



# **ANALYSIS OF PROGRAMME OUTCOME AND COURSE OUTCOME**

**SHRI SATHYS SAI COLLEGE OF NURSING**



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# Program outcome and Course outcome analysis

## Introduction:

Quality assurance is a key factor in education. This requires analysis of Program Outcome (PO) and Course Outcome (CO) mapping. This analysis is an important step in outcome based education. As nursing education is moving from traditional teaching learning process to innovative method of teaching and learning, this need to be incorporated into the evaluation system. Besides analysing the mapping, to make it more objective a score need to be obtained for mapping and attainment score need to be calculated for each course and program. All these analysis help to monitor not only the performance of the program but also the individual students. This type of analysis is not routine in health care education.

## Terminologies

### *Program educational objective (PEO)*

Program educational objectives are broad statements that describe what graduates are expected to attain within few years of completing their program. These are based on the needs of the society as analysed and outlined by the regulatory bodies.

### *Program Outcome (PO):*

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

### *Course Outcomes (CO):*

Course outcomes describe the learning that will take place across the curriculum through concise statements, made in specific and measurable terms, of what students will know and/or be able to do as the result of having successfully completed a course.

### *Mapping of PEO, PO and the CO:*

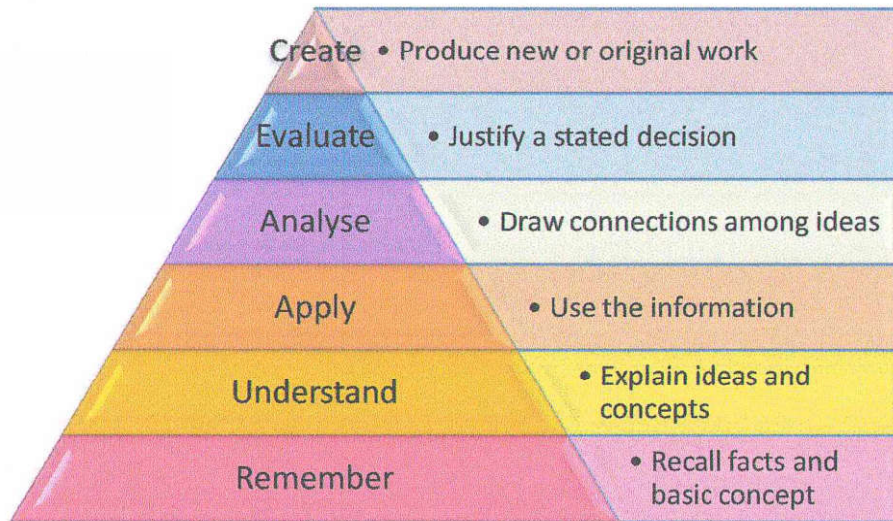
Mapping (program mapping) facilitates the alignment of course-level outcomes with program outcomes. It allows faculty to create a visual map of a program. It is also used to explore how students are meeting program-level outcomes at the course level. Outcomes mapping focuses on student learning also.

### *Attainment score or level :*

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

### *Bloom's Taxonomy:*

Bloom's Taxonomy of Learning Domains was created in 1956 under the leadership of educational psychologist Dr. Benjamin Bloom in order to promote higher order of thinking in education. It is most often used when designing educational, training, and learning processes. The three Domains of Learning are (1) Cognitive: Mental Skills (Knowledge), (2) Affective: growth in feelings or emotional areas (attitude or self) and (3) Psychomotor: manual or physical skills (skills). (Figure 1)



**Figure. 1 Bloom's taxonomy**

Shri Sathya Sai College of Nursing is affiliated to Sir Balaji Vidyapeeth, a health sciences university of Puducherry. It has provided the syllabus for various health care courses, where all courses have its own objectives and methodology to achieve the course outcomes. To attain the course outcomes and program outcome, the institutes use course wise marks of students and the pass percentage of the summative assessment.

## **A.UNDER GRADUATE**

### **1. Bachelor of Nursing Sciences (B.Sc Nursing)**

#### **Program Educational Objectives (PEO)**

Program educational objectives for under graduate program are as follows:

- **PEO1:** Nurse who provides preventive, promotive, curative and rehabilitative aspects of care with safety and compassion.
- **PEO 2:** Lifelong learner committed to recent advancements in health care delivery system to provide quality patient care.
- **PEO 3:** Good listener and communicator with the patients, family members, health team members and society.
- **PEO 4:** Educator who teaches and counsels patients and family members.
- **PEO 5:** Professional who provides high standards of care and maintains professional integrity.

