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IMPACT OF TIMELY QUIZZES ON THE OVERALL PERFORMANCE, ESPECIALLY ON THE FINAL ACHIEVEMENT TEST OF SAUDI STUDENTS OF JAZAN UNIVERSITY

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Abstract

The purpose of the study is to show that timely quizzes during the semesters at the tertiary level exerts a tremendous positive impact on the overall performance of the students, like attendance, discipline, readiness for exams, and finally assist them in outperforming in the final achievement test. Data were collected from 100 students when two quizzes and a final achievement test were administered. Another group of 100 students of the same semester were given three examinations and a final achievement test. An Independent Sample t-test measured out the results of the two groups to show the impact or difference of overall performance of the groups. Again, a Pearson Product-moment Correlation test was conducted to establish the significant positive relationship between quiz scores and final achievement scores of the students of both groups. The result was amazingly positive that quizzes have roles in students' overall performance like attendance, discipline, and performance in the final achievement test. This study is significant for the teachers, educationists, syllabus designers, and test writers as the findings of this study will guide them when and how many quizzes to take to uplift the overall performance of the students at the tertiary level. In terms of the originality of the research, it has been taken from practical teaching and the direct involvement of the researcher. So, this study is very significant in terms of originality, practicality, and guideline for the educationists.
Keywords: Quizzes, Impact. Achievement test, correlations, overall performance

Introduction

Teachers utilize classroom quizzes and tests to assess student learning at all levels of schooling. However, laboratory studies show that tests for recently acquired information are not passive events. The exams themselves may have an impact on future retention. In particular, attempting to recover knowledge might increase the likelihood of later retrieval of that information, even in the absence of corrective feedback, compared to a case in which the information is not initially tried (McDermott et al., 2014).

It is also found that any test rather than quiz or pop quiz with feedback can contribute to the final achievement test of the students. The most effective way to improve achievement is to test with feedback. Increasing the stakes or frequency has a significant and favourable impact on performance. The impact sizes in survey studies are more important than 1.0. Ninety-three per cent of the

qualitative research examined found good results (Phelps 2012).

According to pedagogical research findings in psychology, online, outside-of-class exams for assigned readings give students a variety of good learning outcomes. For example, using online quizzes has been found to inspire students to finish required assignments, enhance class participation, and improve exam performance for topics covered both on the quizzes and in-class (Brothen & Warmback, 2004; Johnson & Kiviniemi, 2009 as cited in Hillman 2012).

The online quizzes benefit the students and increase the teachers' teaching performance and ability to handle the class perfectly. It was expected that using online quizzes would allow the instructor to engage students in more active learning, group projects, and class discussion, as per the college's current strategic strategy. Students were also supposed to see the online quizzes as a successful way of learning the course material because they provided quick feedback on the percentage of correct answers. Although no statistical data on significant differences in exam scores could be acquired (no control group or section had in-class versus online quizzes), students were expected to claim that the online quizzes assisted them in studying and mastering the material(Hillman 2012). There are many ways to prepare students to outperform in the final achievement test, such as quizzes and pop quizzes; even pretest is also considered the preparational exam for the final achievement test. However, pop quizzes and uninformed quizzes with extra credit demotivate the student. On the other hand, scheduled quizzes with perfect time gaps before pretest and final achievement test with good coverage f the test books can enhance the performance of both teachers in preparing and covering the syllabus and students with regular attendance, retrieval of information, discipline, and finally outperforming in the final achievement test. This study finds out the impact of scheduled quizzes on the overall performance of the students and guides the teachers, syllabus designers, educationists, and test writers to write appropriate quizzes, to select numbers of quizzes based on time, and to get ready students for the best performance in the final achievement test.

Literature review: One of the most significant challenges of extensive lecture courses is motivating students to study regularly; nonetheless, staying updated is critical if a student wants to avoid feeling overwhelmed during exam time. One possible answer is encouraging students to learn smaller units of knowledge more frequently, such as weekly tests. Furthermore, students may feel less disadvantaged than in a multiple-choice-only course if the quiz format differs from the test format(Haberyan 2003). Previous researchers have used quizzes to improve attendance, reading, and student confidence (Ehrlich, 1995; Ruscio, 2001; Sporer, 2001; Wilder et al., 2001as cited in Haberyan 2003). Quizzes may provide feedback on where students should focus their attention during exam time, as well as lessen student anxiety, in addition to encouraging more frequent study (rather than "cramming") (Sporer, 2001 as cited in Haberyan 2003).

