

Sub theme: Different Approaches to QA and Their Impact on Efficiency, Effectiveness and Sustainability

A Continuous Improvement Cycle for Academic Programs: Ittihad University Case

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Abstract

Program assessment (PA) has become an essential tool for continuous improvement of academic programs in higher education (HE) institutions. It is a basic component for accreditation commissions and bodies to assess institutional effectiveness. Ittihad University (IU) has adopted PA as one of the basic tools for improving its academic programs in the different disciplines and colleges since 1999. It has adopted a cyclical approach conducted over three phases. An eclectic model has been adopted in the light of the needs of each phase. This model has comprised three major models; namely, the objective/outcome-based model (comparing CAA standards with existing procedures), the decision-making model (focusing on accountability to reallocate resources or decide the continuation of a program), and the responsive model (focusing on learner-based and market-based concerns). *Phase one* focused on mapping the measurable program objectives and outcomes and setting course outcomes for the different courses in all programs. *Phase two* paid much more attention to program effectiveness and improvement with particular emphasis on feedback surveys. *Phase three* is currently implemented and is catering for the alignment of course learning outcomes with course contents and the outcomes of the program delivering/offering it. It also focuses on an action plan for program and institutional improvement in IU. The processes and outcomes of the three phases have been analyzed in detail in relation to the identified purposes and models for each phase. Suggestions and recommendations for further improvements have been proposed.

Introduction

Assessment has become an essential component within academic programs and administrative support services in all institutions of HE. It is conducted to know how well the institution and its programs are doing, evaluate the quality of its programs, and improve service and student learning. There are four basic levels of assessment in HE institutions: classroom assessment, course assessment, program assessment, and institution assessment. The purpose of program assessment does not concentrate on a specific course or a particular student, but it focuses on what and how an educational program is contributing to the learning, growth and development of all students in an educational institution.

Program assessment (PA) has been utilized as a tool for continuous improvement of academic programs in HE institutions. It is a basic component for accreditation commissions and bodies to assess institutional effectiveness, an indicating function in quality assurance and improvement of academic programs, and a reliable follow-up activity that ensures sustainability. It is considered part of the Quality assurance (QA) process in HE. “Quality Assurance in HE is a systematic process of assessing and verifying inputs, outputs, and outcomes against standardized benchmarks of quality to maintain and enhance quality, ensure greater accountability and facilitate harmonization of standards across academic programs, institutions, and systems” (UNESCO, 2005).

PA is defined as “the systematic and ongoing method of gathering, analyzing, and using information from various sources about a program and measuring outcomes in order to improve student learning (Selim, B. et.al.,2005,p.2). This is done through obtaining “a good understanding of what the program graduates know, what they can do with this knowledge, and what they value as a result of this knowledge.”

PA follows strategies and procedures that seem to be common among educational entities, quality assurance offices, and accreditation bodies. The only difference among such entities is that of ‘focus’, i.e., some of them emphasize learning outcomes, strategic planning, program development, and budgeting decisions (Austin, 2004) , while others focus on the quality, viability, and productivity of efforts in teaching and learning, scholarship, and service as appropriate to the institution’s mission” (See the Board of Regents, University System of Georgia).

IU has undertaken PA as part of its development policy focusing on four major purposes: to improve academic programs, to inform faculty and other decision-makers of the contributions and impact of the program, to prove what the program achieves, and to give support to all those involved in the academic program. This has been done on a 4-year cycle covering three phases from 1999 until 2012. Each phase had its purposes, models, methods, and tools of analysis. The outcomes of this cyclical approach have led to improving the programs offered at IU as well as getting full accreditation from the CAA in 2007.

Why Program Assessment?

Institutions of HE follow PA with very specific purposes to achieve one target: the development and improvement of the offered academic program. Pitter (2007) states that PA is used as a tool for continuous improvement of academic programs and serves as an important function in assuring the quality and continuous improvement of academic programs (p.1). It is also looked at as a comprehensive evaluation of a curriculum leading to a degree (Bogue and Saunders, 1992, p. 138). Barak and Breier, 1990 claim that PA is done to evaluate all programs, or a selected group of programs...against a standard set of criteria.” (p. 2), whereas Conrad and Wilson, 1985 undertake PA so as to “arrive at a judgment about the continuation, modification, enhancement, or termination of the program or unit” (p.10).

