

Happy Valley Business School, Coimbatore

P.27 Rubrics Developed to Validate the POs

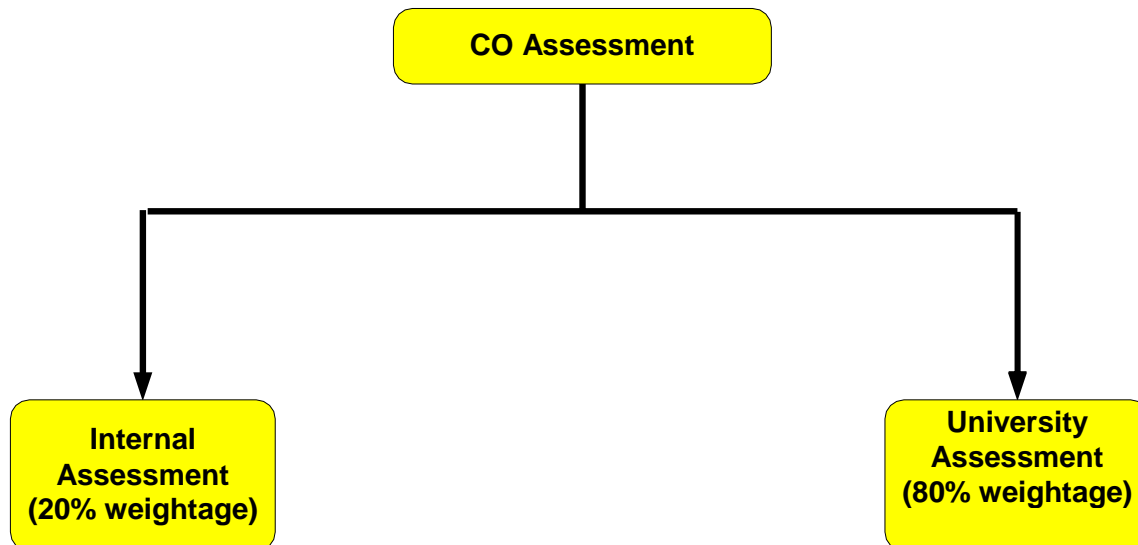
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CO - ASSESSMENT PROCESS

Assessment Process for CO Attainment:

For the evaluation and assessment of CO's and PO's, rubrics are used. The rubrics considered here are given below:

- (i) CO Assessment Rubrics:



Course Outcome is evaluated based on the performance of students in internal assessments and in university examination of a course. Internal assessment contributes 20% and university assessment contributes 80% to the total attainment of a CO.

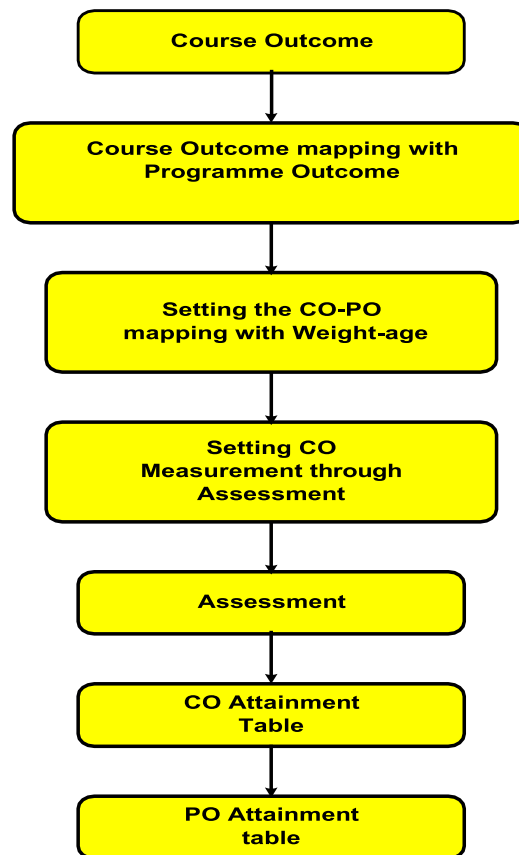
CO Assessment Tools:

The description of Assessment tools used for the evaluation of program outcomes is given in Table.

