Process to Establish, Assess, Evaluate and Continuously Improve The Distance Learning Programs in HEI

La Qualité et l'Enseignement à Distance
Défis, opportunités et critères

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Quality in education

Developing an effective and efficient Quality Assurance System

- The key for the development of an effective and efficient quality assurance system is the existence of:
  - Continuous internal quality assurance mechanisms
  - Periodic external quality assurance strategies.

- The Internal Quality Assurance mechanisms shall focus on the quality of:
  - Teaching and student outcomes
  - Staff/student performance assessment
  - Resources and facilities
  - Program and courses
  - Support services
  - Research
  - Staff

Program continues improvement

The main manifestation of the internal quality assurance

Where to start ?

The Mission statement

- Define your organization's purpose and primary objectives
- Identify the service areas, target audience, values and goals of the organization.

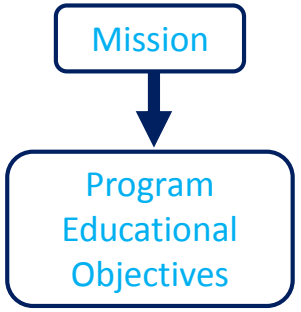
AUL mission:

- To spread the democracy and human values and support the freedom of thought and expression
- To provide a high level of education in terms of quality in order to develop creativity and sense of innovation.
- To produce innovative research that serves the community and contributes to building a knowledge-based economy
- To provide outstanding scholarship programs to keep pace with developments on the local and global level in order to prepare distinct graduates able to actively participate in community service and development
- To continuously develop the educational process through self-evaluation of its educational programs and ensuring the quality of performance
- To achieve sustainable development of the local community through the available expertise and interacting with its graduates

Write the **Program Educational Objectives** (PEO)

What graduates are expected to attain within a few years of graduation

- The PEO should be:
  - Achievable and realistic
  - Consistent with the mission of the institution
  - Based on the needs of the program constituencies



- The program constituencies are those who have a stake in the quality and characteristics of your graduates:
  - Industry advisory board
  - Employers
  - Program faculty
  - Alumni

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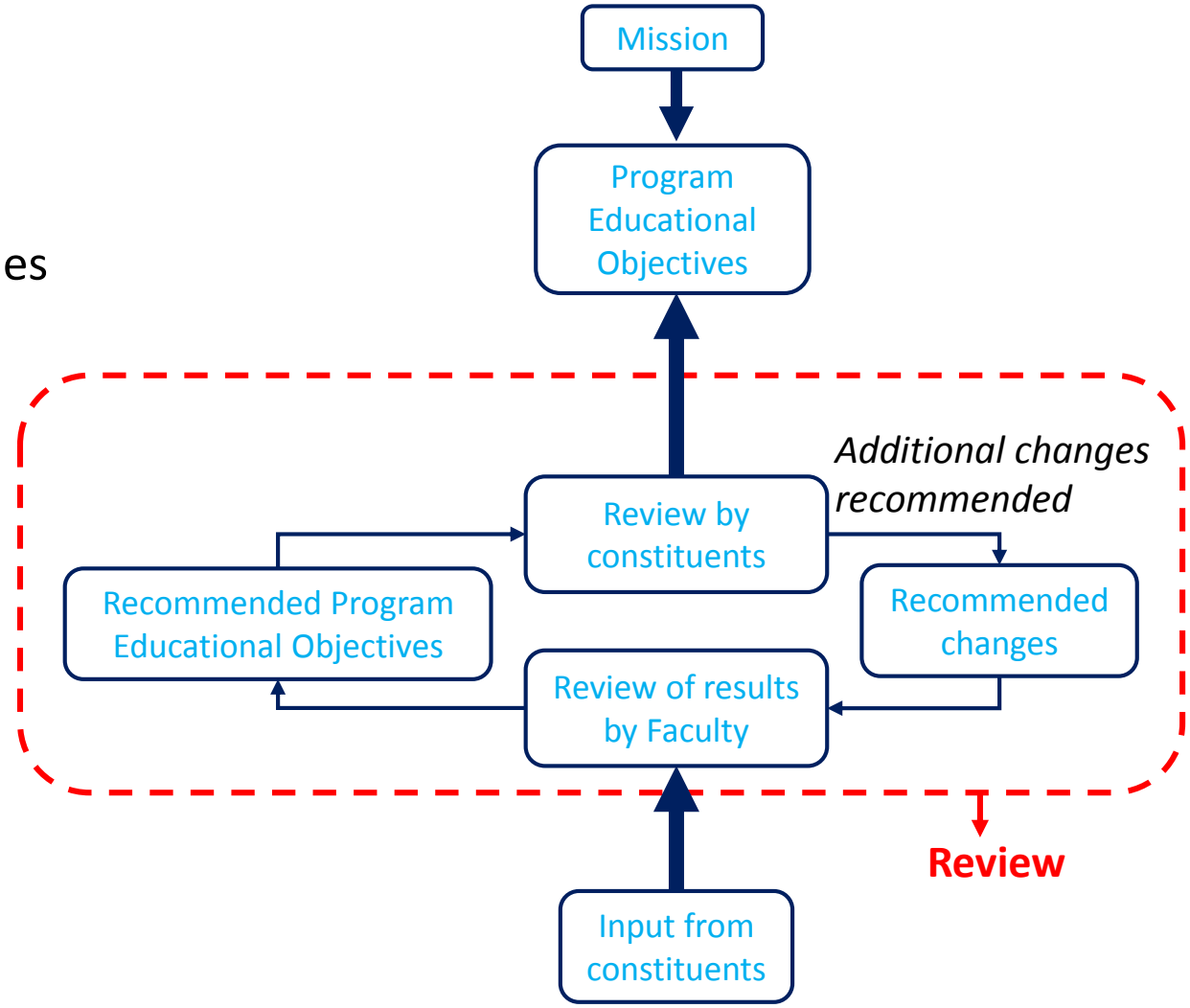
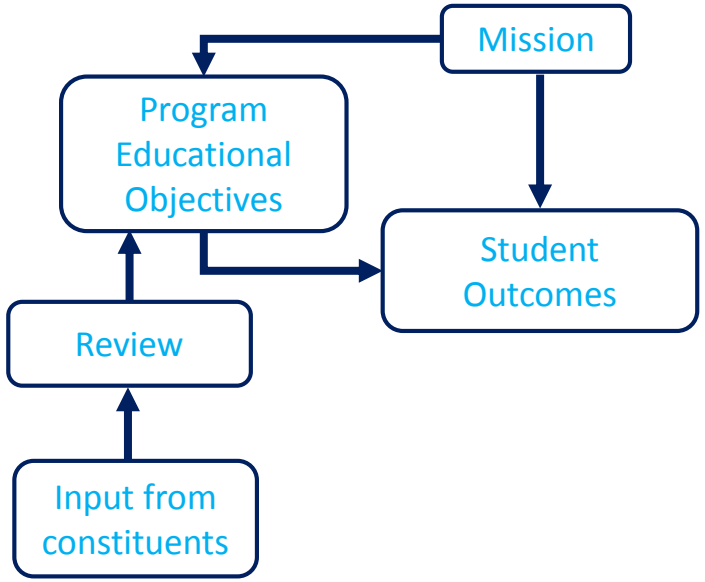