Some institutions of HE stress the importance of PA because it can identify the future of its programs (e.g., Iowa State University, 2002), or it “reflects increased institutional aspirations, accountability, and a focus on student learning” (Pitter, 2007, p.1). It might be included as a “component in some performance funding models (Banta, Rudolph, Van dyke and Fisher, 1996). A review of more than 50 institutions of HE on the foundation and college levels in the USA, Europe and Australia has shown that those institutions focused on the assessment and enhancement of quality as the major purpose of their PA (Rizk and Al-Alusi, 2009, in progress).

The University of East Anglia Manual (2005) for program review lists the major purposes of the assessment process stating that it is done to: encourage improvements in the quality of the academic degree, provide effective and accessible public information on the standards achieved by the students, provide public information on the quality of student learning opportunities, and secure value from investment in foundation degrees

Continuous Improvement Cycle of PA

A Continuous Improvement Cycle is an ongoing process of PA with the purpose of assessing an academic program, improving its components, and making decisions about its future continuity and sustainability. It is executed over a specific period of time ranging from one year to ten years depending on the needs of change and budgeting in the institution. The cycle involves all offices and committees involved in or related to the program and the institution and it encompasses the chancellor’s and dean’s offices, college and department councils, and the registrar and quality management or institutional effectiveness offices. Florida University, for example, has a 7-year cycle for academic PA abbreviated as ‘MOSAIC’ (Mission, Outcomes, Self-study, Appraisal and recommendations, Implement recommendations, Continuous improvement), whereas other institutions have four or five-year cycles.

IU has adopted a 4-year cycle which started in the academic year 1999-2000. IU has established the Planning, Evaluation and Quality Administration (PEQA) Office, now known as the Institutional Research (IR) Office in reaction to program reviews conducted by outside reviewers (CAA initial accreditation committees). PEQA has adapted its functions to the requirements of each phase of PA, and its cycle involves the following major steps in conducting its assessment of all programs:

1. IR Office conducts an orientation meeting with those involved (deans, program directors, faculty, and administrative staff)
2. Deans and Program Directors conduct faculty meetings and decide self-study assignments
3. Faculty discuss progress of self-study, analyze data, draft self-study, finalize self-study, write a report, and send it to IR Office for discussion
4. Send final report to outside reviewers (CAA) for suggestions and recommendations.
5. Respond to recommendations of outside reviewers
6. Develop an action plan to implement CAA recommendations
7. Discuss and finalize action plan with Program Directors, Deans and Chancellor
8. Implement action plans after review
9. Follow-up of progress on action plans and Implement revised action plans

For further details refer to IU Professional Files 2004-2008.

Models and Methods of PA

Conrad and Wilson (1985) listed the most common models utilized by most institutions in the process of PA. These include:

1. *The Decision-making model* which emphasizes accountability and is used to reallocate resources or decides the continuation of a program.
2. *The Goal-based model* which compares information gathered in the review to the program goals, objectives, and standards.
3. *The Responsive model* which focuses on concerns and issues of stakeholders.
4. *The Connoisseurship model* which depends on the expert judgment.

IU has adopted an *eclectic method* in assessing its programs utilizing one or all of the following methods:

1. the screening method (annual review of program against basic metrics)
2. cyclical review (4-year review cycle)for all programs by all colleges
3. divisional model (select divisions: faculty or administrative)
 - Faculty-led (Faculty committees)
 - Administration-led (Institutional Research Office)

Stassen et. al. (2001) suggest different methods and techniques, adopted by the University of Massachusetts (UMASS), for program improvement utilizing assessment tools of course-based assignment of classroom assignments, national standards exam, senior capstone project, course-based assignment of embedded exam questions. It also uses assessment strategies and methods including alumni survey, content analysis, culminating assignments, curriculum analysis, Delphi technique, employer survey, institutional data, focus groups, matrices, observations, performance assessment, portfolio evaluations, pre-post test evaluation, scoring rubrics, standardized and local test instruments, syllabus analysis, and student surveys and exit interviews.

Texas A&M International University Manual (2006) focuses on an effective assessment program which is integrated, ongoing, implemented gradually, multi-faceted, pragmatic,

faculty designed and implemented, and self-renewing. It gives ways for academic program assessment encompassing mission, goals, outcomes, and curriculum mapping. In addition, it offers methods for assessment of administrative and educational support units including the UMASS methods mentioned above.