Mode of Assessment	Assessment Tool	Description	Evaluation of Course Outcomes	Related POs	Frequency of assessment
Direct	Theory Internal Examinations	Two written examinations are conducted and its average marks are considered.	The questions in the internal examinations sheets are mapped against COs of respective course. The questions for three internal examinations are framed in such a way to cover all course outcomes. The final attainment for each CO under direct assessment is calculated by taking from average of the CO attainments Internal Examinations	PO 1 to PO9	Three per Semester
Direct	Internal Practical Examination	Internal examination is conducted in lab course.	The final attainment for each CO is calculated by taking average of the % attainment Internal Lab Examination	PO 1 to PO9	One in Second Semester
Direct	Summer Training	To assess students ability in understanding detailed study of functional areas of business	One Internal reviews is conducted.	PO 1 to PO9	One Internship Review one in III Semester
Direct	Major Project	To assess students ability in conducting organized research	Continuous assessment is carried for the Project review. First review emphasizes on Literature survey and problem identification,	PO 1 to PO9	Three project reviews in Final Semester.

			<p>second review emphasizes on Research Methodology</p> <p>Third review emphasize on Analysis, Findings, suggestions and conclusion</p>		
Indirect	Graduate Exit	<p>This survey gives the opinion of the graduate on the attainment of Programme outcomes</p>	<p>At the end of the programme, graduate exit survey is collected from the graduates and considered for the PO attainment under Indirect method</p>	PO 1 to PO 9	<p>At the end Of the program</p>

Validation of CO-PO mapping



The process of CO-PO mapping validation is given in figure 9.1 and is explained as below:

Step 1 : Obtain course outcome.

Step 2 : Mapping of course outcome with program outcome.

Step 3 : Setting weightage for CO assessment.

Step 4 : CO measurement through assessment.

Step 5 : Obtain CO attainment table through direct and indirect assessment methods.

Step 6 : Obtain PO attainment table through direct and indirect assessment methods.

Assessment and Attainment methods

Assessment is one or more processes which is carried out by the institution, that identify, collect and prepare data to evaluate the achievement of course outcomes and program outcomes. Attainment is the action or fact of achieving a standard result towards accomplishment of desired goals. Primarily attainment is the standard of academic attainment as observed by test and/or examination result. Assessment methods are categorized into two as direct method and indirect method to assess CO's and PO's. The direct methods display the student's knowledge and skills from their performance in the continuous internal assessment tests, semester examinations and supporting activities such as seminars, assignments, case study, group discussion, online quiz, mini project etc., These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning. The indirect method done through surveys and interviews, it asks the stakeholders to reflect their views on student's learning. The institute assesses opinions or thoughts about graduate's knowledge or skills by different stakeholders.

CO assessment methods are employed

- Direct assessment method and indirect assessment method are considered for 80% and 20% weightages respectively.
- Internal test assessment and end semester examination assessment are considered with the weightage of 20% and 80% respectively for the direct assessment of CO.

Procedure for Attainment of Program Outcomes

At the end of the each programme, the PO assessment is done from the CO attainment of all curriculum components. As per NBA guidelines, program can appropriately define the attainment level. The attainment level may be set by the particular program or commonly by the institution. The attainment can be made as best the choice by the institution or the program by analyzing the students' knowledge. This can be achieved by using different supporting activities. This attainment is mainly for the purpose of making an esteemed engineer with good analytical, practical and theoretical knowledge about the program by attaining the PEO's of the program and the institution. For the evaluation and assessment of CO's and PO's, rubrics are used. The rubrics considered here are given below:

Rubrics for evaluation and assessment of CO's and PO's

Attainment Level 1: 40% of students score more than 60% marks out of the maximum relevant marks.

Attainment Level 2: 50% of students score more than 60% marks out of the maximum relevant marks.

Attainment Level 3: 60% of students score more than 60% marks out of the maximum relevant marks.

Assessment Methods	Attainment Levels	
Internal Assessment	Level 1	40% of students scoring more than 60% marks in internal assessment tools
	Level 2	50% of students scoring more than 60% marks in internal assessment tools
	Level 3	60% of students scoring more than 60% marks in internal assessment tools

Assessment Methods	Attainment Levels	
University (External) Assessment	Level 1	40% of students scoring more than 50% marks in internal assessment tools
	Level 2	50% of students scoring more than 50% marks in internal assessment tools
	Level 3	60% of students scoring more than 50% marks in internal assessment tools

Attainment Calculation of a Course:

Overall CO attainment of a course must be prepared as shown below

Mapping of Course outcome with Program Outcomes

CO's to PO's Mapping

Subject: Operations management

Code BA5206

CO	COURSE OUTCOMES	Modules Covered	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	Understanding of the strategic and operational decisions in managing manufacturing and service organizations	1	-	2	-	1	-	-	-	-	2
CO2	Appreciation of the role of operations management function in an organization.	3,4,5	2	3	-	2	2	-	1	-	3
CO3	To enable the students to gain knowledge on Project Management and Scheduling	5	2	3	-	2	2	-	1	-	3

Calculation of CO Attainment Level:

CO for each course was measured using the tests conducted as per the university guidelines. If more than 60% of students crossed the standard level CO attainment was assigned 3, if more 50% of students crossed the standard level CO attainment was assigned 2, if more than 40% of students crossed the standard level CO attainment was assigned 1 and if less than 40% of students crossed the standard level CO attainment was assigned 0.