Write and map Student outcomes to PEO

What students are expected to know and be able to do by the time of graduation

- Writing the student outcomes of the program:
  - Based on the skills, knowledge, behaviors that students acquire as they progress through the program.

- Map to the PEO
  - The program must have documented student outcomes that prepare graduates to attain the program educational objectives.

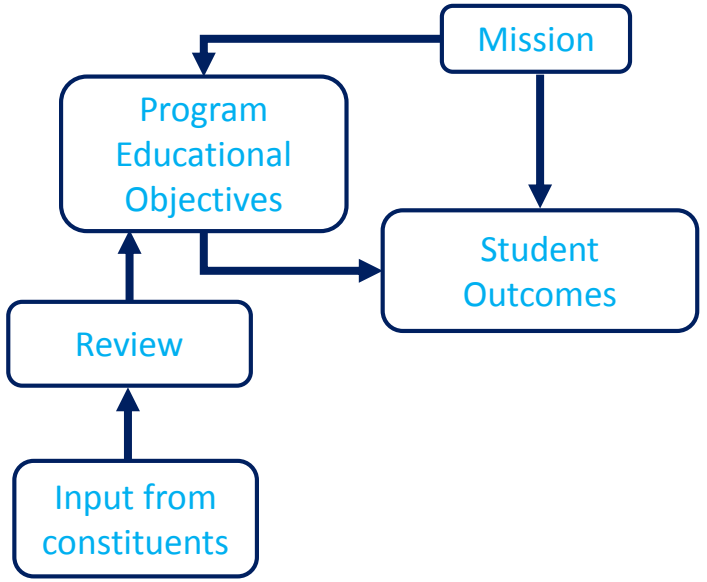


	PEO1	PEO2	PEO3	PEO4	…
SO1	x			x	
SO2	x		x		
SO3		x		x	
. .					

Write and map Student outcomes to PEO

What students are expected to know and be able to do by the time of graduation

- For the Computer and Communication Engineering program AUL adopted ABET's student outcomes:

