4KK Posters: Written & Computer Based Assessment

Location:

#4KK01 (136273)
Computer vs Paper Based Exam in Alfaisal University College of Medicine

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Background: The age of technology has vastly grown, however, its use in medical education, especially in assessment, has been slow particularly in developing countries. At Alfaisal University College of Medicine, computer-based exam (CBE) is being introduced and will gradually replace the paper-based exam (PBE). The aim of this study is to seek students’ feedback and understand their perception on CBE vs PBE at this critical transition phase.

Summary of Work: This is a cross-sectional survey-based study, seeking student perception, on computer-based versus paper-based exams via an online survey with both quantitative and qualitative components.

Summary of Results: Preliminary results indicate that majority of students favor CPE and main reasons cited include user-friendliness of CBE, less time consuming during the exam, less time to grading, and less chances of error in CBE compared to PBE.

Discussion: CBE is more acceptable in students as the new generation is tech-savvy and more comfortable with its use. Students also consider it an opportunity to prepare for future international exams which are computer-based. One of the comments indicated that CBE saves paper and avoids hassle with scantrons.

Conclusion: It is right time for transition to paperless CBE as it is user/student-friendly, efficient and environment friendly.

Take Home Messages: Medical education, including assessment, should keep pace with and adopt to changing technologies including environment-friendly CBE.

#4KK02 (132572)
Progress tests in pharmacology: limitations

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Background: It is a continuous task to assess the gain of knowledge in medical students. One such possibility lies in using progress tests: This has been used before by given identical test before or during or after completion of a curriculum. We wondered whether this would be helpful in a pharmacology course comprising only lectures in medical students.

Summary of Work: The initial voluntary test (containing 30 MC questions) was taken by 82% of the electable students (n=159). Defining a passing grade of 60% only 2% of the students passed the test. Range was 6 and 21 points. This indicates practically no previous knowledge of pharmacology is present in these students, which was to be expected.

Summary of Results: The final now, obligatory test at the end of the course lectures was taken by all electable students (n=159) and was passed by 95% (range of points obtained was 12 to 29)

Discussion: Only, one student dropped in performance from 13 to 12 points. The highest improvement was from 6 to 29 points in one student and from 8 to 29 points in three students. This might be interpreted as gain of knowledge by the course, but also (judged from informal talks with students) due to memorization of the questions (which were never formally released) by students.

Conclusion: Hence, progress tests are useful but probably need to be modified when given twice to be of real merit.

Take Home Messages: Progress tests for medical students in pharmacology have limited value in clearly indicating why widely and deeply students increase their knowledge in a lecture bases course.
#4KK03 (131563)
Prediction of the final examination with recall or problem-based type of test in formative assessment - which one is useful?

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Background: Assessment is an essential part in any educational program. Formative assessment is recommended to produce feedback about the learning process. We studied 2 types of formative quizzes, recall type and problem-based question and study the association between these two types of examination with the summative and the previous grades.

Summary of Work: There are 76 fourth-year medical students divided into four groups in the 2015 academic year. The students have two types of formative questions (recall and problem-based) in the mid-course of internal medicine ward rotation. By the end of the rotation, summative examination was performed.

Summary of Results: The preliminary results of two groups (39 students) revealed that only recall-type questions can predicted summative assessment. Formative (both types) and summative assessment have association with grade point average (GPA) in the preclinical period (year 1-year 3).

Discussion: The recall question which can be answered from memory is being replaced by newer problem-based type. Herein, the use of recall examination better provided information about the achievement. This indicates that memory recall still have influence in subsequent outcome. The GPA during the preclinical also a predictor in clinical years

Conclusion: Presently, we have information that formative assessment with recall-type question has some predictive value with summative assessment but not the problem-base type. This indicated that the use of two indicators would be more specific to identify the risk of students for failure.

Take Home Messages: Formative assessment provides information to direct future learning. Multiple measurements using both recall and problem-based type can increase the power of prediction. The grade results previously in the past also correlate with the final test and render the teachers to concentrate in high risk students and help to improve them.

#4KK04 (135172)
Current status and issues of web-based test: WBT at a school of medicine in Japan

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Background: A web-based test has been introduced and the current system has been operated for three years at the school of medicine where I work.

Summary of Work: A web-based test, which is called, wbt is operated for each unit for mainly from the second to fourth grade medical students. There are approximately 40 units currently such as Allergy-Collagen Diseases unit, Dermatology-Plastic Surgery unit. Wbt is held in daily-basis all year around and questionnaires on lesson evaluation of each unit are followed after every wbt. Analyzing the results of these questionnaires, they are returned to each faculty in charge of the unit. Afterwards, faculty provides answers for students and I obtain feedback on wbt at the same time.