Table Showing the Calculation of CO Attainment Level (Continuous Improvement Assessment)

IAT -1													
Revised Bloom's Levels (L1,L2,L3,L4,L5,L6)			L1	L1	L1	L1	L1	L2	L2	L2	L2	L3	
Question maps to which course outcome?			CO 1	CO 1	CO 2	CO 1	CO 2	CO 1	CO 1	CO 1	CO 1	CO 2	
Subject :		Principles of Management	IAT-1										TOTAL
Code	BA5102	MAX MARKS	2	2	2	2	2	13	13	13	13	14	76
Attainment			1	2	1	1	1	3	2	3	3	1	0
Attempted Count			120	120	120	120	120	78	41	64	55	119	119
Student Scored More than 60%			56	67	50	49	55	54	24	45	39	50	2
SN	Reg No	Name	Q1	Q2	Q3	Q4	Q5	Q6 a	Q6 b	Q7a	Q7 b	Q8	
1	72061863100 1	ABHINA V P	1	1	1	1	1	7		8		9	29
2	72061863100 2	ABHINESH CHACKO	1	2	1	2	2	7		7		6	28
3	72061863100 3	ABIN P T	1	2	1	1	1		6	5		8	25
4	72061863100 4	ADHIT SHIVA S	1	2	1	2	1	6		6		6.5	26
5	72061863100 5	AGHILA VINCENT	2	2	1	1	2	6			6	5	25
6	72061863100 6	AISHWARYA JAYENDRAN	2	2	1	1	1		7	7		5	26

7	72061863100 7	AISWARYA MURALIDHARAN VENGALIL	1	1	2	1	2	9		8		10	34
8	72061863100 8	AKALYA.A	2	2	1	1	2	7			7	5	27
9	72061863100 9	AKASH NAIR	1	1	2	2	2		10	8		9	35
10	72061863101 0	AKHIL P S	1	1	1	1	1	7			9	6	27
11	72061863101 1	AKSHAY E	2	2	2	1	1	8			8	6	30
12	72061863101 2	AKSHAY KUMAR A.B	1	1	1	1	2	6		6		7.5	26
13	72061863101 3	AKSHAY R KRISHNAN	1	1	1	2	2	8		8		8	31
14	72061863101 4	ALBERT BIJU	2	2	1	1	1		7		5	6.5	26
15	72061863101 5	AMALJITH MANOJ	1	2	2	1	2		8		4	6	26
16	72061863101 6	AMALSHA A	2	1	1	2	1	9			6	9	31
17	72061863101 7	AMRITHA.C	1	1	1	1	1	8		9		10	32
18	72061863101 8	ANANDHU VIJAYAN	2	2	1	1	1	7		7		8	29
19	72061863101 9	ANANDU A U	1	2	1	2	1		6	6		6.5	26
20	72061863102 0	ANIRUDH P	1	2	2	1	1		7	7		4	25
21	72061863102 1	ANISHA MARIYA SUNNY	2	2	2	1	1	9			9	10	36
22	72061863102 2	ANISHA SUNNY	1	1	2	1	1	8			8	10	32
23	72061863102 3	ANITTA K REJI	2	2	1	1	2		9	10		9	36
24	72061863102 4	ANJANA REJILNADH U V	2	1	1	2	2	9		10		11	38

