



KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT USE OF BLUEPRINTING IN ASSESSMENT AMONG MEDICAL TEACHERS.

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ABSTRACT **Background:** Use of blueprinting not only give the assessment clear view about the facts that are being assessed but also helps assessor in framing the instruction which are projected in the current medical curriculum. It gives definite idea about contents of curriculum in tabular form.

Objectives: To analyze knowledge, attitude, practices of blueprinting among medical teachers.

Methodology: A cross sectional observational study was conducted. Questionnaire was prepared and prevalidated on blueprinting in assessment. Data tool was demographic profile and prevalidated questionnaire from medical teachers.

Result: It is seen that 83% teachers are not using blueprint. 63% Professors and 78% Associate Professors from respective cadres are not practicing blueprint. Out of 108, 71 teachers were unaware about use of blueprinting in assessment. Conclusion: Present study shows most of university paper setters are not practicing blueprinting.

KEYWORDS : Blueprinting, Assessment, Medical Teachers

INTRODUCTION:

Though pattern of assessment is given in guidelines by Medical Council of India, but every University has its own fixed pattern. Most common type of assessment is summative assessment (theory and practical). Traditional theory assessment is done with the Multiple Choice, Short answer and Long Answer Questions. We often get feedback from the students about it as lengthy and descriptive answers, confusion about expected matter, uneven distribution of marks in respective of weightage and content of syllabus, unexpected questions, overlapping questions etc¹ Learning is assessment driven. To achieve the maximum learning and fair assessment, it is very important what, how and when you are assessing the students¹.

Criteria for good assessment are it should be valid, reliable, generalisable, feasible and fair.^{3,4} Good assessment of the students requires the proper planning as well as implementation of appropriate assessment tool. In present scenario, it is observed that examiners have dissimilar paper setting for enormous syllabus depending upon which the quality of assessment differs a lot⁵. There are no specific guidelines except marks are given to paper setters. It again makes them difficult to maintain content validity leading to disproportionate weightage⁶. This leads to preference of topic, weightage, content depth as per paper setter's choice which inculcates biases in assessment⁷. Reduction in these biases can be achieved by blueprinting in assessment during paper setting or planning. The blueprint direct about framework and synopsis of syllabus.

According to Oxford Dictionaries definition of blueprinting is "A design plan or other technical drawing"⁸. Thus it means 'detailed plan of action' which acts as a plan, model, or template for others⁹. Use of blueprinting not only give the assessment clear view about the facts that are being assessed but also helps assessor in framing the instruction which are projected in the current medical curriculum². Blueprint makes it possible to pass up overlapping of content, define and tabulate the contents present in our curriculum^{10,11}. Blueprinting is adopted in medical education globally so that the fixed standards will be maintained for upcoming doctors.

In India use of blueprint in assessment of medical curriculum is still not mandatory and voluntary use of it is questionable¹². Now it is essential for us to adopt this technique of blueprinting in assessment in our medical curriculum. But for adopting a technique it is crucial to be aware about how many teachers actually recognizes the importance and pursue the principles of blueprinting while setting the paper at present. It is important to know about the knowledge, attitude and

practices of blueprinting among medical teachers in current situation which is a goal of present study.

AIMS AND OBJECTIVES

Primary objective:

- To analyze knowledge, attitude and practices of blueprinting among medical teachers.

Secondary objectives:

- To estimate prevalence of use of blueprinting among paper setters.
- To evaluate factors affecting planning of blueprinting among medical teachers.
- To analyze hurdles during implementation of blueprinting among medical teachers.

METHODOLOGY:

A cross sectional observational study was done at Rajiv Gandhi Medical College, Thane among presently working Medical Teachers. Residents, retired teachers, presently non working Medical Teachers and those who were not willing to participate in the study were excluded. Institutional Ethics Committee permission was taken before starting the study. Confidentiality of participants was maintained throughout the study. Questionnaire was prepared and prevalidated. The objectives of the study were explained to the participants before obtaining informed written consent. Demographic information and prevalidated questionnaire were administered to collect the data. Statistical Evaluation was done using MS EXCEL.

RESULT:

Out of 108 participants, in this study 52% male, 48% were female. Cadewise 15% Professors, 30% Associate Professors, 44% Assistant Professors and 11% Demonstrators participated. 65% teachers were part of theory paper setting. 72 participants attempted the question for departmental paper setting and 92% of them were UG level departmental paper setter. Working as University (UG/PG) level paper setter or not; question was answered by only 30 participants, out of them 60% were UG level University paper setter.

Table 1: University paper setter practicing Blueprint

University paper setter for	Practicing Blueprint		Total
	No	Yes	
Post graduate	10(83%)	2(17%)	12
Under graduate	9(50%)	9(50%)	18
Not aware	71	7	78
TOTAL	90	18	108

From the collected data from teachers, it is seen that 83% post graduate level university paper setters were not practicing blueprint and half proportion of under graduate paper setters were not practicing blueprint. In this study it was observed that among 108 teachers, 71 (65.74%) were not-aware about blue printing concept.