Summary of Results: Current wbt system operating in my university offers multiple benefits for faculty members. According to feedback from faculty, the biggest benefit is that they can receive the scores of test-takers and the result of analysis promptly. Introduction of wbt brought faculty members remarkably to reduce time and labour for unit exams.

Discussion: Whereas there are a significant number of advantages on wbt such as saving troubles, time and evading cheating, we have some disadvantages, which are necessary to be solved, in terms of cost and special knowledge of wbt system.

Conclusion: Nevertheless, 100% of faculty members who used wbt for unit exams answer that they wish to use wbt for their unit exams again.

Take Home Messages: It is necessary to consider how to challenge and overcome the issues on wbt in order to improve the current system.
How to construct an exam blueprint - a comparison of two methods used in a new medical school

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Background: The ultimate goal of constructing an exam blueprint is to ensure content validity. To align assessment with the taught curriculum, it is standard practice to develop an examination blueprint or test specification grid where test items are mapped to learning outcomes. A blueprint is generally a two-dimensional matrix that correlates an assessment item to a learning outcome and defines the numbers of items within the learning domains to be assessed. Multiple approaches can be undertaken for particular assessment purposes, and we present two distinct methods of blueprint construction that were employed and compared for item content.

Summary of Work: Two distinct exam blueprints were constructed for the year 1 MBBS end of year exam. The first method utilised the relative proportion of time assigned to different teaching modules in the curriculum and was algorithm based. The second method employed faculty with subject specialty to choose test items they deemed important for student knowledge. Length of exam, weight of each item in relation to learning outcomes and proportion of items, were taken into account for the faculty led method.

Summary of Results: As an initial study, four learning domains were analysed and compared across the two different blueprints for a Year 1 undergraduate medical exam. No significant differences were found between the numbers of domain items sampled in the two separate blueprints. However, when analysed further, certain learning domains displaying different types of characteristics (e.g. those pertaining to vertically integrated courses) highlighted some important differences.

Discussion: Our results demonstrate that there were no substantial differences in the composition of an exam blueprint constructed either by faculty-led domain sampling versus weightage of time assigned to distinct curriculum modules.

Conclusion: There are multiple methods to constructing an exam or test blueprint. Whichever method is utilised the fundamental goal is to ensure content validity. No major differences were observed when two distinct methods were chosen for the same exam.

Take Home Messages: When careful attention to all domains and consensus between multiple faculty members is ensured, a robust exam blueprint can be constructed by faculty-led test item sampling. Faculty responded positively and this generated additional benefits in terms of faculty engagement.

Factors influencing national license examination step 1 score in preclinical year medical students

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Background: Passing 3 steps of National License Examinations (NLE) is required to obtain a medical license in Thailand. NLE step1 which tests basic medical sciences knowledge is considered to be tough and stressful due to large amount of basic medical contents. This study determined factors that influenced NLE step1 score (NLE1S).

Summary of Work: NLE1S of the second preclinical year, academic achievement, and class attendance were obtained officially. Other factors including study behavior were obtained from questionnaire with 81.97% being returned (241/294). Students were subdivided into 4 groups including fail (<52%), pass (52%-<70%), good (70%-<80%), and excellence (>=80%) according to 2-score.

Summary of Results: Preparation time/day was lower but stress was higher in the fail group. Internet for academic use and reading to level of expectation were higher, but internet for non-academic use, late+absence, stress level, and check-in time were lower in the excellence group. Academic achievement had strong positive correlations with NLE1S.

Discussion: Different behaviors of student for preparing NLE step 1 including preparation time, internet for academic/non-academic use, late-absence, check-in-time, and stress level as well as academic achievement including GPA, subject scores, and comprehensive examination have an influence on NLE1S. Sleep time and exercise time were not the factors affecting NLE1S.

Conclusion: Students with good NLE1S also had good academic achievement in preclinical study and good behavior including lower internet for non-academic use, late-absence, and early check-in-time and higher internet for academic use and reading to level of expectation. Performing good study behavior regularly might lead to good academic achievement and NLE1S.

Take Home Messages: Good study behaviors are encouraged to preclinical students to perform regularly in preclinical years in order to obtain good academic achievement, good NLE1S, and lower stress level during period approaching NLE exam.
#4KK07 (133352)
Students' views about the factors affecting their performance on continuous assessment at the College of Medicine, KKU, KSA

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Background: The system of continuous assessment (CA) used in the College of medicine, KKU can be described as frequent summative assessments since there is no regular feedback. The curriculum adopted is discipline-based. Separation of male and female students into two university camps might be a factor affecting the performance of students in CA. The objective of this study was to examine the relation between each of gender, feedback and students' perception of learning and students' performance in CA.