25	72061863102 5	ANJU JAMES	2	2	2	1	1	9			9	9	35
26	72061863102 6	ANU JOHN	1	2	2	1	1	8		8		9	32
27	72061863102 7	ANUPAMA GEORGE K	2	2	2	2	2	8		8		11	37
28	72061863102 8	ARATHI U	1	1	2	2	2		9		9	7	33
29	72061863102 9	ARCHANA.K.V.	2	2	1	2	2		9	9		8	35
30	72061863103 0	ARJUNDAS P R	1	1	1	1	2	8			8	8	30
31	72061863103 1	ARJUN K A	2	2	1	2	2	8		9		9	35
32	72061863103 2	ARJUN M	1	1	1	2	2	1		10		11	29
33	72061863103 3	AROCKIA SELVA RAMYA J	2	1	1	2	1	9			10	6	32
34	72061863103 4	ARUN KUMAR K	2	2	1	1	2		6	6		5	25
35	72061863103 5	ASHIK.N.P	1	1	1	2	2	8			9	7	31
36	72061863103 6	ASHISH H	1	1	1	0	1	4		3		2	13
37	72061863103 7	ASHITHA P	2	2	2	1	1	9			9	6	32
38	72061863103 8	ASHNA SUSAN THARAYIL	2	1	1	1	1		8	9		11	34
39	72061863103 9	ASHWIN SURESH	2	2	2	1	1	9			8	4	29
40	72061863104 0	ASWATHI A	2	1	2	1	2	9		8		6	31

Measuring courses outcome attainment through University Examination: The affiliating university does not provide average or median marks and hence the institution has chosen the attainment levels based on the grades obtained by the students, as per the regulations of the University, which is given below:

Range of marks	Letter grade	Grade point
91-100	O	10
81-90	A+	9
71-80	A	8
61-70	B+	7
51-60	B	6
<50	RA	0

The university published grades of each student at the end of the semester. Grades were converted into scores.

Standard Level:

Standard levels were set for all courses. The standard level is set as 50% of maximum in the end semester to be achieved for all courses.

If more than 60% of students crossed the standard level CO attainment was assigned 3, if more 50% of students crossed the standard level CO attainment was assigned 2, if more than 40% of students crossed the standard level CO attainment was assigned 1 and if less than 40% of students crossed the standard level CO attainment was assigned 0.

Rubrics for external assessment test

60% Stud >= 50% MARKS: ATT 3

50% Stud >= 50% MARKS: ATT 2

40% Stud >= 50% MARKS: ATT 1

else ATT 0

Table Showing the Calculation of CO Attainment Level (End Semester Assessment)

Externals			
Subject:		Principles of Management	External
Code	BA5102	MAX MARKS	100
	Attainment		3
	Attempted Count		120
	Student Scored More than 60%		118
SN	USN	Name	Marks
1	720618631001	ABHINA V P	60
2	720618631002	ABHINESH CHACKO	70
3	720618631003	ABIN P T	60
4	720618631004	ADHIT SHIVA S	60
5	720618631005	AGHILA VINCENT	70
6	720618631006	AISHWARYA JAYENDRAN	60
7	720618631007	AISWARYA MURALIDHARAN VENGALIL	70
8	720618631008	AKALYA.A	70
9	720618631009	AKASH NAIR	70
10	720618631010	AKHIL P S	70
11	720618631011	AKSHAY E	70
12	720618631012	AKSHAY KUMAR A.B	60
13	720618631013	AKSHAY R KRISHNAN	70
14	720618631014	ALBERT BIJU	60
15	720618631015	AMALJITH MANOJ	70
16	720618631016	AMALSHA A	60
17	720618631017	AMRITHA.C	70
18	720618631018	ANANDHU VIJAYAN	60
19	720618631019	ANANDU A U	70
20	720618631020	ANIRUDH P	60
21	720618631021	ANISHA MARIYA SUNNY	70
22	720618631022	ANISHA SUNNY	70
23	720618631023	ANITTA K REJI	70
24	720618631024	ANJANA REJILNADH U V	70
25	720618631025	ANJU JAMES	70
26	720618631026	ANU JOHN	70
27	720618631027	ANUPAMA GEORGE K	70
28	720618631028	ARATHI U	60
29	720618631029	ARCHANA.K.V.	70
30	720618631030	ARJUNDAS P R	70

The CO-PO table shows the educational relationship between the CO & PO for each Course. Sample outcomes for the batch 2018 -2020 is listed in the table below.

CO Outcome – Semester -I (Batch 2018 -2020)

CO's Attainment

Subject: Principles of Management

Code: BA5102

CO's	IAT-1 Attainment	IAT-2 Attainment	IAT-3 Attainment	AVG IAT Attainment	INTERNAL Attainment	External Attainment	Final Attainment (80% Ext + 20% Int)
C01 Attainment	2.142857143	NA	1.5	1.821428571	1.8	3	2.8
C02 Attainment	1	0.7	0.5	0.7333333333	0.7	3	2.5
C03 Attainment	NA	NA	1	1.0	1.0	3	2.6
C04 Attainment	NA	NA	0	0.0	0.0	3	2.4
Average Attainment	1.57142857	0.7	0.8	0.9	0.9	3.0	2.6