Arizona State University Manual (n.d.) gives an overview of the activities for assessment of learning outcomes for academic departments. Data collection and methods include: portfolios, comprehensive exams, analysis of transcript, exit interviews, focus groups, national accreditation exams, placement records of graduates, alumni survey, employer's survey, awards and grants received, independent research, theses/dissertations and projects, and publications.

Grimsby College, English Program review (2002) encompasses reviewing subject provision and overall aims, academic standards (outcomes, curricula, assessment, student achievement), quality of learning opportunities (teaching and learning, student progression, learning resources), and maintenance and enhancement of quality and standards.

Southeastern Louisiana University Guidelines (2002) stress the four main categories of organizational functions: instructional/student learning outcomes, research productivity outcomes, administrative services outcomes, and public service outcomes.

The Standards set by the European Association for QA in HE (2005) include both internal and external quality assurance standards in HE in Europe. They also include peer review systems for QA agencies which include international contexts, cyclical reviews of agencies, role of external agencies, and the role of the European Consultative Forum for QA in HE. Moreover, QA in Australia's HE system (2005) is based on a strong partnership between the Commonwealth (federal), State and Territory Governments and the HE sector. It shows how the different governmental authorities are involved in the educational sector. In addition, Van Der Wende et.al (2001) focus on establishing a link between internationalization and QA by looking at developments that suggest union between the two. It emphasizes the implications of wider international developments on Europe as a whole as well as elaborating the implications of the Bologna Declaration for QA.

The University of Central Florida Handbook (2005) gives guidelines for planning and implementing quality enhancing efforts of program and student learning outcomes. It provides academic programs with a framework for developing an assessment plan with the objective of improving an academic program. This handbook is utilized as the basic framework adapted in phase II at IU. It defines the process of assessment and its purposes, the ways of planning PA, program mission and goals, student learning outcomes, developing assessment methods, and documenting and using results to improve programs.

The above mentioned review of PA models, methods, and tools adopted in various American, European, and Australian HE institutions has helped IU establish its QA and PA strategies and plans.

IU Case Study

Over the past decade, IU has adopted PA as one of the basic tools for improving its academic programs in the different disciplines it has been offering to its students in the colleges of Education, Arts, Management and Information Systems, and Engineering and Computer Science. PA has undergone three phases each of which focused on certain aspects leading to the improvement of the offered programs. Among the targeted purposes are: 1) a comprehensive assessment of curricula that lead to a B.A. /B.SC. degree, 2) evaluation of programs against CAA standards and criteria, 3) reflecting IU aspirations, accountability and a focus on student learning, 4) addressing quality, validity and productivity in teaching and learning, and 5) informing decision-makers at IU with data necessary for strategic planning, program development and budgeting decisions.

A blend of models used for PA has been adopted in light of the needs of each phase. The eclectic model adopted by IU has comprised three major models; namely, the objective/outcome-based model (comparing CAA standards with existing procedures), the decision-making model (focusing on accountability to reallocate resources or decide the continuation of a program), and the responsive model (focusing on learner-based and market-based concerns).

Phase One: Comprehensive Curriculum Assessment

Phase one (started in the academic year 1999-2000 until 2003-20004) focused on revising, restructuring, and mapping measurable program objectives and outcomes and setting course outcomes for the different courses in all programs. IU program objectives have been clearly revised and are consistent with both their Colleges and IU missions and objectives. PEQA has developed the program assessment plans that provide planning and evaluation systems for continuous self-improvement based on program mission and objectives. In addition, mapping matrices have been developed to trace the fulfillment of the program objectives through achieving the program outcomes.

A set of program outcomes has been developed as well. The assessment tools (methods and techniques) are employed for using the results of the assessment to improve the program. The PA Plan includes assessing academic programs and educational & administrative support services. All assessment results are used for developing the holistic review that determines program and university effectiveness.

The progress of achieving the program objectives is measured through outcomes assessment by utilizing different assessment tools within a suggested time frame.