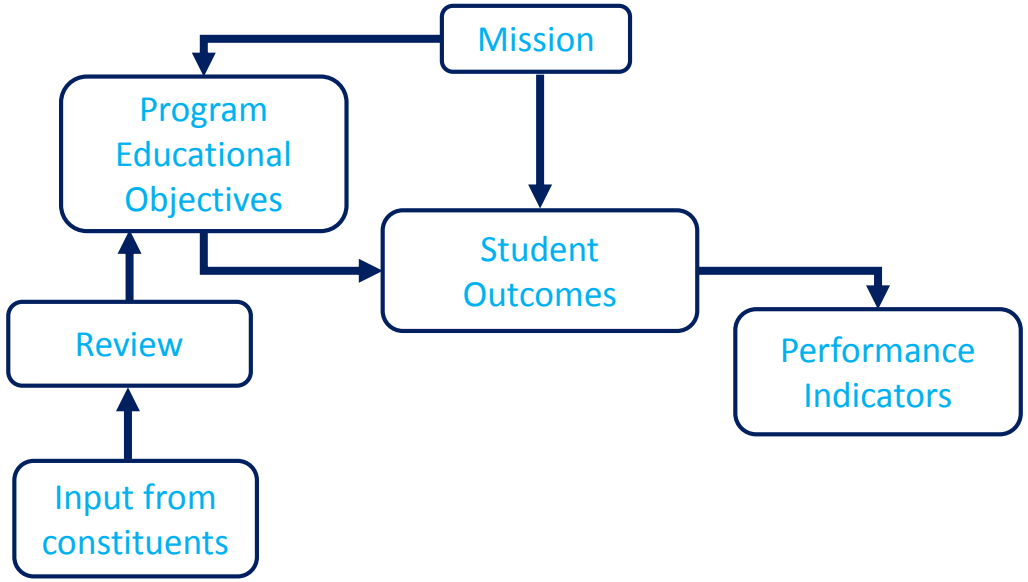


(a) an ability to apply knowledge of mathematics, science, and engineering
(b) an ability to design and conduct experiments, as well as to analyze and interpret data
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
(d) an ability to function on multidisciplinary 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, economic, environmental, and societal context
(i) a recognition of the need for, and an ability to engage in life-long learning
(j) a knowledge of contemporary issues
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Write measurable performance indicators (PI)

Identifying student performance required to meet the outcomes

- PIs are made up of at least two main elements:
  1- An action verb, which identifies the depth to which students should demonstrate the performance
  2- The content referent, which is the focus of the instruction
- They should be communicated to students in the program description and stated in terms that inform the students about the general purpose of the program and expectations of the faculty.
- Their development is the most critical part of developing a systematic and meaningful data collection process around program assessment and improvement



Write measurable performance indicators

Considering the three domains of learning – Cognitive, Affective, Psychomotor

Cognitive: What you know and can discuss (factually speaking); Professional knowledge such as electromagnetic theory; the stuff of textbooks

Psychomotor : What your body can do with what your mind knows, such as soldering components onto a PCB ; things rarely learned without demonstration, coaching and practice.

Affective: The emotions or feelings of being a professional, such as desire to keep learning, compassion for the sick, respect for fellow workers and employers.

Deeper Learning

Surface Learning

COGNITIVE	PSYCHOMOTOR	AFFECTIVE
Creating	Coaching	Characterizing
Evaluating	Applying	Organizing
Analyzing	Recognizing	Valuing
Applying	Standards	Responding
Understanding	Modeling	Receiving
Remembering	Observing	

Write measurable performance indicators - Bloom's wheel

Selecting the action verb which identify the depth of learning

(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 within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
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Write measurable performance indicators - Bloom's wheel

Selecting the action verb which identify the depth of learning

(d) an ability to function on multidisciplinary teams

- Gather Information
- Fulfill team role's duties
- Share in work of team
- Listen to other teammates

Measuring the performance indicators – Rubrics approach

An assessment tool for articulating the level of student performance

(d) an ability to function on multidisciplinary teams				
PI		**(d)** an ability to function on multidisciplinary teams		
Gather Information		– Gather Information – Fulfill team role's duties – Share in work of team – Listen to other teammates		
Fulfill team role's duties				
Share in work of team				
Listen to other teammates				

Measuring the performance indicators – Rubrics approach

An assessment tool for articulating the level of student performance

(d) an ability to function on multidisciplinary teams				
PI / **Scale**	Unsatisfactory	Developing	Satisfactory	Exemplary
Gather Information				
Fulfill team role's duties				
Share in work of team				
Listen to other teammates				

Measuring the performance indicators – Rubrics approach

An assessment tool for articulating the level of student performance

(d) an ability to function on multidisciplinary teams				
PI / **Scale**	Unsatisfactory	Developing	Satisfactory	Exemplary
Gather Information	Does not collect any information that relates to the topic.	Collects very little information – Some relates to the topic.	Collects some basic information – most relates to the topic.	Collects a great deal of information – all relates to the topic.
Fulfill team role's duties	Does not perform any duties of assigned team role.	Performs very little duties.	Perform nearly all duties.	Perform all duties of assigned team role.
Share in work of team	Always relies on others to do the work.	Rarely does the assigned work – often needs reminding.	Usually does the assigned work – rarely needs reminding.	Always does the assigned work without having to be reminded.
Listen to other teammates	Is always talking – never allows anyone else to speak.	Usually doing most of the talking – rarely allows others to speak.	Lister, but sometimes talks too much.	Listens and speaks a fair amount.

