

Survey of Laboratory Science Students' Views about the Advantages of Quizzes during the Semester Including Microbiology Course

Background: Traditional teacher-centered methods of teaching and learning are passive and affected by teacher's functions and horizons. Today, active teaching methods include teaching students to be able to observe the situation for exploring and thinking deeper about the issue or problem. So the aim of this study is to survey students' views about the advantages of quizzes in studying microbiology course.

Methods: This descriptive cross-sectional study was conducted in 2011 in Kurdistan University of Medical Sciences. Study population was all 24 students of the fifth semester of laboratory science. First, the students were taught about quizzes and methods, and then they were given a questionnaire containing 11 questions. These questions were classified in three domains: student motivation, class participation, and lower side activities. Students' responses were assessed according to the following scores: 1= strongly disagree or less than 25%, 2= disagree, or between 26 and 50%, 3= agree, or between 51 and 75%, 4= strongly agree or more than 76 percent. Reliability and validity of the questionnaire were assessed with the help of experts and Cronbach's alpha test.

Result: At learning increase domain 55.17%, increasing student motivation 62.07%, participating in class 34.4% and decreasing the side activities 10.34%, from the view point of the students, quizzes were effective in teaching microbiology course.

Conclusion: The results of this study show that quiz taking is an effective way to increase student learning, so it is recommended that instructors increase the effectiveness of their teaching methods by applying them in their teaching schedule.

Key words: Education, Quiz, Student

دریافت فواید Quiz (امتحان موزج) خلال فصل فی درس المیکروبیولوجیا من رویه طلاب العلوم المخبریه.

التمهید: إن الأساليب التقليدية التعليمية تری فیما محورية الاستاذ و لم یکن المتعلمون لیسیم دورفعال و عاداتاً ما یكون افو تفکیرهم محدود به افو تفکیر الاستاذ و لكن هناك اليوم اساليب تساعد الطالب علی المشاركة و توسیع افو تفکیرهم تم تصبیم هذه الدراره لعمرفه رأی الطلاب بالنسبه الی إجابیات (الإمتحان الموزج) خلال الفصل فی ماده المیکروبیولوجیا.

أسلوب العمل: إن هذه الدراره توصیفیه مقطعیة فی جامعة كردستان للعلوم الطبیة فی سنه ۲۰۱۱. ش تم الدراره علی جمیع طلاب الفصل الخامس فی مجال العلوم المخبریه.

تم تعلیم الطلاب علی اسلوب العمل فی بدایه الامر بعد ذلك تم اعطائهم امتحانات تشتمل علی ۱۱ سؤالا و كانت هذه الاسئله فی ثلاث محاور ۱- رفع مستوى حوافز الطالب ۲- المشاركة فی الصف ۳- خفض مستوى الإستغفالات الجانبیه .

تم تقبیم نظرات الطلاب عبر العلامات التاليه: ۱) المخالفه تماماً او اقل من ۲۵% (۲) المخالفه او بین ۲۶ و ۵۰% , رفع حوافز الطالب حتی ۶۳.۷% المشاركة فی الصفوف الدراریه ۴۴.۴% خفض مستوى الإستغفالات الجانبیه ۱۰.۳۴% تم كانت رویه الطلاب.

الإستنتاج: تشير هذه الدراره الی إن إعمال الإمتحان الموزج خلال الفصل له دور كبير علی مستوى تعلم الطلاب و لذلك نوصی إن یستخدم هذا الأسلوب من قبل الإستاذ.

الكلمات الرئیسیه : التعليم . الإمتحان الموزج Quiz . طالب .

Bashid Ramazanadeh^{1,2}, Mazaher Khodabandehloo², Mohammad Ali Noushak²

¹ Cellular & Molecular Research Center, Kurdistan University of Medical Sciences, Pasdaran Avenue, Sanandaj, Iran

² Department of Microbiology, Faculty of Medicine, Kurdistan University of Medical Sciences, Pasdaran Avenue, Sanandaj, Iran

* Cellular & Molecular Research Center, Faculty of Medicine, Kurdistan University of Medical Sciences, Pasdaran Street, Post cod. 66177-13446, Sanandaj, Iran.

phone: +989143104424, Fax: +98(871)6664674 Email: atrop_151@yahoo.com

بررسی مزایای کوئیز در طول ترم برای درس میکروبی شناسی از دیدگاه دانشجویان علوم آزمایشگاهی

مقدمه: روشهای آموزش سنتی معلم محور بوده و یادگیرندگان، غیر فعال بوده و تحت تأثیر عملکردها و افق دید معلم هستند، اما امروزه روشهای تدریس فعال به آموزش از دید دانشجویان پرداخته می شود تا بتوان فرصت و شرایطی برای کندوکاو و تفکر عمیق درباره موضوع یا مشکل بدست آورد لذا این مطالعه برای به منظور آگاهی یافتن از نظرات دانشجویان در مورد مزایای کوئیز برای درس میکروبی شناسی انجام پذیرفت.