Processes of PA

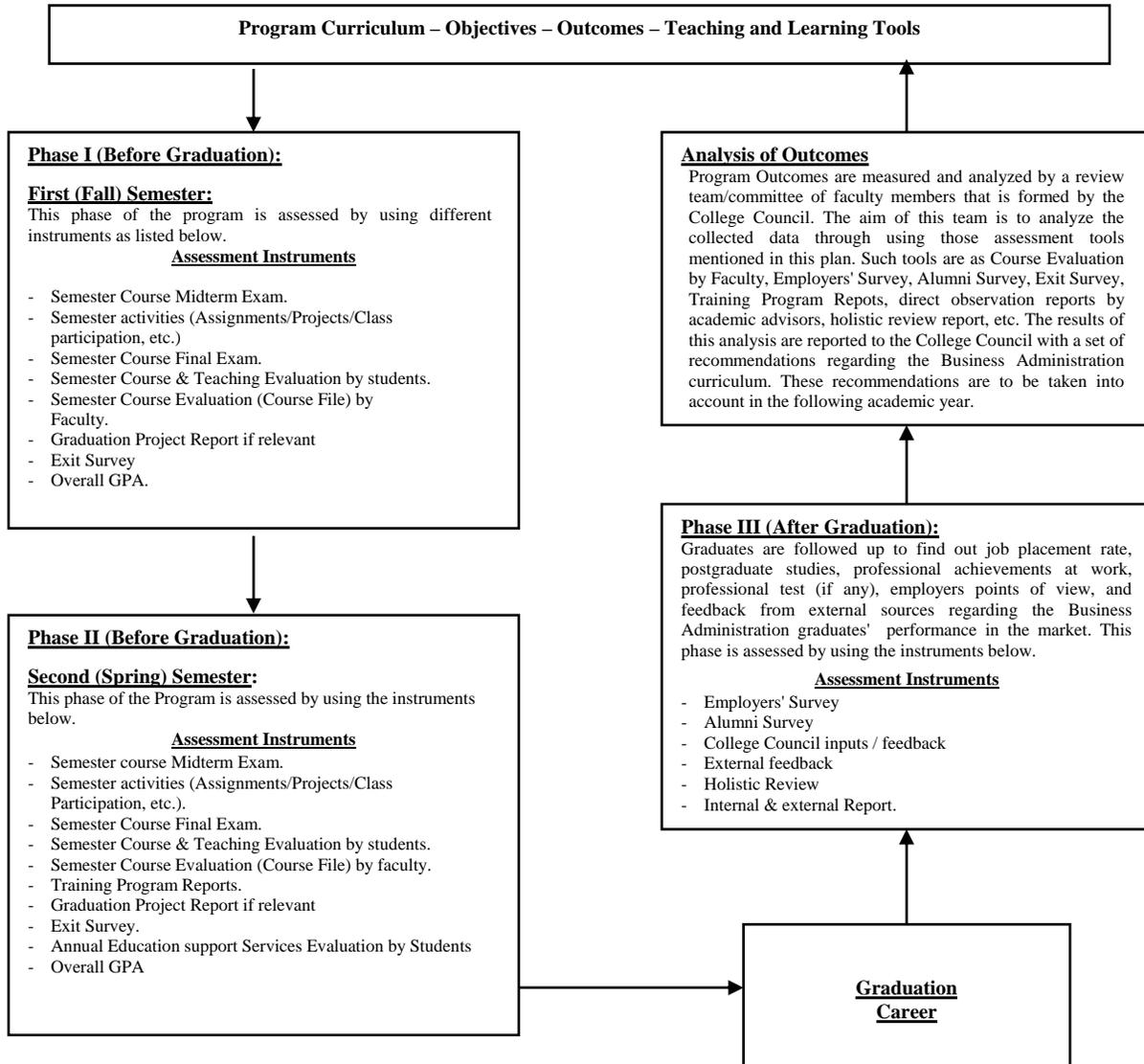
The following steps and processes have been developed to conduct IU PA:

1. Develop a mission statement and program objectives for the IU programs
2. Develop Program Outcomes that are consistent with the program objectives and mission.
3. Devise appropriate quantitative metrics and processes for measuring the achievement levels of program outcomes

4. Use the tools and processes to gather assessment data
5. Modify the appropriate program aspects to fulfill program mission and objectives
6. Conduct SWOT analysis by identifying the strengths and weaknesses of the program curriculum, processes, metrics, and objectives

The complete Program Assessment Model is clearly illustrated in Figure-1 below:

Figure-1 Program Assessment Model



Assessment Tools

Each Department has developed different assessment tools to measure how the program outcomes are being accomplished. Table 1 below provides a summary of the various tools employed for assessment of Program Outcomes along with their frequency of application.