Gathering data

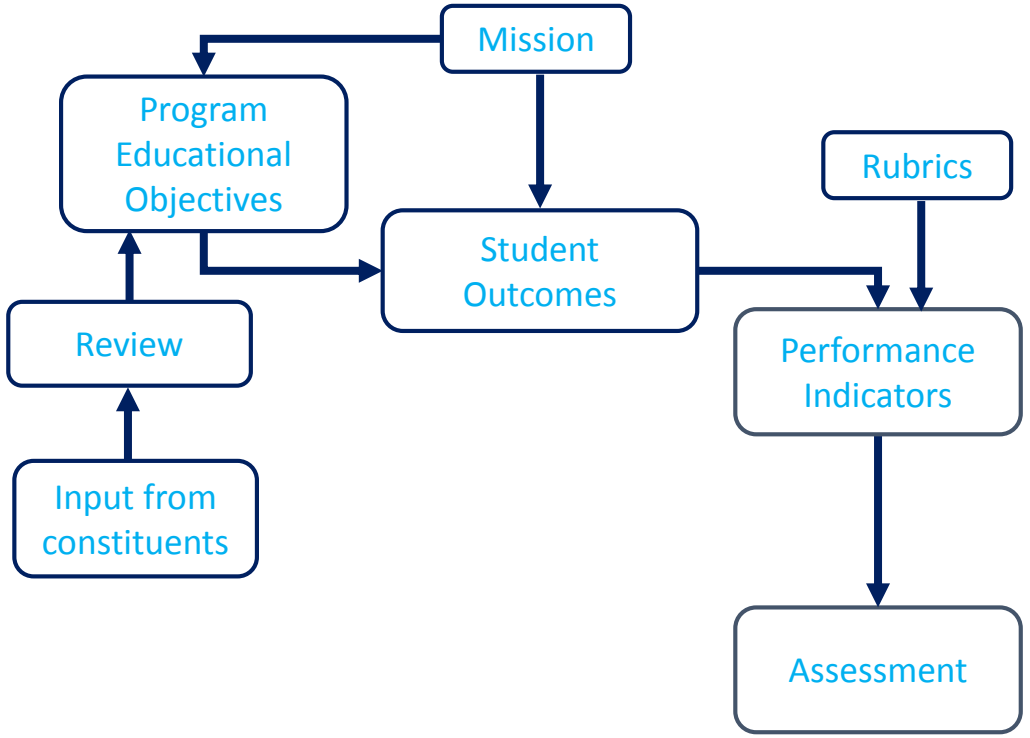
Using various assessment methods

Direct

- Standardized exams
- Locally developed exams
- External Examiner
- Exit and other interviews
- Simulations
- Oral exams

Indirect

- Written surveys and questionnaires
- Exit and other interviews
- Archival records
- Focus groups



