

Oral Exam and its Effectiveness as a Teaching Method

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Abstract

Objectives: An oral exam was designed to test the knowledge and to improve student's verbal communication capabilities, to avoid the cheating of students in the written exams and to correct major misconceptions of basic biochemistry course for Saudi undergraduate students. Also a comparison was made between the performance of the students in the oral exam and two written exams.

Methods: The continuous assessment of the basic biochemistry course is composed of two written exams and one oral exam covering the subjects of the two written exams. At the end of the oral exam each student was asked to fill a questionnaire reflecting his evaluation for the oral exam. The questionnaire contained six questions associated with the effectiveness of the oral exam in inducing the students to revise the oral exam subjects, the effect of the oral exam on the student continuous assessment mark, the effectiveness of the oral exam in correcting wrong understanding of the scientific facts and finally the student opinion about the organization of the oral exam and whether he recommend it as a future teaching and assessment method for the basic biochemistry course.

Results: The performance of the students in the oral exam was better than their performance in the written exams since only two students scored less than 60% in the oral exam compared to thirty one students in the two written exams. Regarding the questionnaire, 44 out of 68 students responded to its questions. The questionnaire analysis result showed that 43 students stated that the oral exam convinced them to revise the oral exam subjects seriously, 42 expressed the effectiveness of oral exam in correcting their knowledge and in increasing their continuous assessment marks. Regarding the organization of the oral exam, twenty eight students mentioned that the exam was excellently organized, 23 students stated a lot of efforts is needed from the student to enter an oral exam. For the future recommendation, 39 students recommended the oral exams for the future batches of the basic biochemistry course.

Conclusion: oral exam is an effective teaching method since it corrects misconceptions as well as its importance as a very good tool for the assessment of students learning and for improving their verbal communication capabilities.

Keywords: Oral exam; Verbal communication; Teaching and assessment method.

Introduction

Oral exams belong to personal communication assessment methods. It is considered as informal rather than formal assessment[1]. According to the preparation prior to the oral exam date, oral exams can be classified into three types; guided examination with preparation time, guided examination without preparation time and free examinations[2].

In the guided examination with preparation time, the examiners prepare different panels of questions with the same difficulty in different cards. Each student draws an examination card randomly and answers its questions orally. The guided examination without preparation time starts by the entrance of the student to examination room without previous preparation. In the free oral examination the examiner asks each student to prepare a presentation in specific subject and to present it orally[2].

Positive sides of oral exams include; it gives opportunity to the examiners to discuss scientific issues with their students and to correct misconceptions, it improves oral expression capabilities of the students and it help them in deep understanding of the oral exam subject and it help students in their future oral meetings either for jobs or postgraduate admission and degrees [3, 4].MD Sundberg stated that oral exams allow the examiner to evaluate thinking skills [5]. Other advantage for oral exams for students is that they can know their results just after the end of their oral exam session[6].

Disadvantages of the oral exams are: time factor either for students to answer questions (short compared to written exams) or for the examiners (oral exams takes more time), it can involve some bias because each students has a different set of questions and so major threats to reliability and validity of the exam, it is difficult to grade the students (subjective grading) through the oral exam and the difficulty in covering all the important areas of oral exam topics[7, 8].

Written examinations are one of the formal assessment methods. They are classified to subjective exams which need a professional person to mark it and it contains long essay questions and objective exams which do not need a professional to mark it and it includes multiple choice questions, true and false questions, matching items, short answer questions and fills the gaps. However, the written exams are the predominant type of examinations in all the academic institutions in the world [9].

This paper presents the details of an oral exam held for the undergraduate students of a basic biochemistry course. The oral exam was held for the purposes of; assessing the student knowledge and verbal communication capabilities, correct major misconceptions, avoiding the cheating capabilities of the students in the written exams and comparing the performance of the students in the oral exam to a written objective exam.