The Program Outcomes Assessment Matrix, a component of the PA Plan, provides complete information on the mapping of the program outcomes to objectives, tools employed for measuring these outcomes, the time frame of applications, results of these measurements, and recommended actions to be taken as a result of this assessment process.

Possible measures that may be used for the assessment of outcomes include: 1) Course File Report, 2) Graduation projects, 3) Exit survey, 4) Alumni survey, 5) Employer Survey, 6) Internship performance & evaluations (Internship program reports), 7) Direct observations/meetings, 8) Course Grade Mean, 9) Overall GPA, and 10) Graduation Rate.

Table 1: Assessment Instruments Evaluating Program Outcomes

No.	Items Assessed	Target	Assessment Instruments	Administered By	When Administered
1	Program Outcomes specific to course	Faculty Members	Course File (End-of-course self-evaluation by faculty member)	Department	Ongoing every semester
2	Program Outcomes	Graduates	Alumni Survey	Department	June, one year after graduating the first batch, then every 5 years
3	Program Outcomes	Employers	Employers' Survey	Counseling & Career Development Administration	June, one year after graduating the first batch, then every 3 years.
4	Program	Graduating Students	Exit Survey	Department	End of every semester
5	Teaching	Students	Course & Teaching Evaluation Questionnaire	Institutional Research (IR)	Every semester a course is taught
6	Training Program	Students	Training Program Evaluation by Student Survey	Department	Twice a year (January and June)

Curriculum Assessment

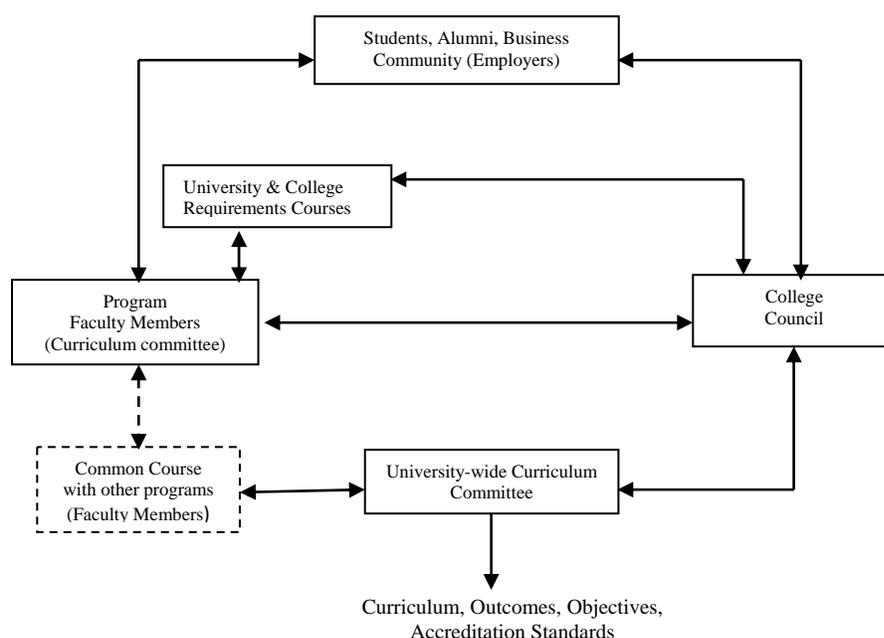
Faculty members in each program are responsible for making sure that the curriculum as a whole is designed to meet and measure the program objectives. The following steps are followed:

1. A detailed list of the expected outcomes of courses is developed in the course plans (syllabi). It is revised each semester through the Course File Report (CFR). The CFR contains information about the registered students, incomplete and withdraw (if any), grades distribution, assignments, quizzes, midterm and final exams, a sample of three different students' answers, students' remarks, faculty remarks, evaluation methods used, outcomes achievements, and IT tools used. It also includes a matrix to show the achievement/non-achievement of course outcomes, concluding remarks, and recommendations for change / improvement. These course files are kept at the Program Director Office and an overall annual CFR is to be prepared by a group of faculty members and presented to the Program Director who reports it to the college council for review and recommendations.
2. The Program Curriculum Committee (PCC) will make sure that course plans reflect the required content and instructors cover material.