#### **Program outcome (PO)**

At the end of the 4 year of training nursing graduates of SSSCON Should be able to

- **PO 1.** Apply the preclinical, para clinical and basic sciences knowledge in all health care settings.
- **PO 2.** Perform history collection and physical examination to identify the needs and problems of the patient in all health care settings.
- **PO3.** Provide nursing care based on steps of nursing process in collaboration with the individuals and groups.
- **PO4.** Demonstrate critical thinking skill in making decisions in all situations in order to provide quality care.
- **PO 5.** Provide promotive, preventive and restorative health services in line with the national health policies and programmes.
- **PO 6.** Practice within the framework of code of ethics and professional conduct and acceptable standards of practice within the legal boundaries.

- **PO 7.** Participate and Communicate effectively with individuals and groups and members of the health team in order to promote effective interpersonal relationships and teamwork.
- **PO 8.** Prepare the patients for various investigations and identify the abnormal findings pertaining to invasive and noninvasive diagnostic and therapeutic procedures.
- **PO 9.** Demonstrate skills in teaching individuals and groups and able to incorporate the latest trends and technology in providing health care in all settings.
- **PO 10.** Demonstrate leadership and managerial skills in clinical/community health settings.
- **PO 11.** Conduct need based research studies in various settings and utilize the research findings to improve the quality of care.
- **PO 12.** Demonstrate awareness, interest and contribute towards advancement of self and of the profession.

### **Course(Cs)**

B.Sc Nursing program consists of following course. 1<sup>st</sup> Year B.Sc Nursing consists of anatomy, physiology, Nutrition, Biochemistry, Nursing Foundation, Psychology, Microbiology, English & Introduction to Computer Science; 2<sup>nd</sup> Year B.Sc Nursing consists of Sociology, Medical Surgical Nursing I, Pharmacology, Pathology, Genetics and Community Health Nursing I; 3<sup>rd</sup> Year B.Sc Nursing consist of Medical Surgical Nursing II, Child Health Nursing, Mental Health Nursing & Introduction to Nursing Research and Statistics; 4<sup>th</sup> Year B.Sc Nursing consists of Midwifery and Obstetrical Nursing, Community Health Nursing II, Introduction to Nursing Services and Education and Communication and Educational Technology. Each course has its well defined course outcome mentioned in individual course book.

### **Mapping and analysis of Cs, POs and PEOs**

The process of attainment of Cs, POs and PEOs starts from writing appropriate COs for each course in the four year degree program, which include 730 hrs of internship. As Undergraduate Nursing program is regulated by the Indian Nursing Council, COs and POs are defined by it. Based on this, course outcomes are refined by the respective faculty members of the course using action verbs of learning levels as suggested by Bloom Taxonomy. Then, a correlation is established between Cs and POs and Cs and PEOs on the scale of 0 to 3 ('0' being 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 courses as a whole not individually. A 23x12 mapping matrix of COs-PEOs (**Table.1**) and 23x5 mapping matrix of Cs-POs (**Table.2**) is prepared at the institute level in this regard for all courses in the program. Radar graph was plotted to find out the level of correlation between PEO-Cs (**Fig.2**) and PO-Cs (**Fig.3**).

**Table 1. CO-PEO Mapping matrix**

SL. NO	COURSE	PEO1	PEO2	PEO3	PEO4	PEO5
1.	Anatomy(AN)	3	1	0	1	1
2.	Physiology(PY)	3	1	0	1	1
3.	Nutrition(NT)	3	2	2	2	1
4.	Biochemistry(BI)	3	3	2	3	2
5.	Nursing foundation(NF)	3	3	3	3	2
6.	Psychology(Psy)	3	2	3	3	2
7.	Microbiology(MI)	3	3	2	3	2
8.	English(EN)	3	2	1	3	1
9.	Introduction to Computer(IC)	3	3	1	3	3
10.	Sociology(SO)	3	2	2	3	3
11.	Medical surgical nursing I(MSN)	3	3	3	3	3
12.	Pharmacology(PH)	3	2	3	3	3
13.	Pathology(PA)	3	2	3	3	3
14.	Genetics(GE)	3	2	3	3	3
15.	Community health Nursing(COM N)	3	3	3	3	3
16.	Medical surgical nursing II(MSN)	3	3	3	3	3
17.	Child health nursing(CHN)	3	3	3	3	3
18.	Mental health nursing(MHN)	3	3	3	3	3
19.	Introduction to Research & Statistics(RES)	3	3	3	3	3
20.	Midwifery & Obstetrical Nursing(OBG N)	3	3	3	3	3
21.	Community health nursing(COM N)	3	3	3	3	3
22.	Management of Nursing Services and Education (MGT)	3	3	3	3	3
23.	Communication and Education Technology(ED)	3	3	3	3	3
	<b>Average Score</b>	<b>3</b>	<b>2.52</b>	<b>2.39</b>	<b>2.78</b>	<b>2.48</b>