Methods

Study Population

This study was conducted in King Khalid University, Abha- Saudi Arabia during the first semester of the year 1436- 1437 *Hijiri* (2015- 2016) for the undergraduate students of the basic biochemistry course. The students were from three different disciplines; chemistry, biology and primary education students belonging to the faculties of science and education. The total number of students registered to the basic biochemistry course was 95 students. 85 students succeeded to sit for the final exam. From the 85 students only 60 students were present in the oral exam sessions. 44 of the oral exam students responded to the questionnaire about the oral exam.

Structure and marks of the written and oral tests

The two exams were belonging to continuous assessment of the course, however, the continuous assessment marks were 50 marks divided to 25 marks for the practical exam and 25 marks for two written tests and one oral exam. The marks of the two written exams were 20 (10 marks each) and 5 marks for the oral exam. The oral exam was given 5 marks only because it was the first time for the students to experience an oral exam.

The two written tests were objective test composed of four types of questions; choose the best answer questions (Stem with four distracters), answer the following questions, compare between molecules and matching question. The oral exam was composed of 20 questions covering the same topics of the first and second written tests.

The subjects of the written and oral tests were pH, water and buffers, carbohydrates chemistry and functions, lipids structure and their biological importance, amino acids chemistry and functions and the structure and function of proteins.

The order of the test was the written tests followed by the oral exam. The students were given the chance to upgrade their marks in the two written tests if they perform well in the oral exam. The oral exam was divided to two parts one covering the subjects of the first tests and the other was covering the subjects of the second test. Each of the two parts of the oral exams was marked by 10. At the end each student marks from the oral exam were 20 marks which were divided by 4 to obtain the five marks.

To help the students gaining marks if any student scored 5 out of 10 in the first written exam and he scored 7 out of ten in the first part of the oral exam his mark in the first written exam would be changed to 7 rather than 5. If the performance of any student in the oral exam was bad then his mark in the written exam would not be changes to the lowest mark. This was done because the students were not familiar to the oral exams.

The Questionnaire Structure

The objectives of the questionnaire were concentrated on the effect of the oral exam on four items: 1) the student's enthusiasm to revise the subjects of the oral exam. 2) The continuous assessment marks of the students. 3) The

correction of misconceptions. 4) The effort done by the students to prepare for the exam. Also the questionnaire asks the students about their general evaluation for the organization of the oral exam and whether they recommend adopting the oral exams as assessment and teaching method or not. The questionnaire questions were as follows:

1- Did the oral exam induce you to revise the subjects of the oral exam?

- a. Yes. b. To some extent. c. No

2- Did the oral exam correct for you some misconceptions about the subjects of the oral exam?

- a. Yes. b. To some extent. c. No

3- My mark in the continuous assessment after the oral exam:

- a. Increased. b. was not changed. c. Decreased.

4- The oral exam required:

- a. A lot of effort b- Some effort. c. No effort.

5- What is your opinion about the organization of the oral exam?

- a. Excellent b. Very good .c. good. d. Bad.

6- Do you recommend the oral exam as an assessment and teaching method for the future of the course?

- a. Yes b. No.

Results and Discussion

The performance of the students in the oral exam was better than their performance in the two written exams since only two students scored less than 60% in the oral exam compared to thirty one students in the two written exams. The mean mark of the students in the oral exam was 76.1 compared to 63.2. It was clear that the mean mark of the students in the oral exam was significantly higher than their mean mark in the written exam (p-value < 0.000) (Table1). However, the way in which the oral exam was

done was the major factor behind this result because each student has two chances to improve his performance in the oral exam although only 8 students were examined orally two times. Another factor which caused the better performance of the students was the types of the questions (basic questions) and the limited time specified for each student (10 minutes for each student). This result is similar to the result of Huxham Mark and his colleagues who stated that the mean mark of their students in the oral exam was significantly increased compared to their mean mark in the written exam [10].