3. PCC writes a PA annual report, which will be presented to the relevant College Council for review and recommendations.
4. The review and recommendations are reported to the University-wide Curriculum Committee for coordination and university Council for approval.
5. Feedback from these sources will be collected to be included in the University Annual Report. The assessment process is represented in Figure 1 above.

All aspects of the Program curriculum are subject to a continuous process of self-evaluation as depicted in Figure-2 below:

Figure -2 Curriculum Assessment Flowcharts



Educational & Administrative Support Services Assessment

Educational and Administrative services such as Advising, Educational Support Services, and Administrative Support Services are assessed annually to ensure their support to programs in accomplishing their objectives. Assessment results are used to improve each program through providing effective support and adequate facilities and resources including library & information sources, information technology, laboratories, and other services. The assessment tools used for these services are presented within a suggested time frame in Table 2 below.

Table 2: Assessment Instruments for Educational Support Services

No.	Items Assessed	Target	Assessment Instruments	Administered By	When Administered
7	Advising	Students	Academic Advising Survey	Department	May, annually
8	Educational Support Services	Students	Educational Support Services Survey	Institutional Research (IR)	May, annually
9	Administrative Support	Unit's Administrator	Unit Annual Report	Institutional Research (IR)	June, annually
10	Students' Affairs Services	students	Students Affairs Evaluation Survey	Students Affairs in coordination with IR	May, annually
11	Counseling and Career Services	students	Counseling and Career Evaluation Survey	Counseling & Career Development Admin. in coordination with IR	May, annually
12	Residence/ hostel Services	Hostel Students	Student Residence Evaluation Survey	Student Affairs in coordination with IR	June, annually

Each year, a relevant "Annual Report Form" is distributed to each college, administration, and IT center to report their achievements, problems encountered, its opinions and concerns by PEQA office. This report aims at improving IU's overall effectiveness including the Program. This Program/Unit Annual Report is compiled into the University Annual Report, and a summary is circulated to colleges/programs, which will use these results for continuous improvement.

Phase Two: Program Effectiveness and Improvement

Phase two (started in the academic year 2003-2004 until 2007-2008) paid much more attention to program effectiveness and improvement with particular emphasis on feedback surveys. Continuous and systematic assessment adopted by IU assures continuous improvement of the curriculum in meeting the needs of program constituents. The PA Plan consists of:

- Matrices indicating program objectives and outcomes, course outcomes, and the assessment instruments used to evaluate the effectiveness of the individual courses and the program as a whole.
- A three-level approach that includes:
 - Course Assessment
 - Curriculum Assessment
 - Program outcomes Assessment
- Educational and Administrative Support Services Assessment

Course Assessment

The program developed the following two levels in assessing each course:

- The Individual Faculty Assessment of each course s/he teaches, i.e., CFR which is used as a primary tool. This tool has been further developed to include an alignment of course content with learning course outcomes against assessment schedules to comply with course plans developments. In addition, another

alignment between program outcomes and course learning outcomes is developed. Furthermore, a CFR action plan has been developed for further recommendation for continuous improvement.

- The Student Assessment of each course s/he enrolls in, i.e., Course & Teaching Evaluation Survey is used as a secondary tool. This 'Course and Teaching' assessment tool has been recently divided into two parts to distinguish between teaching methods and course content assessments.

Curriculum Assessment

The curriculum level assessment serves as an intermediate level that coordinates between the course level and the program level assessment. This assessment leads to the improvement of the program curriculum. Faculty meetings, exit surveys, and annual curriculum review meetings conducted by program directors (PD), PCC, CC, and UCC are used.

Program Assessment

The program level assessment provides the highest level of assessment to evaluate the overall achievements of the program educational objectives and the program outcomes. This system is carried out by PD, CC, and Academic Advisors. The following tools are used: Alumni Survey, Employer survey, Exit Survey, Training Survey, and Course Grades. The revised assessment tools used for program specific data are included in Table-1 above.

