Research Paper on Examination

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Abstract – This paper studies in detail about the concept of examination, its origination, its purpose and its importance for students. It describes on different types of testing methods and its evaluation. It also highlights on how students face an examination and how they get affected by it before and after writing the exam. It also discusses some cases when students try to cheat during exams. Finally it also adds some points on how examinations should be modified and conducted based on students opinion. This content includes some comments said by students during past research.

Index Terms – Standardized test, High-Stakes test, time-limited tests, multiple-choice tests, Take-home tests

INTRODUCTION

Examination is a tool that is used primarily in academics and other fields also to assess the test-taker’s capability. It is used to measure principally the effectiveness on how a student has understood the concept. It also partially tests the efficiency of how far the teacher has been able to reach his students and deliver the right information to them. The latter is more important factor because it directly affects the former measure. All examinations are generally administered and scored in a legal and ethical manner. A test score may be interpreted with regards to a norm or criterion, or occasionally both. The norm may be established independently, or by statistical analysis of a large number of participants. Passing all exams with good grades is important to start a bright career. It takes us to the future we cannot grasp. So it becomes essential for every student to acquire good education and thorough knowledge of all concepts. Any test with important consequences for the individual test taker is referred to as a high-stakes test. If he is unable to get proper teaching or if he is not capable enough to study efficiently, he may not perform well and score low grades. Then he may be forced to resort to ways that circumvent the problem like cheating.

Instructors often use the terms tests, exams, and even quizzes interchangeably. Test experts Jacobs and Chase (1992), however, make distinctions among them based on the scope of content covered and their weight or importance in calculating the final grade for the course. An examination is the most comprehensive form of testing, typically given at the end of the term (as a final) and one or two times during the semester (as midterms). A test is more limited in scope, focusing on particular aspects of the course material. A course might have three or four tests. A quiz is even more limited and usually is administered in fifteen minutes or less. Though these distinctions are useful, the terms test and exam will be used interchangeably because the principles in planning, constructing, and administering them are similar.

CONCEPT AND ORIGINATION

Many teachers dislike preparing and grading exams, and most students dread taking them. Yet tests are powerful educational tools that serve at least four functions. First, tests help you evaluate students and assess whether they are learning what you are expecting them to learn. Second, well-designed tests serve to motivate and help students structure their academic efforts. Crooks (1988), McKeachie (1986), and Wergin (1988) report that students study in ways that reflect how they think they will be tested. If they expect an exam focused on facts, they will memorize details; if they expect a test that will require problem solving or integrating knowledge, they will work toward understanding and applying information. Third, tests can help you understand how successfully you are presenting the material. Finally, tests can reinforce learning by providing students with indicators of what topics or skills they have not yet mastered and should concentrate on. Despite these benefits, testing is also emotionally charged and anxiety producing [1].

The earliest evidence of standardized testing was in China [2], where the imperial examinations covered the Six Arts which included music, archery and horsemanship, arithmetic, writing, and knowledge of the rituals. Standardized testing was introduced into Europe in the 17th century, modeled on the Chinese mandarin examinations. It was from Britain that standardized testing spread, not only throughout the British Commonwealth, but to Europe and then America [3]. Its spread was fueled by the Industrial Revolution. Given the large number of school students during and after the Industrial Revolution, when compulsory education laws increased student populations, open-ended assessment of all students decreased. Moreover, the lack of a standardized process introduces a substantial source of measurement error, as graders might show favoritism or might disagree with each other about the relative merits of different answers.

In the United States, the need for the federal government to make meaningful comparisons across a
highly de-centralized (locally controlled) public education system has also contributed to the debate about standardized testing, including the Elementary and Secondary Education Act of 1965 that required standardized testing in public schools. US Public Law 107-110, known as the No Child Left Behind Act of 2001 further ties public school funding to standardized testing [3].

PURPOSE AND IMPORTANCE OF EXAMS

In general academics, examination is defined as process of formal systematic questioning which is the act of giving students or candidates a test (as by questions) to determine what they know or have learned from the material usually within a given time period. It is a set of questions or exercises evaluating the students’ skill or knowledge. More circumspectly it examines the mistakes that a student does which can help the examiner to determine how far the student is knowledgeable and thus how could he be directed so that he improves himself and performs well in future exams. So it is like an adaptive process for as student by which he could know his level of technical skills, his weakness and work towards progress. These are some of the important factors for motivation of examination in academics and even in other domains.