روش کار: این مطالعه از نوع توصیفی مقطعی بود و در دانشگاه علوم پزشکی کردستان در سال ۱۳۹۰ انجام گردید. جامعه مورد مطالعه شامل کلیه دانشجویان رشته علوم آزمایشگاهی ترم پنجم بود. در ابتدای مطالعه به دانشجویان در مورد روش انجام کوئیز و نحوه بررسی آموزش داده می شد و در انتهای مطالعه یک پرسشنامه که مشتمل بر ۱۱ سؤال اصلی بود به دانشجویان تحویل گردید و این سؤالات به سه حیظه افزایش انگیزه دانشجویان، مشارکت در کلاس و کاهش فعالیت‌های جانبی طبقه بندی گردید. نظرات دانشجویان بر اساس نمرات زیر ارزیابی شد = کاملاً مخالف یا کمتر از ۲۵ درصد موارد، ۲ = مخالف یا بین ۲۶ و ۵۰ درصد موارد، ۳ = موافق یا بین ۵۱ و ۷۵ درصد موارد و ۴ = کاملاً موافق یا بیش از ۷۶ درصد موارد. رویای پرسشنامه با مشاوره افراد صاحب نظر و پایایی آن با استفاده از آزمون آلفای کرونباخ تعیین گردید.

نتایج: در حیظه های افزایش یادگیری تا ۵۵/۱۷٪، افزایش انگیزش دانشجویان تا ۶۲/۱۷٪، مشارکت در کلاس درس ۳۴/۴٪ و کاهش فعالیت‌های جانبی تا ۱۰/۳۴٪ از دید دانشجویان موثر بوده است.

نتیجه گیری: نتایج این مطالعه حاکی از این مسئله بود که کوئیز یک روش موثر برای افزایش میزان یادگیری دانشجویان است بنابراین پیشنهاد می شود که این روش توسط مدرسین محترم جهت افزایش کارایی تدریس آنان مورد استفاده قرار گیرد.

کلمات کلیدی: آموزش، کوئیز، دانشجویان

پیتھالوجی کے طلباء کی نظر میں بیکٹریالوجی کی تدریس میں

بیک گراؤنڈ: روایتی طریقوں میں صرف استاد پڑھایا کرتا تھا اور طلباء و طالبات صرف کتابوں سے علم حاصل کیا کرتے تھے اور ان کے علم کا دائرہ استاد کی ذات تک محدود ہوتا تھا لیکن آج نئی نئی روشوں سے تدریس کی جاتی ہے جن میں طلباء کو سوچنے پر مجبور کیاجاتا ہے ان ہی روشوں میں ایک کوئیز کی روش ہے۔ یہ تحقیق بیکٹریالوجی کے نصاب میں کوئیز کی اہمیت کے بارے میں طلباء کا نظریہ جاننے کے لئے انجام دی گئی ہے۔

روش: یہ ایک وقتی تحقیق تھی جو دوہزار بارہ میں کردستان میڈیکل یونیورسٹی میں انجام دی گئی تھی۔ اس تحقیق میں پیتھالوجی کے پانچویں ترم کے طلباء نے حصہ لیا۔ سب سے پہلے طلباء کو کوئیز کی تیاری اور اس سے تعلیم کے طریقوں سے آشنا کیا گیا۔ تحقیق کے آخری مرحلے میں ایک سوالنامہ تیار کیا گیا جس میں گیارہ بنیادی سوالات تھے۔ سوالنامے طلباء کو دئے گئے۔ اس سوالنامے میں طلباء کو محنت سے پڑھنے کا شوق دلانے، کلاس میں شرکت اور غیر ضروری سرگرمیوں کے خاتمے کی ضرورت پر مبنی سوالات مندرج تھے۔ اس تحقیق سے پتہ چلا ہے کہ پچیس فیصد طلباء کے مکمل طرح سے مخالف تھے جبکہ پچتر فیصد مکمل طرح سے موافق تھے۔ ماہرین نے سوالناموں کی علمی لحاظ سے توثیق کی تھی اور آلفا کرونباخ ٹسٹ سے بھی اسے جانچا گیا تھا۔

INTRODUCTION

Evaluation is an important aspect in the process of educational activities and students' evaluation of academic instruction is one of the most important elements of teaching and learning as well. Effective evaluation has a significant role not only in screening students, but also increases the motivation of the students and helps teachers evaluate their job (1). Clinical discussion in medical education has the most important contribution in clinical practice. The real meaning of education in clinical practice is creating a platform of scientific knowledge for students, along with the diagnosis, treatment, and acquisition of professional skills (2).