	nursing II(MSN)												
17.	Child health nursing(CHN)	2	3	3	3	3	3	3	2	3	2	3	3
18.	Mental health nursing(MHN)	3	3	3	3	3	3	3	2	3	3	3	2
19.	Introduction to Research & Statistics(RES)	3	2	2	3	3	3	2	3	3	3	3	3
20.	Midwifery & Obstetrical Nursing(OBG N)	3	3	3	3	3	3	3	3	3	3	3	3
21.	Community health nursing(COM N)	3	3	3	3	3	3	3	3	3	3	3	3
22.	Management of Nursing Services and Education (MGT)	3	3	2	3	3	3	2	2	2	3	3	3
23.	Communication and Education Technology(ED)	2	2	2	2	2	2	3	0	3	3	2	2
Average Score		<b>2.91</b>	<b>2.86</b>	<b>2.78</b>	<b>2.56</b>	<b>2.82</b>	<b>2.86</b>	<b>2.69</b>	<b>2.43</b>	<b>2.56</b>	<b>2.34</b>	<b>2.21</b>	<b>2.91</b>

(0 - No correlation; 1 - Low correlation; 2 - Medium correlation ;3 - High correlation).

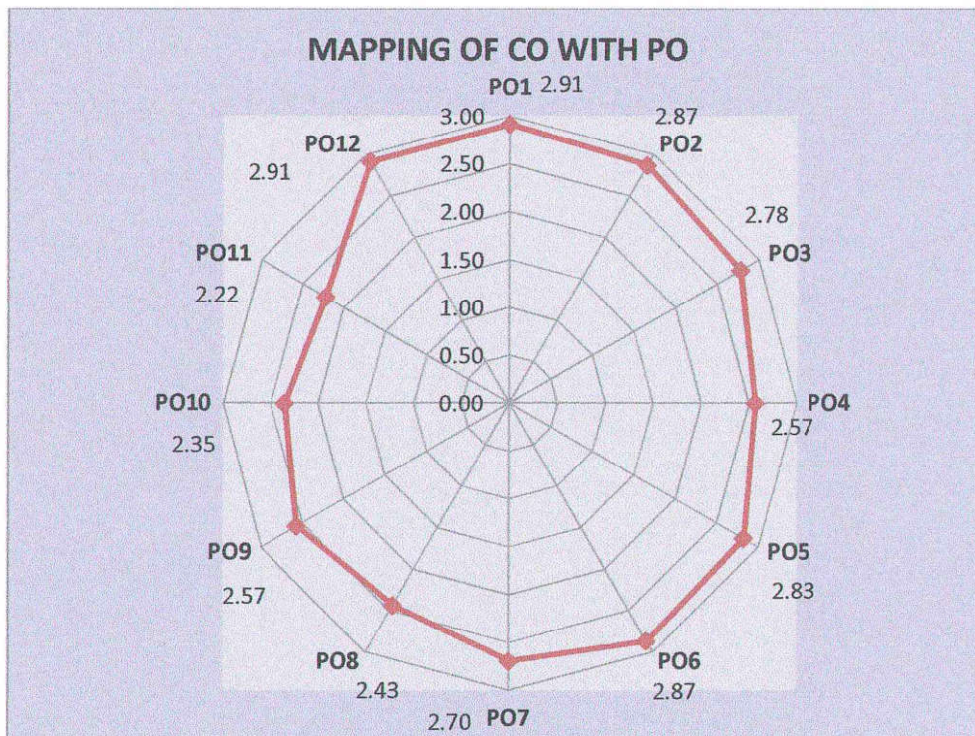


Figure 3. Mapping of Program outcome & course

(0 - No correlation; 1 - Low correlation; 2 - Medium correlation ;3 - High correlation)

***Analysis of Cs, POs and PEOs:***

On analysing, the average score of individual program outcome ranges from 2.21 to 2.91. It shows, there exist a strong correlation of all Cs with that of PO1 & PO12, whereas medium correlation between Cs and PO2 to PO 11. Similarly, on analysing, the average score of individual program educational objectives ranges from 2.39 to 3. It shows, there exist a strong correlation of all Cs with that of PEO1, whereas medium correlation between Cs and PEO 2 to PEO 5.

**Conclusion:**

Going by the mapping analysis of program educational objectives, program outcomes, course outcomes and attainment scores of them, we can conclude that, it is achieved to a satisfactory level.

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