There are a few academicians who oppose giving exams in college courses. Their argument is that students should learn for the love of learning and that fear of exams creates an adverse, threatening atmosphere. “I agree that learning can be intrinsically rewarding, but I also believe that there are several cogent reasons for giving exams in college” [4]. This assessment function is also important to students because it provides feedback that may influence their future plans. For example, they could change their career goals if they do well in a subject that is new to them, or poorly in a subject that is critical to some professions. At the least, feedback from exams is important in deciding whether they are prepared for more advanced work in a discipline. Even if the news is not always good, it is best to know strengths and weaknesses.

Another important function of exams is that of a stimulator/motivator. What it means is that almost everyone needs a clear signal that it is time to shift attention from learning to memory, and also some added motivation to do the additional work. Organizing and integrating facts into a coherent body of knowledge is important, but it is easy to convince yourself that you know you know the material, so you don't need to spend the time preparing to prove it to others. But in fact, learning something now is futile unless you can remember it in the future, and hence the incentive to prepare for an exam helps insure that you complete the learning-memory cycle.

The most important reason for giving exams is to reward good students for having mastered the subject [4]. Many students think that the teacher’s goal is to detect students goofing off and to give obscure questions that most students will fail. There may be a few teachers like that, but most of us want you to learn, want you to do well, and want to give you a good grade as recognition for your accomplishment. You might prefer some other prize, but quality grades are the only tangible tokens that college teachers have to reward students who deserve them. Hence, a meaningful grading system will lead to a distribution of grades that corresponds to the distribution of student performance levels.

TYPES OF EXAMS

Over time, different methods to test students have been evolved and implemented. There are some generic methods and some modern-day techniques employed based on different situations. At the most basic level it can be classified as Standardized and Non-Standardized tests.

A standardized test is any test that is administered and scored in a consistent manner to ensure legal defensibility. Standardized tests are often used in education, professional certification, psychology (e.g., MMPI), the military, and many other fields. A non-standardized test is usually flexible in scope and format, variable in difficulty and significance. Since these tests are usually developed by individual instructors, the format and difficulty of these tests may not be widely adopted or used by other instructors or institutions. A non-standardized test may be used to determine the proficiency level of students, to motivate students to study, and to provide feedback to students. In some instances, a teacher may develop non-standardized tests that resemble standardized tests in scope, format, and difficulty for the purpose of preparing their students for an upcoming standardized test. In contrasts to non-standardized tests, standardized tests are widely used, fixed in terms of scope, difficulty and format, and are usually significant in consequences.

Written tests are tests that are administered on paper or on a computer. A test taker who takes a written test could respond to specific items by writing or typing within a given space of the test or on a separate form or document. A test developer's choice of which style or format to use when developing a written test is usually arbitrary given that there is no single invariant standard for testing. Be that as it may, certain test styles and format have become more widely used than others. Some other categories are [1]:

I. Multiple Choice Tests

Multiple-choice items can be used to measure both simple knowledge and complex concepts. Since multiple-choice questions can be answered quickly, you can assess students’ mastery of many topics on an hour exam. In addition, the items can be easily and reliably scored.

II. True-False Tests

Because random guessing will produce the correct answer half the time, true-false tests are less reliable than other types of exams. However, these items are appropriate for occasional use. Some professors who use true-false
questions add an "explain" column in which students write one or two sentences justifying their response.

III. Matching Tests

The matching format is an effective way to test students' recognition of the relationships between words and definitions, events and dates, categories and examples, and so on.

IV. Essays

Essay tests enable you to judge students' abilities to organize, integrate, interpret material, and express themselves in their own words. Research indicates that students study more efficiently for essay-type examinations than for multiple-choice tests: students preparing for essay tests focus on broad issues, general concepts, and interrelationships rather than on specific details, and this studying results in somewhat better student performance regardless of the type of exam they are given (McKeachie, 1986). Essay tests also give you an opportunity to comment on students' progress, the quality of their thinking, the depth of their understanding, and the difficulties they may be having. In addition, the reliability of essay tests is compromised by subjectivity or inconsistencies in grading.

V. Problem Sets

Most mathematics questions or calculation questions from subjects such as chemistry, physics or economics employ a style which does not fall in to any of the above categories. Instead, most math questions simply state a question and require the candidate to solve it, usually with marks given more for the steps taken than for the correct answer [7].