Teachers play an important role in training students and teaching skills are essential in this manner. Miller believes that, good teaching requires good planning, good personality, participation of the students and giving them the opportunity to declare, appropriate selection of media, efficient evaluation methods for evaluating the effectiveness of learning and teaching process (3). Today, many clinical trainers are searching the latest teaching methods in order to teach students the knowledge and clinical skills at the appropriate level. The best way to achieve this goal is using methods of learning in which learners are active in order to receive feedback on their learning approach based learning competencies (4).

The main purpose of evaluation is helping teachers to improve teaching methods and activities, helping managers to make sensible decisions about hiring, promotion, and ultimately improve teacher education as a profession (5). In recent years lecturing in the classroom has undergone improvements that are known as planned speech. In this way, talking will be combined to other active learning methods such as group discussions and questions and answers to increase the role of learners in education (6). Therefore, this study aimed to study the opinions of students about advantages of quizzes in the learning of microbiology course in the fifth semester of laboratory science in Kurdistan University of Medical Sciences.

This cross-sectional study was conducted in 2011 in Kurdistan University of Medical Sciences. The study population was all students of laboratory science in the fifth semester including 24 people, and sampling method was census. Individuals who tended to participate in the study were enrolled. Therefore, all the students participated in the study. In the first session students got familiar with quizzes. Students were told that the results of these quizzes were a part of their final score. In addition, at the

METHODS

specified items, and the feedback was given to students so they got aware of their flaws.

At the end of this study, a questionnaire containing 11 questions were presented to assess the students' opinion about the advantages of taking quizzes in class. These questions included three areas: increasing student motivation, class participation, and reducing the students' side activities. The questionnaire used in the study of microbiology quiz included two parts: First part contained students' demographic specifications such as gender and the second part contained 11 questions covering the main research questions based on 4-point Likert Scale; strongly disagree, disagree, agree and strongly agree. The following scores were given to each of the questions; scoring methods based on questionnaire was 1: strongly disagree, or less than 25%, 2: disagree, or between 26 and 50%, 3: agree or between 51 and 75% and 4: strongly agree, or more than 76% of cases. Reliability and validity of the questionnaire were assessed by expert advice and using Cronbach's Alpha (0.86). Data was analyzed and descriptive statistics have been extracted using SPSS version 16.

side activities. The questionnaire used in the study of microbiology quiz included two parts: First part contained students' demographic specifications such as gender and the second part contained 11 questions covering the main research questions based on 4-point Likert Scale; strongly disagree, disagree, agree and strongly agree. The following scores were given to each of the questions; scoring methods based on questionnaire was 1: strongly disagree, or less than 25%, 2: disagree, or between 26 and 50%, 3: agree or between 51 and 75% and 4: strongly agree, or more than 76% of cases. Reliability and validity of the questionnaire were assessed by expert advice and using Cronbach's Alpha (0.86). Data was analyzed and descriptive statistics have been extracted using SPSS version 16.

RESULTS

At the learning enhance area 99.17%, at motivation of students 62.10%, at participation in class 34.4% and at reducing side activities 10/34% believed that quiz was effective in teaching microbiology course. The results of the students' opinions in the case of various questions in the questionnaire are given in Table 1.

Based on the results obtained in this study taking quizzes in microbiology course, in the areas of increasing motivation and

DISCUSSION

colleagues in a study in 1385 comparing the satisfaction of teaching by speech and debate methods showed that the total amount of the satisfaction from two methods mentioned above have been satisfied (7). It is apparent that students involve in the learning process and the ability of the student's learning concepts impact student learning efficiency; it also promotes a culture of self-learning in students. Compilations of many different types of methods have been employed in instruction, and the more they engage students in active learning the more they affect satisfaction of learning outcomes (8-11).

This study was designed based on the researcher's personal experiences and like any other research experience may have advantages and disadvantages (12). Moreover, as other researchers were assessed by questionnaire. Researcher encountered challenges such as students attending the classes on time, interest and willingness to participate in class, followed by more content, increase of the mean score than prior periods and reducing malaise and lethargy in the classroom. There are plenty of the shortcomings as well as a making the teacher busy by correcting papers after each teaching session. To increase the quality of teaching, great difficulty will be experienced; therefore the quality of teaching can be increased by reducing the number of courses that teachers require teaching.

The results of this study suggest that quiz taking is an effective way to increase student learning. Therefore, it is recommended that this method be used by teachers to enhance their teaching effectiveness.