Phase Three: Program Continuous Improvement & Change ‘Closing the Gap’

Phase three (started in the academic year 2008-2009 until 2011-2012) is currently implemented and is catering for the alignment of course learning outcomes with course contents and the outcomes of the program delivering/offering it. It also focuses on program improvement in IU 2008 to 2012 institutional improvement action plan. This phase will include the following components:

1. Gap closing

Al-Alusi (2008) adapted an Institutional Effectiveness Planning Cycle from Dane (2006) to achieve the purpose of closing the gap in IU (2008-2012) Action plan as part of Phase Three. It is suggested that the assessment results be used for closing the gap through continuous improvement including:

- a) Revised/new objectives/outcomes for the next cycle
- b) Tasks to be completed
- c) Resource allocation (budget)
- d) Goal attainment

- e) Formulating a Continuous Improvement Strategy

2. Prospective Improvement Strategy

The prospective improvement strategy will include a detailed action plan that should be developed with designated responsibilities, specific resources required to implement that strategy, a target, and a deadline for completion. The action plan should include all of the steps needed to achieve each improvement strategy.

3. Monitoring & Auditing

IU Effectiveness System (IUEFS) incorporates an auditing stage as a formal component of its framework for monitoring and QA purposes. Monitoring is an integral part of strategic planning. Its main function is to renew the process cycle. The aim of this process is to minimize error, hence make information accurate, valid and reliable as part of QA process.

Auditing is mainly associated with gaining information about the effectiveness system of the university. It is an evaluation of an organization, system, process, project or product conducted to ascertain the validity and reliability of information, and also to provide an assessment of a system's internal control. It is intended to be a protective and constructive link between policy-making and operational levels. It includes setting objectives, providing advance notice of the audit, organizing open meetings, conducting fieldwork, organizing closing meetings, responding to Final Audit Report.

Monitoring is closely connected with the related university functions of record keeping, reporting, and decision making. The role of monitoring, here, begins after decision-makers have developed goals and alternative strategies to reach those goals and have implemented a specific program to implement policies and strategies to move toward the goals. The aims of monitoring are to ensure that:

- a) all academic programs have implemented their PA Plan.
- b) all the educational, administrative, and support units /services have implemented their plans and submitted Annual Reports.
- c) all Colleges and educational, administrative, and support units /services have submitted their annual future plans.
- d) all academic programs have achieved their outcomes and have accomplished their objectives which contribute to the fulfillment of the university mission through the annual PA Report.
- e) the Performance Indicators are tracked so that they may achieve their planned targets.
- f) the assessment reports are sent back to the relevant program/unit for corrections, clarifications and/or modifications.
- g) performance results and academic program learning outcomes for all students are kept in records for future use.

For future implementation of this process, IUEFS requires the university to establish monitoring priorities that necessitate modifications to the educational program monitoring process. This will require the development of program/unit performance

plan, self-assessment, and reporting requirements.

It has to be noted that by the end of phase one, IU obtained an Initial Accreditation for all its programs, and before the end of phase it has been granted the full academic accreditation by the Commission for Academic Accreditation of the Ministry of Higher Education and Scientific Research, UAE.

Conclusion, Implications, and Recommendations

PA has been of prime importance at IU in improving its academic programs over the past ten years, informing faculty, program directors, deans, chancellor, and other decision-makers of the contributions and impact of the program, proving what the program achieves, and giving support to all those involved in the academic process. It has been successful in assuring the quality of all offered programs, and showing accountability and sustainability. The cyclical approach adopted over the past decade has shown that the modifications, methods and techniques, and tools have been compatible with the needs of each phase. The changes and restructuring of program missions, learning outcomes, and assessment tools have met the very recent requirements for institutional effectiveness, quality assurance, and accountability. The continuous improvements resulting from the findings, suggestions and recommendations of PA in each phase have been helpful in the planning, evaluation, and quality management of programs.

For future improvements of IU academic programs within the continuous cycle, the following suggestions and recommendations have to be taken into consideration:

1. Expanding students' opinions and feedback in assessment
2. Enhancing the culture of quality assurance among all participants and decision-makers in HE institutions.
3. Designing assessment tools that measure the impact of curricula, training, and program input on graduate and employer satisfaction.
4. Predicting indicators and setting planned targets for overall satisfaction and evaluation of programs and colleges.
5. conducting inter and intra benchmarking with peer IU programs and outside programs
6. Sustaining assessment and quality assurance of academic programs as an ongoing policy.

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