Many teaching needs are served by short, frequently delivered examinations or quizzes. One of the main goals of frequent testing is to encourage pupils to study more regularly. Exams scheduled regularly after and spaced several weeks apart appear to induce the studying behaviour associated with fixed-interval (H) schedules. The goal behaviour is nearly non-existent at the start of the interval and does not reach a high level until the gap is almost over in this schedule. The behaviour ends once the break is completed, reinforcement is collected, and the "scalloped" pattern restarts. Exams function as reinforcers (or a reward) for students' study behaviour (Hadsell 2009).

Quizzes may lower the FI barrier and encourage students to study more frequently. More frequent studying (e.g., reading the textbook) could result in at least two significant outcomes. For starters, it necessitates scattered rather than massed practice by the students. It has long been proven that distributed approach is more efficient (Dempster, 1996as cited in Hadsell 2009). Second, if the quizzes contain content that has not yet been covered in lectures or discussions, advanced reading

should help to maximize, reinforce classroom time. Indeed, research suggests that reading compliance among college students is low (Sappington, Kinsey, & Munsayac, 2002as cited in Hadsell 2009).

Another study shows that informative quizzes increase the scores of the students in the summative exams. The results showed that formative online quizzes improved summative exam achievement and that online quizzes were reliable predictors of exam performance(Dobson 2008).

When the substance of a test or the level of performance required by a test matches the content or intensity of an accompanying specified curriculum, it is said to be aligned. Naturally, the closer the curriculum is to the test, the more likely students who have mastered the topic will do well on it. 1 The pure testing effect is an increase in achievement that comes simply due to students taking a test rather than spending the same amount of time studying. The generation effect appears to be the most significant feature of the pure testing affect—students taking a test cannot passively absorb information as they might when listening to lectures or reading(Roderick, Jacob, and Bryk 2002).

The formative assessment benefits both teachers and students. Students gain a greater understanding of the teacher's expectations due to formative evaluations, and the teacher can alter the course material to meet the students' requirements better. According to the evidence, formative assessments appear to benefit both students and teachers in various ways. Formative assessments, for example, have been proven to motivate students to be more prepared for class to have less test anxiety and have a more positive attitude toward their class performance. Furthermore, while some studies have indicated that using formative assessments does not improve overall learning outcomes, other studies have found that using them does(Dobson 2008).

Again Quizzes have been shown to have a more substantial positive impact than definition-based homework assignments, particularly among students with low GPAs (Tuckman, 1996 as cited in Haberyan 2003)). In some cases, quizzes are ineffective at boosting comprehension reading. However, most of these studies had severe limitations.

Above all, detractors argue that grade retention is harmful to children. Retention research has found no consistent positive benefits on achievement, and retained students are more likely to drop out and have lower academic self-esteem(Roderick et al. 2002).

According to Hadsell (2009), In each of two successive semesters, they presented announced multiple-choice tests to one of two sections of a Psychology of Learning course. The quizzes were given between the first and second exams and were stopped between the second and third. Students submitted a survey after each semester about their study habits and whether the quizzes had helped them prepare for the final. During the quiz portion of the semester, he discovered that attendance was more significant in the quiz sections. Students claimed that the quizzes caused them to study more and feel more prepared for the exam in both semesters. However, there was no difference in exam performance between those who took the quiz and those who did not.

Announced quizzes motivate students to study hard, while pop quizzes with extra credits demotivate the students. Nevertheless, pop quizzes with extra credit increase the attendance of the students. Additionally, (Wilder, Flood, and Stromsnes (2001), as cited in Hadsell (2009), found that extra-credit pop quizzes increased attendance and that students liked the quizzes. The students also reported that the quizzes helped them keep up with the course material.

"However, he did not present any data that showed that the quizzes improved performance on scheduled exams(Hadsell 2009).

Another essential matter is that quizzes and summative exams' question models and items should be the same; otherwise, it will not increase the summative performance of the students. Formative assessments can be made using any instrument that evaluates comprehension, but they are most effective when they are of the same type as the summative tests they supplement. If a

summative test includes true/false and multiple-choice questions, a comparable formative assessment (such as a quiz) should likewise have true/false and multiple-choice questions(Dobson 2008)

Winfield (1990) describes that Most MCT programs concentrate on improving essential reading and math skills (Educational Commission of the States, 1984). One fundamental principle for implementing such programs is that the assessments clearly state learning objectives, encouraging schools and teachers to focus instruction narrowly. Additionally, MCT results can be utilized to diagnose and treat academic skills deficiencies.