Table 1: The mean marks, Standard Deviation (STD) and the significance of the difference between the two means of students marks in the oral and written exams

	Type of exam	Mean	STD	p-value
1	Oral	76.1	11.9	< 0.000
2	Written	63.2	13.7	

Regarding the first question of the questionnaire; did the oral exam induce you to revise the subjects of the oral exam? 40 (90.9%) students stated that the oral exam convinced them to revise its subjects, three students (6.8%) ticked for the some extent option and one student (2.3%) (Table2). The conclusion from this result is that the majority of the students believe in the effectiveness of the oral exam in inducing them to work hard and revise the subjects of the

oral exam seriously unlike the written exams in which some students do some efforts and depend on cheating to gain some marks. No way for cheating in the oral exam, for that reason the students are enforced to revise and understand the subjects of the exam perfectly. Chan C [11] concluded that the advantages of oral exams include the absence of plagiarism and cheating [11].

Concerning the second question; did the oral exam correct for you some misconceptions about the subjects of the oral exam? 34 students mentioned the effectiveness of the oral exam in correcting some wrong understanding about the oral exam subjects, 8 students expressed that the oral exam corrected few misconceptions while 2 students stated that the oral exam did not correct any wrong understanding for them (Table2). From this result oral exams can be considered as effective teaching methods since 42 students (95.5%) registered correction of some misunderstandings through the oral exam, however, the University of Pittsburgh

mentioned in its electronic site that one of the major advantages of the oral exams is the opportunity for the examiners to diagnose and correct major misconceptions in students understanding for the academic subjects of the exams [3]. One of the objectives of an oral exam held for English language for South Korean students was to allow the students to expand their use of English language in conversation which is also one of the English language teaching objectives i.e. the oral exam can be considered as one of the teaching strategies [12].

Table 2: Summary of the Analysis Results of the Oral Exam Questionnaire

SN	Questionnaire item	Options			
1	Did the oral exam induce you to revise the subjects of the oral exam?	Yes	To some extent	No	
		40	3	1	
2	Did the oral exam correct for you some misconceptions about the subjects of the oral exam?	Yes	To some extent	No	
		34	8	2	
3	My mark in the continuous assessment after the oral exam:	increased	Was not changed	decreased	
		41	2	0	
4	The oral exam required:	More effort	Some effort	No effort	
		23	18	3	
5	What is your opinion about the organization of the oral exam?	Excellent	Very good	Good	Bad
		28	13	2	1
6	Do you recommend the oral exam as an assessment and teaching method for the future of the course?	Yes		No	
		39		4	

The continuous assessment mark of 41 students positively changed, the continuous assessment of two students did not change while one student did comment on the effect of the oral exam on the continuous assessment marks (Table2). This result enforces the better performance of the undergraduate students in the oral exams [10].

With regard to the efforts needed to be done by the students to prepare themselves for the oral exam session; 23 students stated a lot of efforts are needed to prepare for the

oral exam, 18 expressed it needs some efforts while two students believed that the oral exams need no efforts (Table2). The majority of the students felt that effort is needed to prepare for oral exam 41 (23+ 18). N.E. Debeus-Labohm [13] conducted a research to investigate the effectiveness of following a group oral exam by an individual oral exam to investigate the efforts done by each student.

One of the conclusions of this research was the fairness of making individual oral exam to investigate the effort of each student i.e. individual oral exams need effort to be showed by each student [13].

One student was not satisfied by the organization of the oral exam and the 43 students were divided between the good, very good and excellent organization with the majority in favour of excellent organization (28 students) (Table2). I believe that I did not organize the oral exam in such a good way due to different factors including that I am the only one who is in charge of teaching the biochemistry

in the department of chemistry. However, organizing an oral exam need a lot of effort and time as stated by many previous researches. 88.6% of the students (39) recommended the oral exam for the future batches of the basic biochemistry course as a teaching and assessment method. The students voted for the oral assessment as a teaching method because it corrected for the majority of them major misunderstanding of the oral exam subjects. I believe that the students recommended the oral exam as assessment tool because it made a positive change in their assessment marks.

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