Summary of Work: The target population of this study was the 4th, 5th and 6th year students of the college of medicine, KKU. The average of each of the three batches was 130 students. Non-probability convenience sampling was used aiming at 25% - 30% of the total. A correlation design was adopted. A structured self-administered questionnaire was developed and validated before use. Pearson's correlation coefficient(r) was computed using SPSS. P value of <0.05 was considered significant.

Summary of Results: The total number of respondents was 128 with 58% of them males and 42% females. The computed r for the perception of learning with performance in CA was .741 and for feedback with performance in CA was .766.

Discussion: This cross sectional study clearly indicates a significant positive correlation between the studied constructs except gender. Although profound evidence does exist on the positive effect of CA on academic performance and motivation of students, this effect seems to be dependent on how the assessment system is used.

Conclusion: The respondents viewed their perception of learning and feedback as significantly and positively related to their performance in CA.

Take Home Messages: Even with minimum feedback, still CA resulted in motivation and better performance.

#4KK08 (134687)
Formative comprehensive examination (FCE) enhances clinical knowledge in medical students

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Background: Comprehensive examination has been used for medical knowledge evaluation before graduation. Formative evaluation use for improve all domains of student learning. Applications of formative feedback in comprehensive examination may be improve clinical knowledge and inspire active learning.

Summary of Work: Seventy five medical students (4th, 5th, 6th year) were performed the first formative comprehensive examinations (FCE) used by 100 items MCQs case scenarios at the mid year. Students were informed their examination scores, percentiles and feedback their knowledge weak-points for active learning. The second FCE was performed at the end of the year with the same table of specification. The improvement of scores was analyzed with paired t-test. The regular examination score in each clinical year was compared between before and after FCE application.

Summary of Results: Baseline characteristics were similar in all clinical year students. The first FCE scores were significantly different in 4th, 5thand 6th year (31.58±5.84 vs. 45.34±6.04 vs. 45.10±7.20, p=0.00). The second FCE scores were significantly improved in 4th, 5th, and 6th year (44.73±9.22 vs. 60.49±7.65 vs. 56.19±7.19, p=0.00). The mean difference of FCE scores of each clinical year were not significantly different (13.15±6.53 vs. 15.15±5.32 vs. 11.08±7.88, p=0.12). After FCE application, regular examination scores were significantly improve in 5th and 6th year (69.05±7.01 vs 69.97±6.93, 72.70±7.77 vs 61.20±6.83, p=0.00) but no significantly improve in 4th year (69.23±7.47 vs. 66.98±6.04, p=0.29).

Discussion: Formative comprehensive examination enhance active learning in clinical year especially in 5th and 6th year because this examination emphasis in application of clinical knowledge.

Conclusion: Formative comprehensive examinations not only improve FCE scores in all clinical years but also achieve higher regular examination score especially in 5th and 6th year. This may be result from enhancement in clinical knowledge active learning.

Take Home Messages: Formative comprehensive examination and feedback may stimulate active learning of clinical knowledge.
ADEM PLUS: Performance assessment of medical students in Brazil

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Background: There are in Brazil initiatives of assessment and evaluation in Medical Education as National Exam of Students' Performance – ENADE, part of SINAES–INEP–MEC (Ministry of Education), progressive tests, organized by consortia of medical schools, beyond of proposals of terminal exam such as applied by Sao Paulo State Medical Licensing Council – CREMESP.

Summary of Work: The objective of this study is to support and promote medical students' performance assessment, and physicians assessment in first two postgraduate years, and to support program evaluation of Brazilian's undergraduate medical schools. We are conducting a longitudinal assessment involving sequential exams in clinical sciences at the end of: 3rd., 4th., 5th. and 6th. years of MD Program (2013) and during the 1st. (2014) and 2nd (2015) postgraduate years. The exams will be developed and applied by National Board of Medical Examiners (NBME) with questions wrote, reviewed and validated by a Brazilian Committee for ADEM+ (HSL-IEP).

Summary of Results: Results of the three administrations have been encouraging and yielded useful information which will be described in the presentation. One result was that students in higher training levels obtained higher mean scores, as expected. Also, mean scores in the second administration were higher than in the first, suggesting that the students were getting habituated to this form of testing.

Discussion: ADEM plus is a successful initiative surely contributing to reinforce the culture of assessment and evaluation in MD programs in Brazil.

Conclusion: The program is presenting visible progress in increasing the length and quality of the examination.

Take Home Messages: Assessment of medical students and doctors is a needed and useful process to develop students' and doctors' assessment and program evaluation in Brazil.