The minimum competency test (MCT) method also proves that some tests increase students' overall performance but not continuously. One of the few studies that used measured achievement as an endpoint indicated that ninth-grade math basic skills improved once MCT programs were implemented, but not consistently over the next three years(Winfield 1990).

Regular classroom quizzing with feedback and multiple-choice questions improved the students' performance than applying the MCT method in primary and secondary schools. According to McDermott et al.(2014), the restudy condition improved later test performance more minor than the quizzing with feedback condition. Student learning and retention are enhanced by regular classroom quizzing with feedback, and multiple-choice quizzing is just as effective as short-answer quizzing for this reason.

However, many educators, particularly those in the testing field, have continually contended that test-score interpretations and applications are insufficiently established. If additional information regarding a student's learning is corroborated, standardized achievement test scores represent one useful source of information about the student's learning. Unfortunately, so many elements weaken the validity of test results that we must be extremely cautious in how we interpret and apply them(Haladyna 2006).

According to Padilla-Walker (2006), the purpose of this study was to see if daily extra credit quizzes in an advanced psychology course (n = 36) could predict test performance. Different credit performance, above and above gender, college grade point average, and ACT scores, robust exam performance predictors. Furthermore, nearly half of the students said that earning extra credit was their primary motivation.

Similarly, (Azorlosa 2011) discovered that quizzes boosted attendance and that students viewed quizzes favourably in their impact on studying and exam preparation. In both semesters, examinations increased exam performance dramatically. This finding contrasts with the author's previous report, which found that quizzes did not affect exam achievement.

From the above discussion, we can observe that some researchers have shown that quizzes and positive impact on the final achievement test,s and some have shown that quizzes do not significantly affect educational achievement tests. Nevertheless, almost no one has demonstrated that timely-quizzes scores have a positive relationship and impact their final achievement test. So this study shows the impact and relationship of quizzes on the overall performance of the students.

Methodology and Hypothesis: The researcher, along with his experienced colleagues who teach at Jazan University, has taught 100 students divided into three classes with students of 33, 33, and 34 students in each group. They were supplied and supported with the same materials and classroom facilities. The semesters' duration was four months each, and therefore they had two semesters in a year. The researcher, along with the authority, decided to conduct one pretest and a final achievement test. Two quizzes which were multiple-choice questions based on the covered syllabus were taken before the final achievement test. Each examination, progress test, and final achievement test were collected and preserved to analyze.

Again, 100 students divided into three groups were taught by the researcher and his qualified colleague in the same semester. The number of students in each group was the same as the previous

group. Similarly, they were supplied and supported with the same types of materials. However, this time, the semesters were three months, and it was tri-semester courses in a year. The students were taught as usual, and they had to attend three achievement tests after completion of each semester. However, there were three quizzes and a final achievement test. The first was conducted before the progress test, and the second quiz was conducted after a few weeks. Again, the third quiz was conducted before the final achievement test, which covered the whole text and materials covered in the class by the teachers. All the quizzes and tests were collected and preserved to measure the overall performance of the students. At first, an independent sample t-test was conducted to show the impact of two quizzes on the overall performance of two groups.

Ho Hypothesis: there is no significant impact or difference of quizzes on the overall achievement tests score of the students.

H1 Hypothesis: there is a significant impact and difference of quizzes on the overall achievement tests score of the students.

Again, another Pearson product-moment Correlation test was conducted to show the relationship between quiz scores and final achievement scores of the students.

Ho Hypothesis: there is no significant relationship between quiz scores and achievement test scores of the students.

H1 Hypothesis: there is a significant relationship between quiz scores and achievement test scores of the students.

Result and Analysis: To show the difference in the overall performance of both groups, the Independent Sample T-test result has been presented below.

