

Effects of Assessments and Examinations on Learning of Students

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Abstract: *Since medical education gives long-standing emphasis on assessments, it seems crucial to evaluate whether our current focus on testing makes sense. This report seeks to provide an account of learning gains attained through assessments and examinations, so we evaluate the views of medical students in a medical college that optimally utilizes educational assessments. For this purpose cross-sectional study was performed in which sample was randomly selected from 2nd, 3rd and 4th year.*

The results obtained showed that most of the students found these assessments helpful in their learning process and they performed well in their professional examinations. So we conclude that assessments and examinations have a positive effect on student's learning and they should take optimally.

Keywords: *Learning effects, Assessment effects, Mode of testing, Professional evaluation, Frequency of testing*

Introduction:

There is much emphasis laid on the assessments in medical education. It has also been prioritized in medical journals and conferences to conduct researches on assessments and ways to improve them. But still, there is much data available regarding the credibility of assessments and their impact on learning of medical students.

Before raising the question of the effect of assessments, first, it is important to know about the ways of assessments that might help in medical education. For this purpose, there are two broadly implemented ways:

1. Summative:

It refers to the assessment of participants where the focus is on the outcome of the programme. The goal of summative assessment is to evaluate student's learning at the end of an instructional unit by comparing it against some standard.

2. Formative:

It is a range of formal and informal procedures conducted by teachers during the learning process in order to modify teaching and learning activities, to improve student's attainment. It typically involves qualitative feedback rather than the score for both the teachers and students.

So this research is about the effects of above two types of assessments on learning of medical students, their internal assessments scoring, professional outcome and attitude.

Previously an international study was conducted by Halpin Glennelle, Halpin Gerald in which analysis of resulting data from ninety undergraduates showed that students who took the tests not only achieved more but also retained their learning longer.

In another study, the impact of assessments on examination results was investigated. The main hypothesis of this study was that the assessment task has a positive impact on the results. They tested this hypothesis in a case study with undergraduates and the study results of the students before and after the tests were compared using t-tests.

Although medical teachers do agree that assessments play an important role in medical education, it is rare that they could provide an evidence-based rationale for this view, so it is necessary to study whether our so much emphasis on assessments is justified or not.

Methodology:

The method used for research purpose was cross-sectional. In this observational study, non-probability consecutive sampling was used in which few students were selected from each of the 2nd, 3rd and 4th year of Gujranwala medical college.

The first year was not included in this study because they had not experienced the professional examinations yet. The whole procedure and objectives of the research were explained to the students and consent was taken. Those who agreed were given a structured questionnaire which was filled in a self-administered way. It had different questions regarding mode, frequency, and effects of examinations and was distributed among students of above-mentioned classes. Data were collected based on their responses.

Results:

A total sample of 130 students were randomly selected from 2nd, 3rd and 4th year of GMC. 14% were male while 86% were female. Out of the 52.1 was living in a hostel while remaining were day-scholars.

Most of the students agreed that assessments and examinations have a positive effect on their leaning. 76% students agreed upon the fact that evaluations help them in a better understanding of the topics. 81.4% found them useful in performing better in professional examinations. It helped them in improving their internal assessment scoring. 80.7% students considered that different subjects need different modes of testing. 38.8% preferred written short question-based format while others preferred MCQs based or verbal exams. 54.3% students said that these evaluations should be taken weekly.

Age (mean ± SD)		21.6 ± 1.14
Class	2 nd	15 (11.6%)
	3 rd	34 (26.4%)
	4 th	80 (62.0%)
Sex	Male	18 (14.0%)
	Female	111 (86.0%)
Living Status	Hostilities	68 (52.7%)
	Day-scholars	61 (47.3%)

Questions	Agree	Neutral	Disagree
1. Assessments help in understanding	76%	9.3%	14.8%
2. Teachers help in better learning	86.8%	7.0%	6.3%
3. Helpful in performing better in professional exams	81.4%	5.4%	13.2%
4. Have a positive effect on internal assessment	86.8%	7.0%	6.3%
5. Help in better retaining of topic	87.6%	4.7%	7.8%
6. They improve the professional score	89.2%	4.5%	6.3%
7. They make a student regular	73.6%	9.3%	17.1%
8. They are beneficial in learning	87.6%	4.7%	7.8%
9. They improve your practical approach	63.6%	11.6%	24.5%
10. They improve your professional attitude	73.6%	7.8%	18.6%

11. They make you confident about your learning	84.5%	7.0%	8.6%		
12. They help in learning topics which one otherwise ignores	77.5%	7.0%	15.5%		
13. Different subjects require different modes of learning	80.7%	6.2%	13.2%		
14. The preferred mode of assessment	Written	Verbal	Presentation	MCQ	Practical
	38.8%	17.1%	18.6%	14.0%	11.6%
15. Frequency of assessments	Daily	Weekly	Monthly	Annual	
	4.7%	54.3%	34.9%	6.2%	

Discussion:

To find out effects of assessments, it is also important how often they are taken. Assessments can be taken on a daily basis, or they can be weekly, monthly or annually. The data obtained from our research showed that most of the students preferred weekly assessments. Previous research by Timothy Wood also concluded that repeated testing during learning was shown to promote better memory for content than a single test which in turn produces better memory than no tests at all.

The mode of assessments also matters a lot in the learning and retaining of subjects. According to our research mostly students preferred written SEQ based evaluations. Timothy also agreed that tests which require students to construct an answer like a short answer examination appeared to produce better results than tests which require students to recognize an answer such as multiple choice questions. MCQ examinations use false information to generate response options. Students who convince themselves of the accuracy of an incorrect answer may have difficulty in learning that information. This negative effect of learning was demonstrated by Roediger and Marsh.

In this research, most of the students agreed to the fact that formative testing comes out to be more productive than summative. In their research, the overall impact of testing on medical student learning, Clarence D. Kreiter pointed to the fact that while tests have the potential to promote positive learning gains, they can in some situations, cause negative effects like summative tests that fail to target the desired learning objectives can motivate the students to learn the wrong curriculum. When this happens, it points out a need for further test development efforts to improve testing.

Conclusion:

The objective of the study was to check out the student’s perspective of testing outcomes in learning, scoring and professional attitudes. Most students agreed to the fact that these testing and evaluations do matter in the overall better performance of the students in professional exams and clinical practices.

The limitation of the study was that the sample size was not very big. It includes views of only those students who gave consent to fill the questionnaire. Moreover, the students of only Gujranwala medical college were included in the study, and the results are generalized to all medical students.

The strong impact of testing on learning points out a need for the improved testing system. This study indicates a large potential for learning gains achieved by testing. So it appears logical to assume that an investment in testing research and development is likely to produce gains in learning. Areas, where tests have already an impact on learning, can be improved, and areas, where tests have not yet influenced, can be developed and validates. As medical education enters the digital age, many new testing innovations and formats will become possible. The electronic delivery of education has made it possible to strategically time, and coordinate tests with instruction and this are likely to facilitate testing’s direct effect on learning.

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