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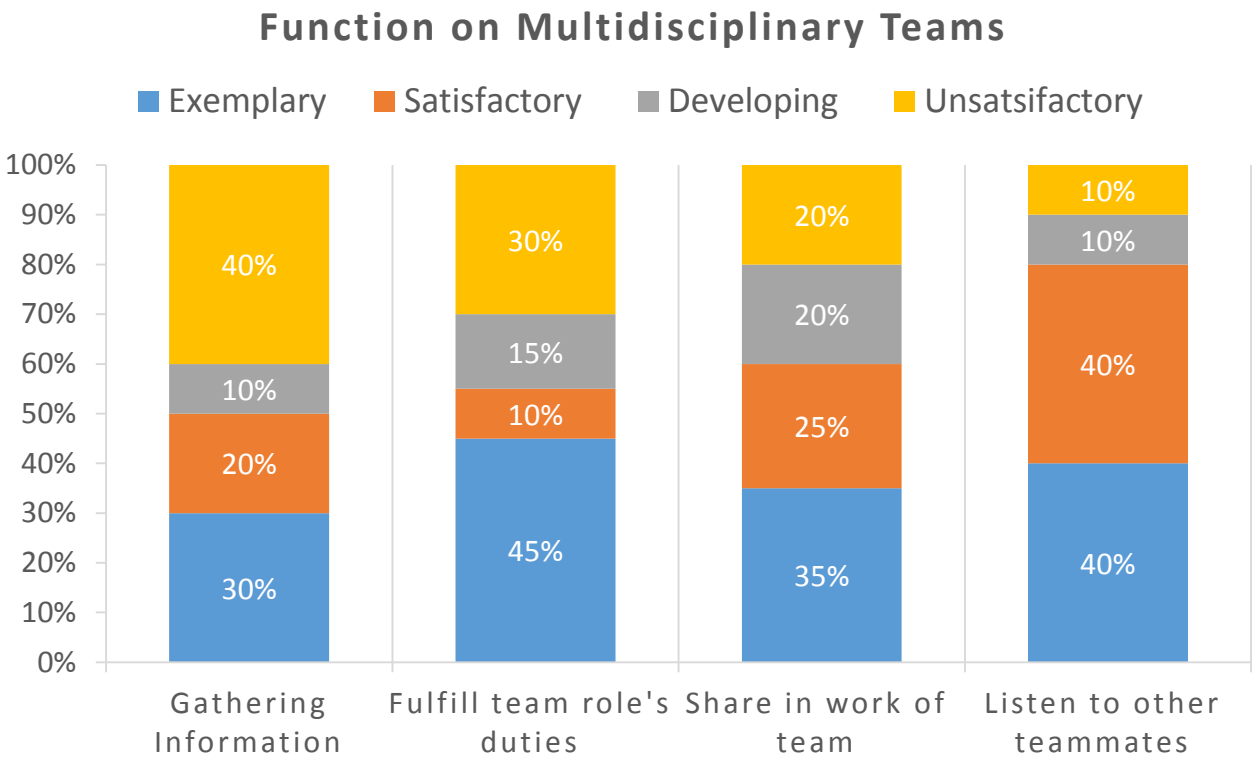
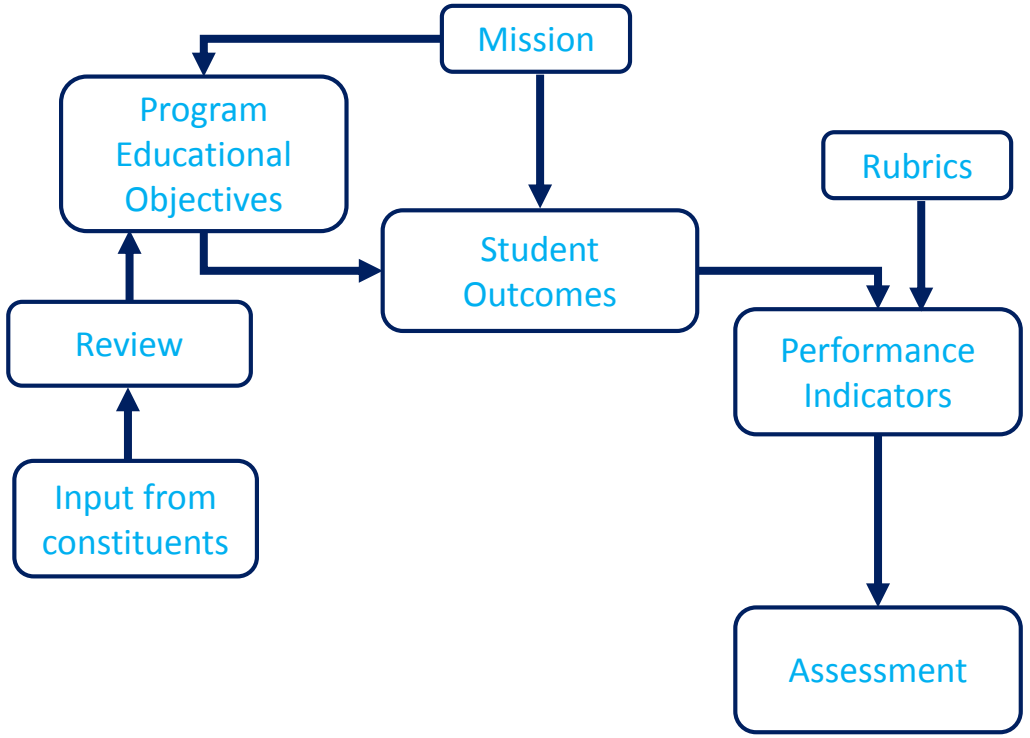
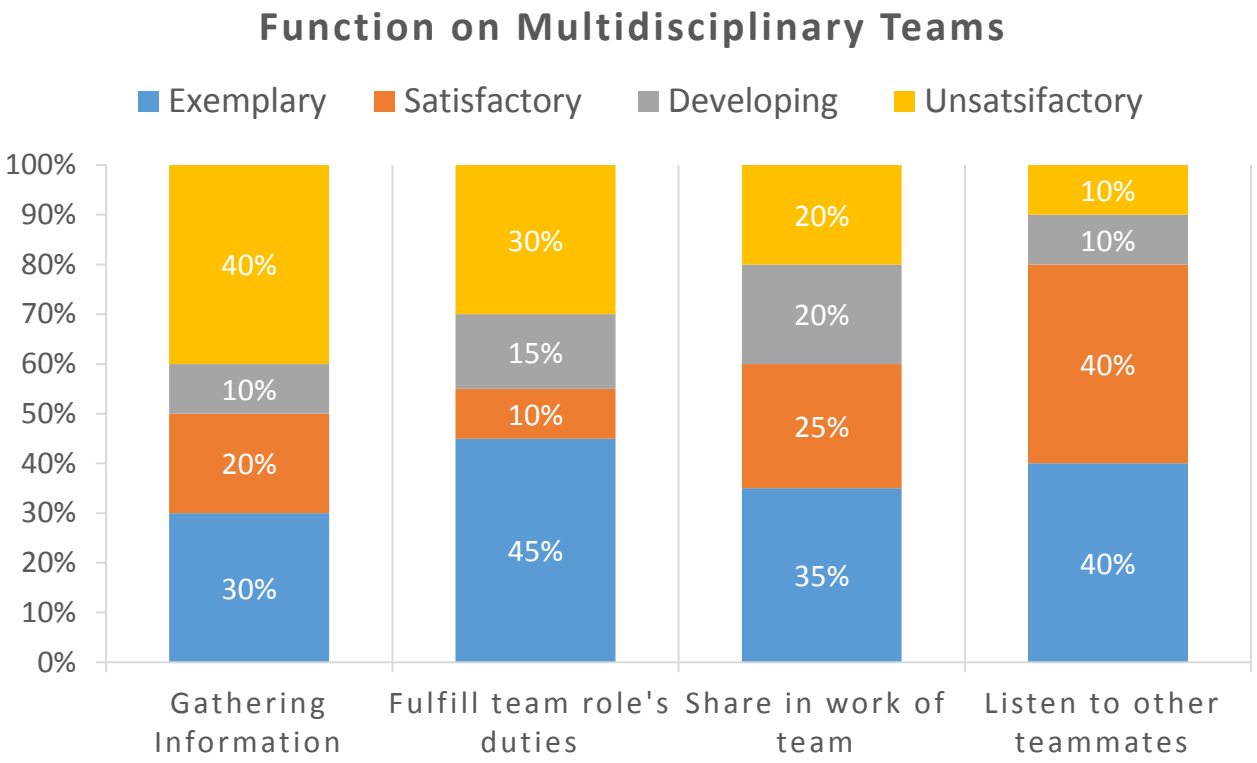