Table-1

Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Quiztotal	groupA	100	19.54	3.21744	0.32174
	GroupB	100	35.38	1.77968	0.17797
Finaltestscore	groupA	100	47.1	9.13369	0.91337
	GroupB	100	55.89	5.54667	0.55467
Final_Achievement	groupA	100	66.64	9.45753	0.94575
	GroupB	100	91.37	5.97918	0.59792
Attendance_Group_A	groupA	100	54.55	11.958155	1.195816
	GroupB	100	72.03	8.727589	0.872759

The table shows that overall performance of the B in terms of quiz (M=19.54 of group A and M=35.38 of group B), Final test score (M=47.1 of group A and M=55.89 of group B), final achievement score (M=66.64 of group A and M=91.37 of group B) and attendance (M=54.55 of group A and M=72.55 of group B) is better than group A. The standard deviation of group B is less than group A in every term of the quiz, final score, Final achievement score, and attendance of group A. This indicates that the overall performance of the group B increased due to the number of quizzes taken and dues to quizzes the attendance of the group B increased significantly.

Table-2

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Quiztotal	Equal variances assumed	43.096	0	-43.08	198	0	-15.84	0.36768	-16.56508	-15.11492
	Equal variances not assumed			-43.08	154.395	0	-15.84	0.36768	-16.56634	-15.11366
Finaltestscore	Equal variances assumed	62.924	0	-8.226	198	0	-8.79	1.0686	-10.89729	-6.68271
	Equal variances not assumed			-8.226	163.277	0	-8.79	1.0686	-10.90005	-6.67995
Final_Achievement	Equal variances assumed	48.216	0	-22.102	198	0	-24.73	1.11891	-26.93651	-22.52349
	Equal variances not assumed			-22.102	167.238	0	-24.73	1.11891	-26.939	-22.521
Attendance_Group_A	Equal variances assumed	12.981	0	-11.807	198	0	-17.48	1.480433	-20.39944	-14.56056
	Equal variances not assumed			-11.807	181.158	0	-17.48	1.480433	-20.40111	-14.55889

The table above shows that Levene's test for equality of variance is assumed in every test of differences in both groups A and B. The significant value of p= .00 which less than Alpha .05. This indicates that we reject the Ho hypothesis and accept the alternative Hypothesis. Our HO was that there is no significant impact and difference of quizzes on the overall performance of the final achievement scores of the students. So, we reject this Ho and accept the H1 that there is a significant impact and difference of quizzes on the overall performance of the final achievement score of the students.

Table 3

Correlations			
		Quiztotal	Final_Achievement
Quiztotal	Pearson Correlation	1	.849**
	Sig. (2-tailed)		0
	N	200	200
Final_Achievement	Pearson Correlation	.849**	1
	Sig. (2-tailed)	0	
	N	200	200
** Correlation is significant at the 0.01 level (2-tailed).			

Based on Guilford's Rule of Thumb, there is a 'high' relationship (rs = .85) between the quiz.

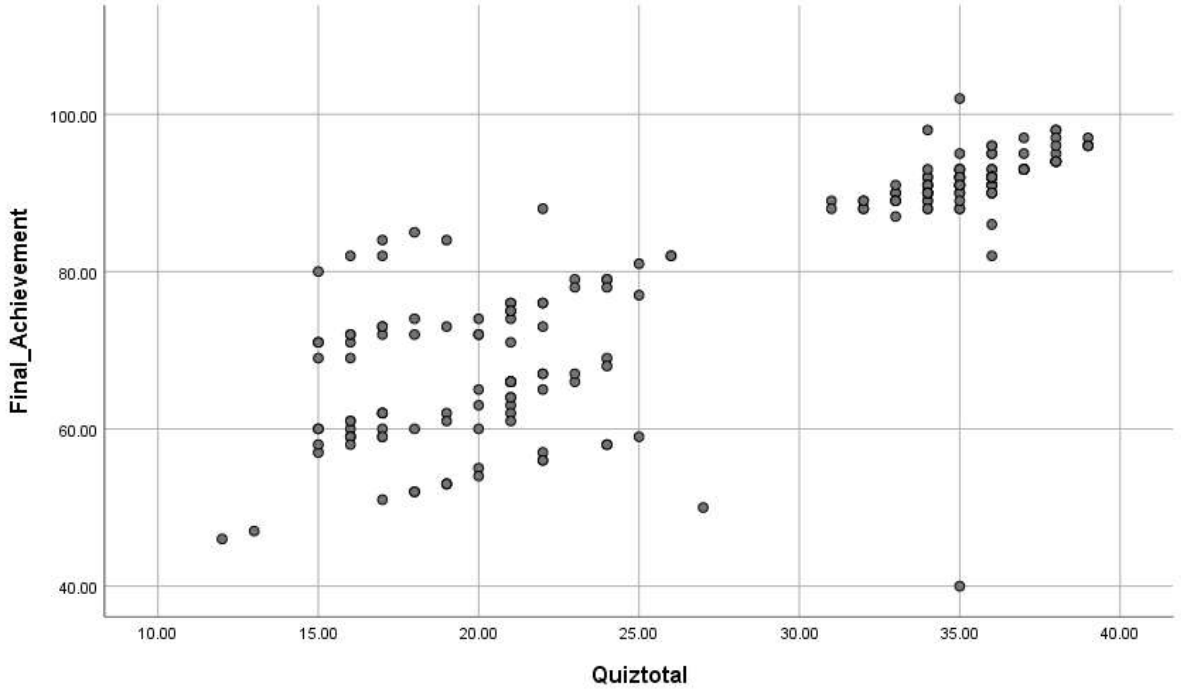
Total and the final achievement score of the students. The impact and Correlation are very. Useful.