VI. Performance Tests

Performance tests ask students to demonstrate proficiency in conducting an experiment, executing a series of steps in a reasonable amount of time, following instructions, creating drawings, manipulating materials or equipment, or reacting to real or simulated situations. Performance tests can be administered individually or in groups. They are seldom used in colleges and universities because they are logistically difficult to set up, hard to score and the content of most courses do not necessarily lend itself to this type of testing.

VII. Oral Exams

Though common at the graduate level, oral exams are rarely used for undergraduates except in foreign language classes. In other classes they are usually time-consuming, too anxiety provoking for students, and difficult to score unless the instructor tape-records the answers.

VII Alternative Test Modes

All the above exams take place in a confined area with no access to study materials. But there are other tests like Take-Home tests, Open-Book tests or Group-Exams that permit students to refer the materials or internet for taking exams. But these tests reduce students' motivation to study.

Effect of Exams On Students

"There are no secrets to success. It is the result of preparation, hard work learning from failure." From the perspective of a test developer, there is great variability with respect to time and effort needed to prepare a test. Likewise, from the perspective of a test taker, there is also great variability with respect to the time and needed to obtain a desired grade or score on any given test. When a test developer constructs a test, the amount of time and effort is dependent upon the significance of the test itself, the proficiency of the test taker, the format of the test, class size, deadline of test, and experience of test developer [7].

The motivational exam quotes are organized into these six attributes of success [5]:

- Diligence
- Persistence
- Taking the Initiative
- Learning from Failure
- Facing Challenges
- Living A Fruitful Life

It is a common fact that clearing any exam successfully takes lot of effort and it is always easy to say “Work hard to get good results”. But the prospect of writing and clearing an exam has tremendous effect on students. It creates a lot of anxiety among students and they all become pumped-up. It is difficult to understand why pressure-filled exams undermine even a good student’s performance. Test anxiety involves a combination of physiological over-arousal, worry and dread about test performance, and often interferes with normal learning and lowers test performance. It is prevalent amongst the student populations of the world, and has been studied formally since the early 1950s [6]. Test anxiety has been shown to have a consistently negative relationship with test performance, and test anxious students are found to perform about 12 percentile points below their non-anxious peers [6]. Test Anxiety is seen to consist of:

- Physiological over-arousal — often termed "emotionality." Somatic signs include headaches, stomach aches, nausea, diarrhea, excessive sweating, shortness of breath, light-headedness or fainting, rapid heartbeat, and dry mouth.
- Worry & Dread — maladaptive cognitions. Include here catastrophic expectations of gloom and doom, fear of failure, random thoughts, feelings of inadequacy, self-condemnation, negative self-talk, frustration, comparing oneself unfavorably to others.
• Impairment — poor concentration, 'going blank' or 'freezing,' confusion, poor organization. The inability to concentrate leads to impaired performance on tests.

It is expected that sitting for an important exam creates worries about the situation and its consequences that undermines the test performance for most students [8]. The fear of exams always creates pressure that makes some students feel incapable and thus resort to cheating. While various suggestions might be beneficial, "treatment" usually refers to a method or protocol meant to reduce the specific problem. Behavioral protocols such as systematic desensitization rely on deep muscle relaxation and pair relaxation to a graduated sequence of anxiety-provoking images. Cognitive protocols identify and challenge catastrophic and otherwise maladaptive expectations and attempt to replace them with more realistic attitudes. A simple experiment was done that made student write down their thoughts about an upcoming test could improve test performance. The intervention, a brief expressive writing assignment that occurred immediately before taking an important test, significantly improved students' exam scores, especially for students habitually anxious about test taking. Simply writing about one’s worries before a high-stakes exam can boost test scores.

CONCLUSION

There have been many suggestions and comments on how to improve examination process in a manner that makes students comfortable and confident. “Exams should be purposeful and based on the requirement not just to filter the candidates”. This is a common point from every student especially after taking competitive exams like GRE. The test has several sections of synonyms in which the student is unaware of meaning of neither the questions nor its answer options. “The exam contained words that I would probably never hear anywhere else in my life.” The whole point of conducting such type of exams is just to filter them rather test their capability of what they are applying for and most students dread to take these kinds of exam.

Exams should be constructed effectively. Some tips are:
• Spend adequate amounts of time developing your tests.
• Match your tests to the content you are teaching.
• Try to make your tests valid, reliable, and balanced.
• Use a variety of testing methods
• Write questions that test skills other than recall.
• If your course has graduate student instructors (GSIs), involve them in designing exams.
• Take precautions to avoid cheating.

REFERENCES
[8] http://www.sciencemag.org/content/331/6014/211.abstract