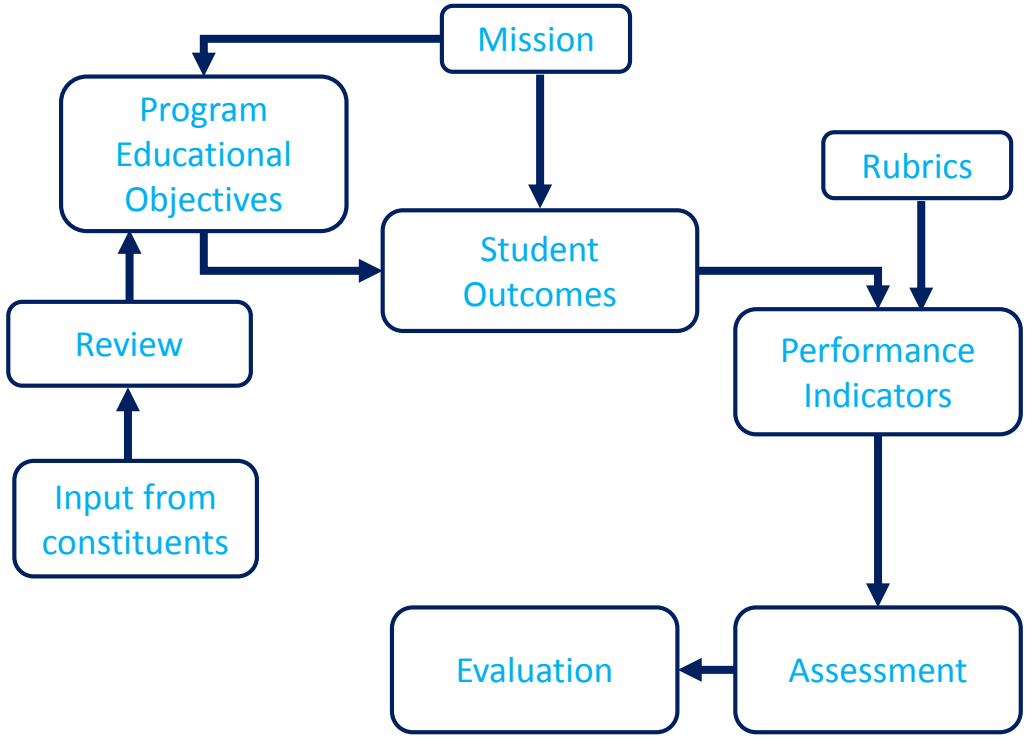


Percentage of students performing at different levels for indicators related to the ability to function on multidisciplinary teams to solve a specific problem. A total of 60 students were assessed.