Much positive. This indicates that conducting informed or scheduled quizzes at the proper time More marks assigned for quizzes increase the overall performance of the students.

Table no. 4

Correlations			
		Total of quiz group B	Final achievement
Total of quiz group B	Pearson Correlation	1	.330**
	Sig. (2-tailed)		0.001
	N	100	100
Final achievement	Pearson Correlation	.330**	1
	Sig. (2-tailed)	0.001	
	N	100	100
** Correlation is significant at the 0.01 level (2-tailed).			

The table above is the result of the Pearson correlation test of group B. This also indicated a low relationship between the total score of quizzes and the final achievement scores of the students. The p-value of the Pearson test is .001, which is less than Alpha. So we reject the null hypothesis that there is no significant relationship between the total quiz score and the final achievement score of the students. Thus, we accept the H1 Hypothesis that there is a positive and meaningful relationship between the total quiz score and the final achievement scores.



Graph no.1

The graph above describes a positive relationship between the quiz total and the final achievement score of the students of group B alone. This ultimately proves that scheduled quizzes more than two quizzes with more marks have a very positive impact on the overall performance of the students.

Discussion and findings: from the above data analysis and result of the tests, we find that quizzes have a high impact on the overall performance of the students.

- Quizzes have to be announced so that students may know them and prepare them accordingly.
- Three quizzes with more (40) marks have more impact on the overall performance of the students in the final achievement score than two quizzes with fewer (30) effects.
- Quizzes should be time which means with a proper gap so that if the students get ready for the quizzes, they are prepared for the final achievement test.
- Quizzes help students perform better in final achievement test but also helps the teacher to cover the syllabus and prepare themselves for their classes preparation.
- Quizzes increase the attendance of the students. In this research, we found that the group with two quizzes had less attendance of the students than the group with three quizzes.
- If the students get a good score in the quiz total, they can perform better in the final and achievement tests.
- Preparations for the quizzes help get ready for the final achimenes test, which also reduces students' stress and anxiety in the final achievement test.
- Quizzes work as the assessment test for the students and teacher to identify their shortcomings and items of focus,
- If the teachers provide proper feedbacks on quizzes, students can know their faults and get them corrected for the final test.
- Three quizzes are better than two quizzes as they keep students equally busy and engaged in their study throughout the semester.
- Again, quizzes should be announced and scheduled before the semester or at the beginning of the semester to be well aware of

the exams. Nevertheless, pop quizzes with marks sometimes demotivate the students.

- Timely and adequately conducted quizzes with multiple choice or short questions help students master their course.

Limitation of the study: Every research has some limitations so does this research. The sample for the analysis was 200 students, which is a negligible number. If the sample size were large, the credibility of the study would have been more. Again teachers, teaching materials, and methods of teaching sometimes affect the result of the students. The motivation level of both groups may not be equal; in this case, their performance may vary.

Conclusion

The study shows that timely quizzes during the semesters at the tertiary level exert a tremendous positive impact on the overall performance of the students, like attendance, discipline, readiness for exams, and finally assist them in outperforming in the final achievement test. This also helps both students and teachers prepare themselves from their perspective and increases the students' confidence. Announced quizzes help students and teachers be well aware of their progress and shortcomings. This study has its authenticity, may help the teacher and educationists decide their number of quizzes, time of quizzes, and marks distribution for quizzes to increase their students' overall performance at any level of education.

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