outcomes are assessed for each course semi-annually through pre-course questionnaires, learning outcome assessments and periodic review by department program committees. The entire program is assessed yearly through exit interviews, senior design reviews, a Student Advisory Board and an External Advisory Board.

5. *Describe how learning outcomes are made MEASURABLE and BENCHMARKS or other determinants of success are set.*

Learning outcome questionnaires for each course are syllabus-level specific to topical coverage within that course.

6. *Describe the process by which FINDINGS will be derived from the measures.*

i. Faculty review pre-course questionnaires and learning outcome questionnaires.
ii. Department Chair conducts exit interviews with graduates and interfaces with advisory boards.

7. *Describe the process by which findings are analyzed to determine what IMPROVEMENTS should be made to better meet objectives and learning outcomes.*

    i.   Faculty review learning outcome questionnaires for each course.

    ii. Faculty committees review course trends and learning outcome effectiveness.

    iii. Student advisory board suggests program improvements to faculty.

    iv. External advisory board imparts vision for program objectives.

    v.   Alumni Surveys (every 3 years) and exit interviews are analyzed for potential improvements for faculty review.

8. *Identify a TIMETABLE for assessment.*
    i.   Quarterly assessment of learning outcomes for each course by students and faculty.

    ii. Annual assessment of learning outcomes and program objectives by student advisory board and external advisory board.

    iii. Three year assessment of program objectives by alumni and employer surveys.

    iv. ABET accreditation assesses program objectives, learning outcomes, assessment process and improvement process every six years -we are currently in year 4.

9. *Briefly explain how the program's assessment plan supports and interacts with ACCREDITATION and LICENSURE requirements (if applicable).*

    The undergraduate Electrical Engineering program is accredited by ABE under the EAC 2000 criteria.

10. Describe how the objectives and learning outcomes of the program are COMMUNICATED to students and others.

    i.   UOB Undergraduate catalogue

    ii.   Departmental publications

    iii.   In the course of advising by faculty and staff

    iv.   Departmental website

    v.   QAAC website

REFERENCES

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4. Council for Higher Education Accreditation: www.chea.org/

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BIOGRAPHY

ABOUT THE AUTHORS

The Quality Assurance and Accreditation Center (QAAC) at University of Bahrain (UOB) created this Handbook to help answer questions from UOB faculty and constituencies pertaining to assessment. Professor Taj Mohieldin, Advisor to the University President for Academic Quality, and Dr. Hesham Al-Ammal, Director of QAAC, oversaw the project and created all the content for the Handbook. Ms. Moneera Al Burshaid, an IT Developer and Web Administrator and a member of the QAAC staff leads the QAAC web development team, and maintains the website.

Prof. Taj Mohieldin

Dr. Mohieldin Joined University of Bahrain as an Advisor to the president for Academic Quality in 2009. He is a Professor Emeritus of Engineering at Old Dominion University. He joined ODU as an Assistant Professor in August 1989 and achieved the rank of Associate professor in 1995, Professor in 2001 and Emeritus Professor in 2009. During his 20+ years at Old Dominion University, Dr. Mohieldin maintained high standards in his teaching, evolved extensive experience in distance learning education and has been responsible for the development of many undergraduate and graduate courses in the thermo-fluid area. In recognition of his accomplishments in teaching, research and service, Dr. Mohieldin has been honored with various National and International awards.

Dr. Mohieldin has extensive experience in University's Programs Self-Assessment and Accreditation, in addition to Computer Software Development and Applications. He is an active member of ABET, INC., USA" Formally Accreditation Board of Engineering and Technology" and an active member of USAID Higher Education Specialist for developing countries. He is a senior member of the American Institute of Aeronautics and Astronautics, American society of Mechanical Engineers, American society of Engineering Education, American society of

Refrigeration Heating and Air-conditioning, and the Fulbright Alumni Association. He was US Department of States' Senior Fulbright Scholar in the Middle East year 2004-2006.

Throughout his career, Dr. Mohieldin was actively engaged in research in the thermo-fluid area. He was awarded numerous research grants from NASA, US Department of Defense (DOD), US Department of State (DOS), US Department of Energy (DOE), and other US agencies. His 18 years of continuous experimental and computational research at NASA was instrumental in the design of the Hyper-X Space Plane (X-43) and the design of the 8-Ft Hypersonic High Temperature Tunnel (HHTT) Fuel Spray bar. He is author of over 75 refereed articles and numerous technical reports in the areas of computational fluid dynamics, supersonic combustion, heat transfer and high speed flows. He was awarded three NASA fellowships and three NASA certificates of recognition for his research contribution.

Dr. Hesham Al-Ammal

Dr. Al Ammal is currently the Director of the Quality Assurance and Accreditation Center at University of Bahrain (UOB). He joined UOB in 2000 after completing an M.Sc. in Computer Science with honors from Louisiana State University, U.S.A., and a PhD. in computer science from University of Warwick, United Kingdom. He was the chairman of computer science department, 2003-2007. His research interests are in the field of algorithms, Markov chains, e-security, and data mining.

Dr. Al-Ammal has extensive experience in higher education, Outcomes-Based Assessment and Accreditation. His experience with assessment has been enhanced by attending several national and international seminars and training workshops specialized in both program as well as university-level outcomes assessment. He was a member of ABET Joint Accreditation Committee of the College of Engineering and Information Technology at UOB year 2005-2007.

Dr. Al-Ammal is actively engaged in institutional and professional service. He is a member of the Association for Computing Machinery (ACM), British Society for Combinatorics, and European Theoretical Computer Science Society. He served on the Specific Council for Training in IT in Bahrain Ministry of Labor, Business Advisory Group of the Telecommunications Regulations Agency (TRA), and University of Bahrain's Scientific Research Council, Deanship of Scientific Research.

Ms. Moneera Al-Burshaid

Ms. Al-Burshaid joined Quality Assurance and Accreditation Center (QAAC) at University of Bahrain (UOB) as a programmer in 2009. She graduated from the University of Bahrain, with a B.Sc. in Computer Science 2009.

Her primary interests include system analysis, software engineering, web developing, relational databases designing and project managing. She is able accurately and diligently to create an Assessment Information Management System (AIMS), a repository system for all information needed for assessing the programs as well as the results of the surveys. The system is web-based user-friendly environment and is accessible throughout the university and on the Internet.

Ms. Al-Burshaid is actively participated in professional service and activities. She serves in several Strategic Plan initiatives and the Quality Assurance Institutional Review committees. She is a member of the Association for Computing Machinery (ACM), Project Management Institute (PMI) and Head of IT Committee at Bahraini Researchers and INventors Society (BRAINS).

Identify mission Educational Objectives Intended Outcomes

Define Criteria for Success

Evaluate Peformance against Criteria

Analyze Assessment Results

Seek Improvements through actions

IDEAS

Identify

Define

Evaluate

Analyze

Seek