Evaluating the results

Identifying the strengths and weaknesses





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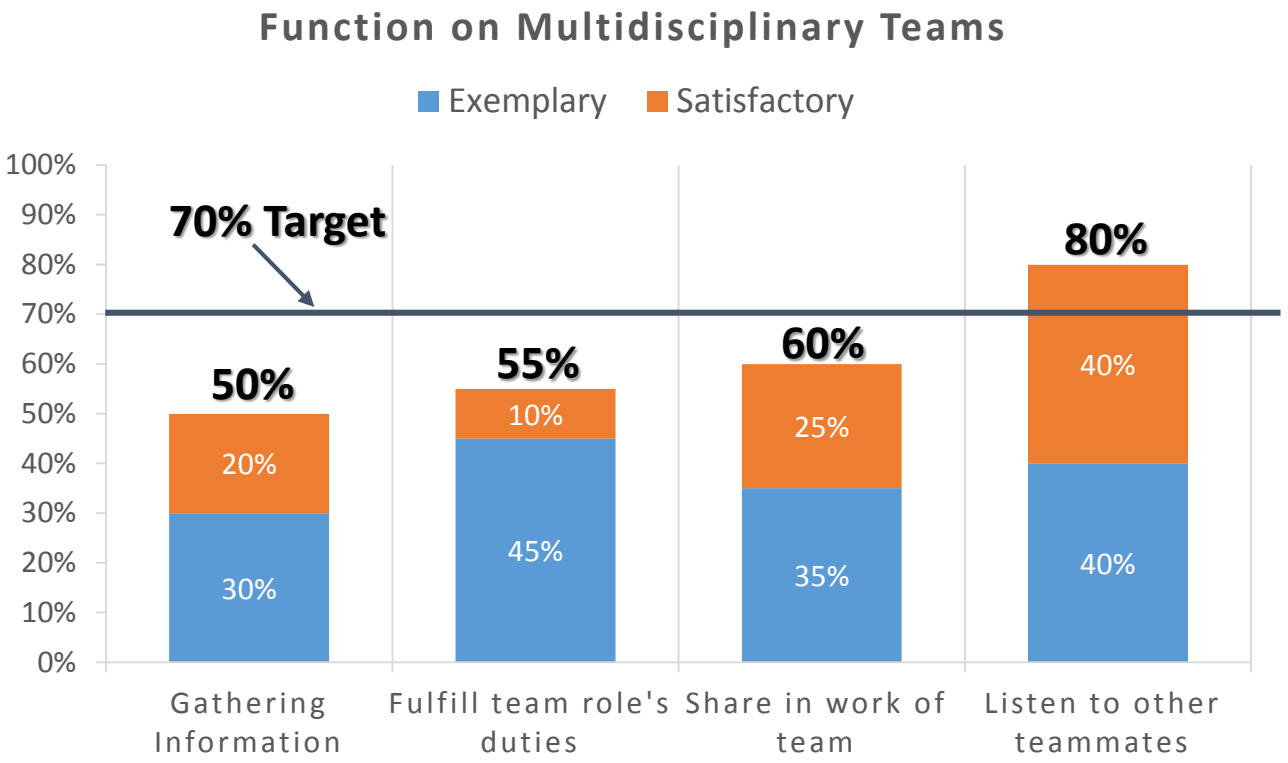
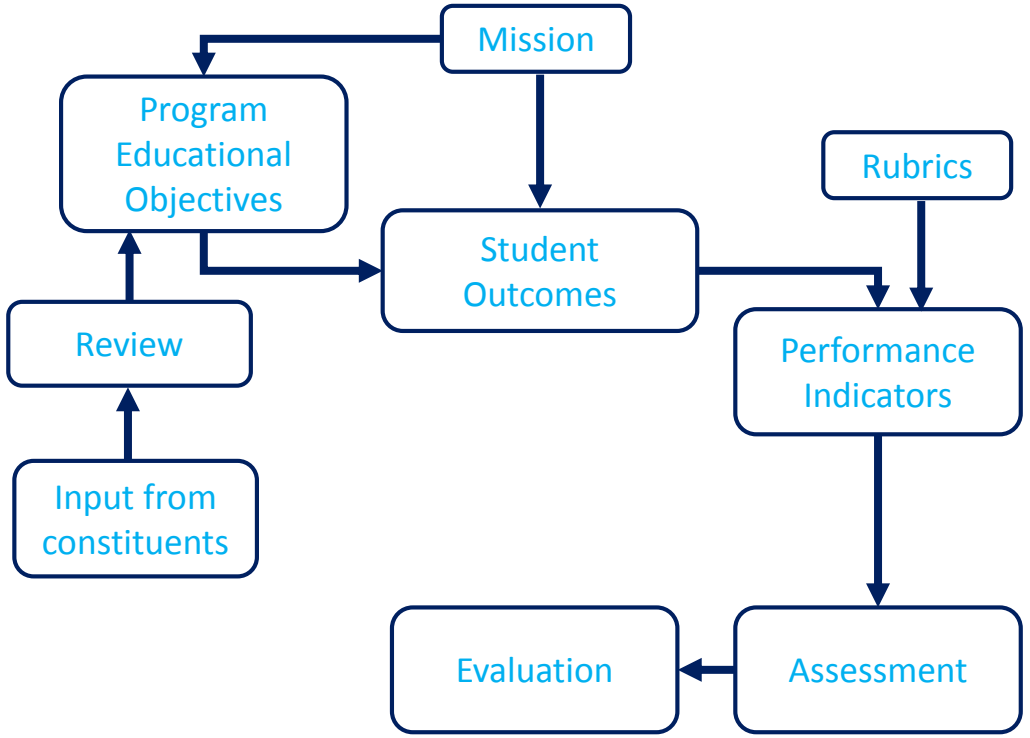




The common target among many universities is **the sum of the exemplary and satisfactory percentage that should exceed 70 %**

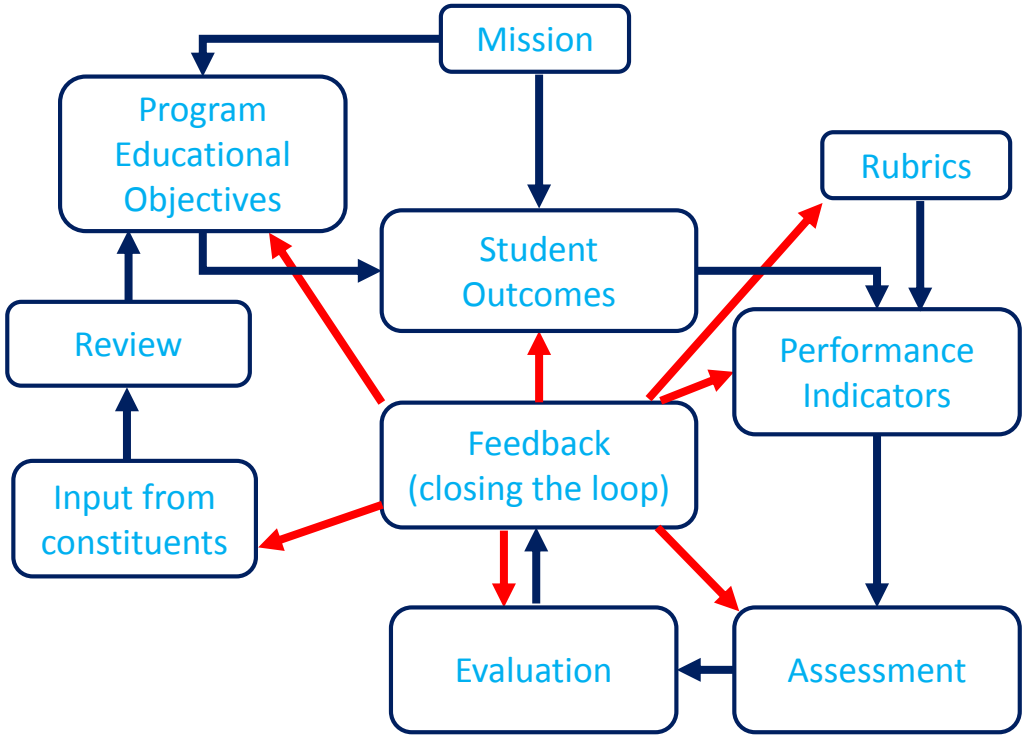
Report the results and state the actions to be taken