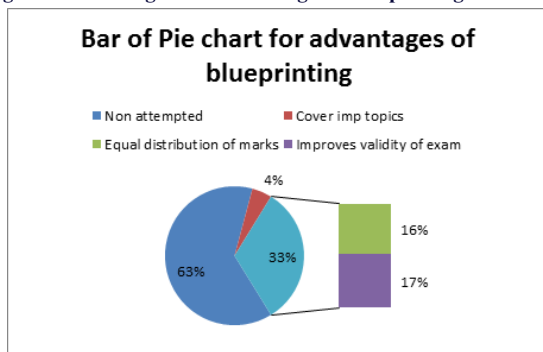
Table 2: Designation of teachers practicing Blueprint

Designation	Practicing Blueprint		
	No	Yes	Total
Professor	10 (63%)	6 (37%)	16
Associate Professor	25 (78%)	7 (22%)	32
Assistant Professor	45 (94%)	3 (6%)	48
Assistant Lecturer	10 (83%)	2 (17%)	12
TOTAL	90 (83%)	18 (17%)	108

The figure in parenthesis shows percentage

It is seen that overall 83% teachers are not using blueprint. 63% Professors, 78% Associate Professors and 94% Assistant Professors are not practicing blueprint.

Figure 1: Advantages & disadvantages of blueprinting:



After explaining the concept and application of blueprint practice, discussion was carried out regarding advantages and disadvantages of blueprinting.

60% to 70% participants did not attempt this question. 33% respondents were opinioned that equal distribution of marks and improvement of exam validity are good advantage of blueprinting. However, time consuming in the important lacunae in this practice (45.8%).

Again while differencing various stages of blueprinting with participants, 84.25% participants did not reply for it. 'Design, discuss, validity, implement' this point is more observed from remaining. From answered data, coordination and faculty resistance were the observed challenges for blueprinting.

DISCUSSION:

In Cambridge dictionary blueprint means an early plan or design that explains how something might be achieved¹. It is a road map to achieve your goals in future. Our goal as medical teachers in assessment is to assess the knowledge gained, understood and what they will be able to apply in actual scenarios in future. The medical knowledge which we assess in traditional assessment is enormous like a big ocean and what we assess is finding a needle in this ocean. In present study we tried finding out how many teachers at present are using this concept for assessment. 65% of teachers were part of theory assessment and 83% of teachers are not using blue print at all for any of the examinations that includes formative as well as summative assessment. Out of 108, 71 teachers were not aware about blueprinting in assessment. Not to our surprise; most of Professors (63%) & Associate professors (78%) from their respective cadre who are university level examiners either undergraduate or both (undergraduate and postgraduate) are not using blueprinting in assessment. This automatically explains the biases which we have faced with traditional assessment like uneven weightage of content, easy or difficult, lengthy or short paper etc.¹ This also does not give content validity. Learners are confused about what, how and how much to write. Assessment drives learning or unlearning depending upon validity and reliability of assessment tool. Learning driven assessment tools can be only those which are valid.⁴This is possible by use of blueprinting in assessment.

70% teachers did not attempt the question about advantage and disadvantages of blueprinting in assessment. Most of them are unaware about the whole concept of it. 33% of respondents mentioned about equal distribution and better validity of assessment. 84.25% participants did not mention about the stages or steps while planning blueprint in assessment. 'Design, discuss, validity, implement' are few points which were touched upon by few but no one explained in detail. Coordination and faculty resistance are challenges for implementation of blueprinting were opined by participants.

Blueprinting is very useful as it help us to avoid inadequate representation, improper format, examiner's unfairness as well as inadequate demarcation in topics of paper 1 and paper 2 in the assessment.² Till date practice of blueprinting is restricted mainly to developed institutions only. Majority of developing institution still show lack of knowledge of blueprinting among medical teachers. An appropriate blueprint is the key step in creating a suitable assessment. Ideally it must not be ignored³. For this it is necessary that awareness and knowledge of blueprinting in assessment is must among the medical teachers. Overall, use of blueprinting training to medical teachers is desperate need of an hour. Also, at university levels some uniform guidelines can be formed for medical teachers so that assessment becomes clear, transparent and valid for both teachers and students.

CONCLUSION:

In present study, proportion of knowledge, practices & attitude of medical teachers towards blueprinting practice were analyzed which shows most of university paper setters are not following this concept. Even large proportion of teachers was unknown of this concept. It is known that use of Blueprinting in assessment gives fair, valid, reliable assessment of students. Hence, there is an urgent need of training of medical teachers for blueprinting in assessment which can be tackled at institute and university level to achieve uniform, reliable and valid assessment.

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