



SRI ADICHUNCHANAGIRI SHIKSHANA TRUST (R.)

BGS GLOBAL INSTITUTE OF MEDICAL SCIENCES

(Affiliated to Rajiv Gandhi University of Health Sciences, Bangalore)
No. 67, BGS Health & Education City, Uttarahalli Road, Kengeri,
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Program outcome and Course outcome analysis

Introduction

Now in the present trend, the medical education system moving towards competency based / outcome-based education system. It is very important the outcomes at the end of the course and program. This requires analysis of Program Outcome (PO) and Course Outcome (CO) mapping. This analysis is an important step in the outcome-based education. As medical education is moving from traditional teaching learning process to competency based or outcome-based education, this needs to be incorporated into the evaluation system. Besides analyzing the mapping, to make it more objective a score needs to be botched for mapping and attainment score needs to be calculated for each course and program. All these analyses help to monitor not only the performance of the program but also the individual students. This type of analysis is not routine in healthcare education. In this absence, an attempt has been made to bring quantitative rigor for mapping and attainment level of PO and CO

Terminologies

Program Specific Outcomes (PSO)

Program Specific Outcomes (PSO) is board statements that describe what graduates are expected to attain at the end of completing their program. These are based on the need of the society as analyzed outlined by the regulatory bodies.

Program Outcome (PO):

Program outcome represent broad statement that incorporate many areas of inter-related knowledge and skills developed over the duration of the program though a wide range of course and experiences. They represent the big picture, describe broad aspects of knowledge, skill and attitude development, and encompass multiple learning experiences.

Course Outcome (CO):

Course outcome describe the learning that will take place at the end of the completion of the course. Concise statement has been made in specific and measurable terms, of what students will know and/or be able to do as the result of having successfully completed course

Mapping of PSO, PO and the CO:

Mapping (program mapping) facilitates the alignment of course-level outcomes with program outcomes. It allows faculty to create a visual map of a program. It is also used to explore how students are meeting program-level outcome at the course level. Outcomes mapping focuses on student learning also.

Attainment score or level:

Attainment score or level is defined as a measure of a student's achievement in the college which compares every student to a standardized expectation for their level, regardless of individual starting points.

Course

MBBS Program consists of following course. 1st Year MBBS consists of Anatomy, Physiology, Biochemistry; 2nd year MBBS consists of Pathology, Microbiology, Pharmacology and Forensic medicine and Toxicology; 3rd year MBBS is divided in two parts: Phase 3 Part I consists of Ophthalmology, ENT and Community Medicine whereas Phase 3 part 2 (4th Year) consists of General Medicine, General surgery, Obstetrics & Gynecology and Paediatrics. Each course has its well-defined course outcome mentioned in individual syllabus of course.

Mapping and analysis of COs, POs and PSOs

The Process of attainment of COs, POs and PSOs Starts from writing appropriate COs for each course in the five- and half-year degree program, which include one year of internship. As Undergraduate medical program is regulated by the medical council of India, COs, POs and PSOs are defined by it. Based on this, course outcomes are refined by the respective faculty members of the course. Then, a correlation, is established between COs and POs and PSOs on the scale of 0 to 3 ('0' being on no correlation, 1- being the low correlation. 2- being medium correlation and 3 being high (correlation) based on their perception. The average score is calculated and is correlated with the course as a whole not individually.



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CO & PSO Mapping

Course	Clinician PSO1	Leader PSO2	Communicator PSO3	Life Long Learner PSO4	Professional PSO5
ANATOMY	2	2	2	2	3
PHYSIOLOGY	2	2	2	2	3
BIOCHEMISTRY	2	2	1	2	3
PATHO	2	2	2	2	3
MICRO	2	2	2	2	3
PHARMA	2	2	3	2	3
Forensic Medicine	2	2	3	2	3
COMMUNITY	3	3	3	3	3
OPHTHALMOLOGY	3	3	3	3	3
E.N.T	3	3	3	3	3
PAEDIATRICS	3	2	3	3	3
MEDICINE	3	2	3	3	3
SURGERY	3	3	2	2	3
OBG	3	3	2	2	3

0- no correlation, 1- low correlation. 2- Medium correlation and 3 - high correlation

Course Attainment Score

Attainment of Course assessment is based on the pass percentage of the student in each course in a year. To obtain attainment score for course, summative assessment (SA) mark of individual student is being considered. The components of summative assessment are internal assessment mark (theory and practical), university examination (theory, practical/clinical, viva-voce, record). The pass percentage of score each subject / course is considered as follows

Attainment Level 1: 60% of students score \geq 50% marks out of the maximum relevant marks.

Attainment Level 2: 70% of students score \geq 50% marks out of the maximum relevant marks.

Attainment Level 3: 80% of students score \geq 50% marks out of the maximum relevant marks.