Insuring continuous quality improvement

Results Summary (direct measures) 2013: A sample of 60 students were assessed. The percent of the sample that demonstrated each indicator at satisfactory and exemplary were as follows:
PI_1: **50%**; PI_2: **55%**; PI_3: **60%**; PI_4: **80%**

Actions 2014: Based on the results, the department decided to:

- provide the teaming scoring rubrics to students.
- review their assignments to be sure that students were given adequate opportunities to demonstrate the performance identified for teaming.
- make students performance on the outcomes a part of their grade for the activity.
- establish a Teaching/Learning Center which will provide a seminar for faculty on how to integrate effective teaming into the classroom.



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– **Best practices should be consistent with principles of learnings:**

- Learners perform best when expectations for their learning is clear
- Learning occurs best when we build on what students already know
- Learners perform best when they get feedback on their performance
- Learning is an active process (importance of students' active involvement in their own learning)

Thank you

Upcoming work

Quality improvement at all levels

- Students
  - Student Admissions
  - Evaluating Student Performance
  - Transfer Students and Transfer Courses
  - Advising and Career Guidance
  - Work in Lieu of Courses
  - Graduation Requirements
- Curriculum
  - Program Curriculum
  - Course Syllabi
- Faculty
  - Faculty Qualifications
  - Faculty Workload
  - Faculty Size
  - Professional Development
  - Authority and Responsibility of Faculty
- Facilities
  - Offices, Classrooms and Laboratories
  - Computing Resources
  - Guidance
  - Maintenance and Upgrading of Facilities
  - Library Services
- Institutional Support
  - Leadership
  - Program Budget and Financial Support
  - Faculty Hiring and Retention
  - Support of Faculty Professional Development

Upcoming work

Developing survey items

- Surveys
  - Student-instructor evaluation survey
  - Student-self assessment survey
  - Student-admission office evaluation survey
  - Student logistic evaluation
  - Exit survey
  - Instructor self evaluation
  - Alumni survey
  - Employers survey
  - External Advisory committee questionnaire
  - Alumni membership form
  - Employee evaluation

Appendix

Industry advisory board (IAB)

- Composition:
  - This board is composed of x members from the profession of the concerned program

- Objective:
  - To help the department fulfill its mission of educating leaders, creating knowledge, and serving society.

- Scope of activities:
  - To assist the department in the implementation and revising of the PEOs
  - To assess the performance of graduates working in the profession
  - To help the department in its public relations and fund-raising
  - To advise the department in its curriculum, the introduction of new courses and future amendments to remain in-tuned with industry
  - To assist the department in specific activities related to industry such as professional seminars, workshops and continuing education
  - To promote department research, internship development, and employment by providing contacts with industry, governmental bodies, and service organizations

Ways of gathering data

Formative vs. Summative	*Formative* – those undertaken while student learning is taking place; the purpose or which is to improve teaching and learning; designed to capture students' progress	*Summative* – obtained at the end of a course or program; the purpose of which is to document student learning; designed to capture students' achievement at the end of their program of study
Direct vs. Indirect	*Direct* – evidence of student learning which is tangible, visible, self-explanatory; Example: performances, creations, results of research or exploration, interactions within group problem solving, or responses to questions or prompts	*Indirect* – evidence that provides signs that students are properly learning, but the evidence of exactly what they are learning is less clear and less convincing; Example: student satisfaction, alumni and employer surveys
Objective vs. Subjective	*Objective* – one that needs no professional judgment to score correctly; examples: multiple-choice, true-false exams	*Subjective* – yield many possible answers of varying quality and require professional judgment to score
Embedded vs. Add-on	*Embedded* – program assessments that are embedded into course work	*Add-on* – assessments that are in addition to course requirements; e.g. assemble a portfolio, take a standardized test, participate in a survey
Quantitative vs. Qualitative	*Quantitative* – use structured, predetermined response options that can be summarized into meaningful numbers and analyzed statistically	*Qualitative* – use flexible, naturalistic methods and are usually analyzed by looking for recurring patterns and themes