

EDITORIAL

CRONBACH'S ALPHA

Cronbach's alpha is not the name of a science fiction movie about the adventures of a half human half robot (android) into the outer space. Cronbach's alpha is a statistical analysis which measures the reliability of a psychometric instrument, or in simple words it is an unbiased estimator of reliability of an assessment procedure [1].

Curriculum Development:

The aims of medical education are to improve the medical knowledge of students, so that they can take care of patients in a better way. To achieve this aim a curriculum is prepared to cover all aspects of medical knowledge relevant to patients' care. Previously this curriculum was teacher based and was at the discretion of teachers how they wanted to teach students and was biased due to their personal likings and disliking. Now the emphasis is more on student centered learning. In spite of a thoroughly prepared curriculum, a "hidden" curriculum can't be eliminated. The "declared" curriculum is the curriculum as set out in the institution's documents. The "taught" curriculum is what happens in practice. The 'learned' curriculum is what is learned by the students. The 'hidden' curriculum is the informal learning in which students engage and which is unrelated to what is taught [2] (fig. 1).

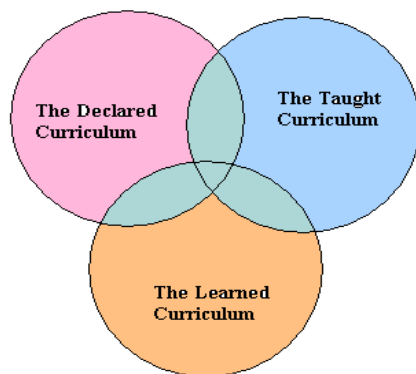


Fig. 1: The hidden curriculum.

Teaching Modalities

Once a curriculum is designed and approved, then comes the teaching method.

There are various methods like lecturing, small group tutorials, problem based learning, community based learning and bed side teaching. Different teaching modalities have their own merits and demerits (fig. 2).

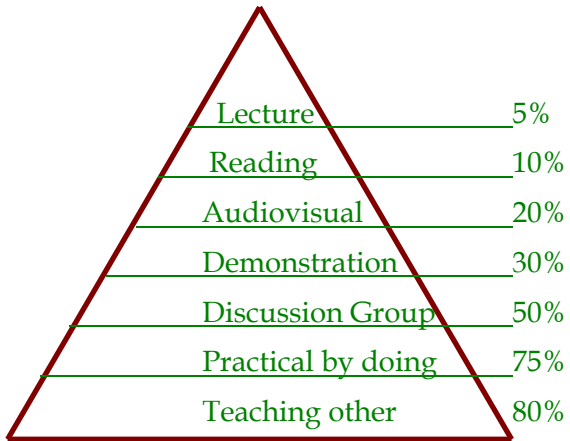


Fig. 2: The learning pyramid- Average retention rate

Assessment

Once a teaching process is completed, then comes the assessment or examination. Because assessment drives learning, appropriate assessment tools must be designed to ensure that assessment is consistent with the learning objectives. Different assessment tools are used to test reasoning ability, knowledge base, practical skills, attitudes and communication skills. Different assessment tools have been found best for assessing different learning objectives. Knowledge is best assessed by written examination which includes multiple choice questions, short answer questions and short essay questions, whereas psychomotor skills are best judged by clinical examination/ OSCEs and attitudes are ideally assessed by continuous assessment. By the way, viva voce is not considered a good tool of assessment (table).

Table: How to assess knowledge, skills, and attitudes.

	Written Exams	Clinical Exams, OSCEs	Continuous Assessment	Viva
Knowledge	++++	+	++	++
Psychomotor Skills	-	++++	+++	-
Attitudes	-	+	++++	+

Analysis of Assessment:

Once assessment is completed the quality assurance or reliability of assessment procedure has to be checked. This means we want to assess whether examination was either too easy, too difficult, failing to show a difference between good and poor examinee. The two most common statistics used for this purpose is difficulty index, which is a measure of proportion of examinees who responded to an item correctly, and the discrimination index, which is a measure as to how well the item discriminates between examinees who are knowledgeable in the content area and those who are not.

An additional analysis that is often reported is the distractor analysis. The distractor analysis provides a measure of how well each of the incorrect option contributes to the quality of the multiple choice item [3].

Cronbach's alpha has been made by psychiatrists to assess psychometric analysis. It is very useful for assessing the reliability of a test and will generally increase when the correlation between the item increase. For this reason the coefficient is also called internal consistency or the internal consistency reliability of the test. Therefore Cronbach's

alpha is named as a tool for extracting hidden gems from a mountain of variables.

REFERENCE

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