The obtained result is considered as course attainment score. Average of previous three years scores is calculated and considered for comparison with each year score. Year-wise course attainment score is given as follows

Course / Subject wise Results of last 3 years

	AN	PHY	BIO	PATHO	MICRO	PHARM	FM	CM	OPH	ENT	MED	SUR	OBG	PAED
2020-21	64%	71%	67%	83%	82%	78%	85%	95	89%	92%	99%	98%	95%	98%
2021-22	80%	83%	89%	95%	95%	94%	-	83%	81%	77%	100%	99%	100%	97%
2022-23	86	93%	92%	89%	94%	94%	98%	97%	97%	94%	98%	95%	96%	94%

Year	Course	2020-21	2021-22	2022-23
1	Anatomy	2	3	3
	Physiology	2	3	3
	Biochemistry	2	3	3
2	PATHO	3	3	3
	MICRO	3	3	3
	PHARMA	3	3	3
	FMT	3	-	3
3	COMMUNITY	3	3	3
	OPHTHALMOLOGY	3	3	3
	E.N.T	3	3	3
4	PAEDIATRICS	3	3	3
	MEDICINE	3	3	3
	SURGERY	3	3	3
	OBG	3	3	3

The target for course attainment score is between 2-3 which is achieved during last 3 years.

COs & POs Mapping

N	SUBJECT / Course NAME	Medical knowledge	Planning abilities	Problem analysis	Modern tool usage	Leadership skills	Professionalism	Professional ethics	Communication	Impact of doctors on the society	Impact of doctors on the environment	Life-long learning
1	Anatomy	3	3	3	1	2	2	3	2	2	2	2
2	Physiology	3	3	3	1	2	2	2	2	2	2	2
3	Biochemistry	3	3	3	2	2	2	3	2	2	2	2
4	Pathology	3	3	3	2	2	2	2	2	2	2	2
5	Micro Biology	3	3	3	2	2	2	2	2	3	3	2
6	Pharmacology	2	3	3	2	3	2	3	2	2	2	2
7	FMT	3	3	3	2	2	3	2	2	2	2	2
8	Community medicine	3	3	3	2	2	2	2	3	3	3	2
9	General Medicine	3	3	3	2	3	3	3	3	3	3	2
10	General Surgery	3	3	3	3	2	3	3	2	3	2	2
11	Obstetrics and Gynecology	3	3	3	3	3	3	3	3	3	3	2
12	Paediatrics	3	3	3	3	3	3	3	3	2	2	2
13	Orthopaedics (Including Trauma)	3	3	3	3	3	3	3	3	2	2	2

14	Dermatology, Venereology & Leprosy	3	3	2	2	3	3	3	3	2	2	2
15	Psychiatry	3	2	2	2	3	3	3	3	2	2	2
16	Respiratory Medicine	3	3	2	3	3	3	3	3	2	2	2
17	Otorhinolaryngology (ENT)	3	3	3	3	2	2	3	3	3	2	2
18	Ophthalmology	3	3	3	3	3	3	3	3	2	2	2
19	Radio-diagnosis	3	3	2	2	3	3	3	3	2	2	2
20	Anaesthesiology	3	3	3	2	3	3	3	3	2	2	2

0- no correlation, 1- low correlation. 2- medium correlation and 3 -high correlation

Course / Subject wise Results of last 3 years

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2020-21	64%	71%	67%	83%	82%	78%	85%	95	89%	92%	99%	98%	95%	98%
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2022-23	86%	93%	92%	89%	94%	94%	98%	97%	97%	94%	98%	95%	96%	94%

Program Attainment score

Attainment level of program is based on the pass percentage of the course in each subject. As per RGUHS pass criteria 50% is the minimum marks to declare to student pass.

Attainment Level 1: 60% of students score \geq 50% marks out of the maximum relevant marks.

Attainment Level 2: 70% of students score \geq 50% marks out of the maximum relevant marks.

Attainment Level 3: 80% of students score \geq 50% marks out of the maximum relevant marks.

To obtain attainment score for POs, we have considered the pass percentage of each course of a year. Based on this pass percentage, a graded score is allotted (1- for 50 to 60%; 2 for 61 to 70%; 3- >80%) For each course in one year. Average of score for each year is taken as program attainment score. The target for program attainment score is between 2-3 which is achieved during last 3 year.

Program Attainment Score

	I Year			AVG 1	II year				AVG 2	III year			AVG 3	IV year				AVG 4	OVERALL
YEAR	AN	PSY	BIO		PA	MI	PH	FM		CM	OP	EN		GM	GS	OBG	PE		
2020 -21	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.75
2021 -22	3	3	3	3	3	3	3	-	3	3	3	3	3	3	3	3	3	3	3
2022-23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Analysis of COs, POs and PSOs

On analyzing the average score of individual program outcome is 2.5 to 3. It shows, there exist a strong correlation of all COs with that of POs. Similarly, on analyzing, the average score of individual program specific outcome is 2.5 to 3 it shows there exist a strong correlation of all COs with that of PSO.