Table1. students answers to every question													
No	Sex	Course	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
L1	Female	Lab. Sci.	3	3	3	3	3	3	3	3	3	3	3
L2	Female	Lab. Sci.	3	3	4	4	2	4	4	4	4	2	2
L3	Female	Lab. Sci.	3	4	4	4	4	4	4	3	3	3	1
L4	Female	Lab. Sci.	3	4	4	4	2	4	4	4	3	3	1
L5	Female	Lab. Sci.	3	3	4	4	3	4	3	2	3	3	2
L6	Female	Lab. Sci.	2	4	4	4	1	4	3	4	3	1	1
L7	Female	Lab. Sci.	3	4	4	4	4	4	4	4	4	1	1
L8	Male	Lab. Sci.	4	4	4	4	3	4	3	3	2	3	2
L9	Female	Lab. Sci.	1	3	3	3	1	3	1	1	1	1	1
L10	Female	Lab. Sci.	3	3	4	4	2	4	4	4	2	3	4
L11	Female	Lab. Sci.	3	4	4	3	2	4	2	2	2	2	2
L12	Female	Lab. Sci.	2	2	2	3	1	3	3	1	3	2	1
L13	Male	Lab. Sci.	3	3	3	4	2	4	4	1	1	1	1
L14	Male	Lab. Sci.	4	4	4	4	4	4	4	4	4	4	3
L15	Female	Lab. Sci.	4	4	4	4	2	4	2	4	1	1	1
L16	Female	Lab. Sci.	4	4	4	4	3	4	3	3	2	2	1
L17	Male	Lab. Sci.	4	4	4	4	4	4	4	4	4	4	4
L18	Male	Lab. Sci.	4	4	4	4	4	4	4	4	4	4	4
L19	Male	Lab. Sci.	3	3	3	3	3	3	1	1	1	1	1
L20	Male	Lab. Sci.	3	2	3	3	2	2	1	3	2	2	3
L21	Female	Lab. Sci.	3	3	3	3	2	3	3	3	1	3	1
L22	Male	Lab. Sci.	1	2	3	2	1	3	3	3	2	3	1
L23	Female	Lab. Sci.	4	4	2	2	2	2	2	2	2	1	1
L24	Female	Lab. Sci.	3	2	3	3	3	4	1	3	3	2	1
L25	Male	Lab. Sci.	4	4	4	4	3	4	2	3	2	2	2
L26	Female	Lab. Sci.	1	3	3	2	1	3	1	1	2	2	1
L27	Female	Lab. Sci.	2	2	2	2	2	2	2	2	2	2	2
L28	Female	Lab. Sci.	4	4	4	4	4	4	4	4	4	1	1
L29	Male	Lab. Sci.	1	1	1	1	1	1	1	1	1	1	1

Table 2. Frequency of students' responses to each question				
Questions	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
1	13.79%	10.34%	44.83%	31.03%
2	3.45%	17.24%	31.03%	48.28%
3	3.45%	10.34%	31.03%	55.17%
4	3.45%	13.79%	27.59%	55.17%
5	20.69%	34.48%	13.03%	20.69%
6	3.45%	10.34%	24.14%	62.07%
7	20.69%	17.24%	24.14%	34.48%
8	20.69%	13.79%	27.59%	34.48%
9	20.69%	34.48%	13.03%	20.69%
10	31.03%	31.03%	27.59%	10.34%
11	58.62%	20.69%	10.34%	10.34%

ACKNOWLEDGEMENT

The authors wish to express their gratitude to the Research

REFERENCES

1. Amini KS. Survey of Boushehr University of Medical Sciences student evaluation process via faculty members. Abstract Book of 4th Medical Education Congress. Tehran; 2010: 13. [Persian].
2. Cox KR, Ewan CE. The medical teacher. 1st ed. London: Churchill Livingstone; 1988.
3. Miller Wilbur R, Miller M. (authors). Miri V. (translator). Handbook for college teaching. Tehran: SAMT; 1932. [Persian].
4. Spady WG. Organizing for results: The basis of authentic Research in medical education 1998; 3(1): 49-51. [Persian].
5. Saief AA. Educational psychology: Psychology of learning and education. 7th ed. Tehran: Agah; 2000. [Persian].
6. Safari M, Yazdanpanah B, Ghafarian H, Yazdanpanah SH. Comparing the effect of lecture and discussion methods on students' learning and satisfaction. Iranian journal of medical education 2006; 6(1): 59-64. [Persian].
7. Khan I, Fareed A. Problem-lecture a simple form of student-activating learning. Ugeskr Laeger 2003; 165(36): 3400-3. [Danish].
8. Adib-Hajbaghery M, Afazel Mohammad R. A comparison of the effects of instructional methods on satisfaction, anxiety and learning of nursing students. Future of medical education journal 2011; 4(3): 11-15.
9. GhasemianSafaei H, Farajzadegan Z. Active participation of students in teaching. Iranian journal of medical education 2012; 11(9): 1129-30. [Persian].
10. Ramazanzadeh R, Yazdani Sh, Khatibi R. Does note taking in classes have any advantage? Iranian journal of medical education 2010; 9(4): 396-7. [Persian].