



**2003/3/30**

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الإهداء

\*\*\*\*

إلى أبي وأمي الغاليين  
أهديكم عملي هذا غاية في رضاكم

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إلى شقائي الأعراف جميعا  
راجيا من الله تحقيق أمانيتكم

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أصدقائي الأوفياء  
فنعم بصحبتكم أهلا بجواركم

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إلى المعلمين الكرام

يا من سررت في العلم مقتبسا خطاكم

\*\*\*\*

إلى شهداء فلسطين الأحرار

نحن على الدرب وراءكم

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إليهم جميعا اهدي هذا العمل المتواضع

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*0.037	2.10	8.63	19.9	9.46	16.20	

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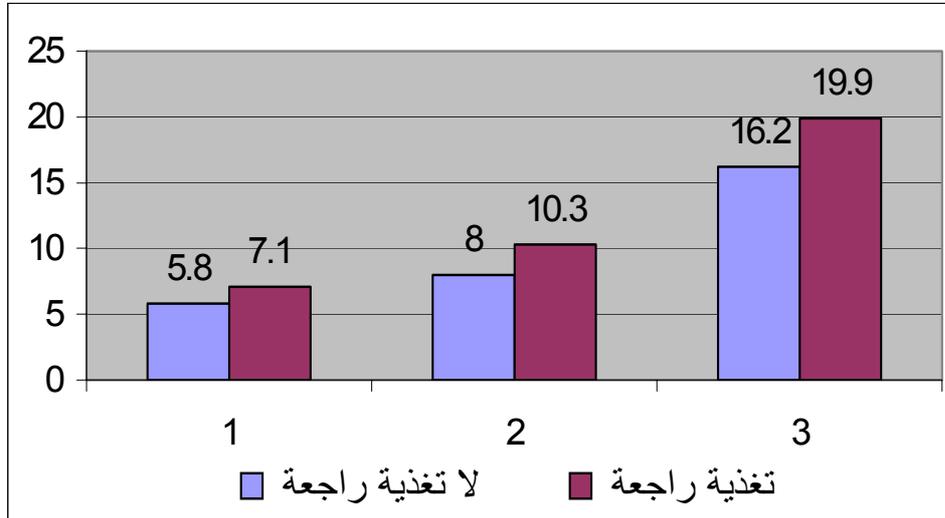
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0.655	0.425	2.76 6.49	2 111 113	5.528 721.16 726.69		
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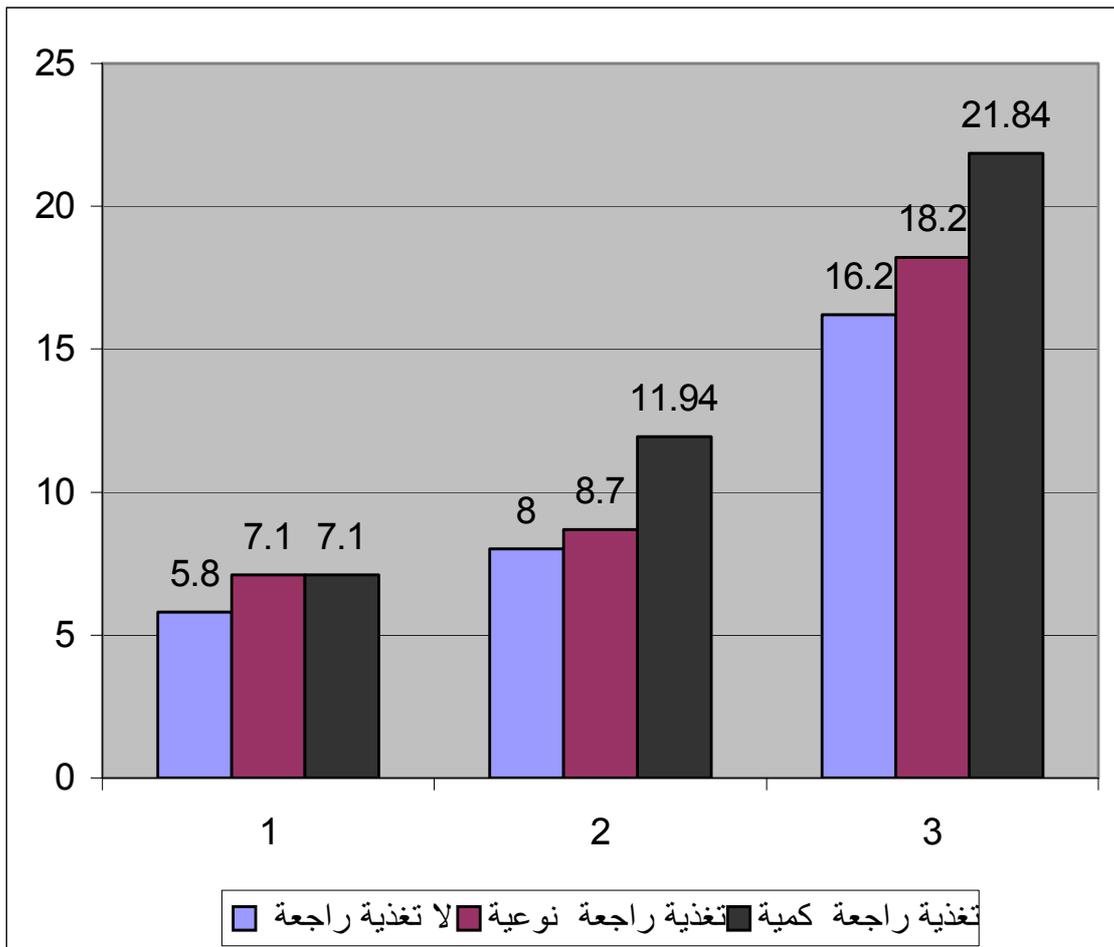
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1. Austin , Joe Dan (1979) . Homework Research in Mathematics . School Science and Mathematics . LXXIX,115 –121 .
2. Birenbaum . M & Tatsuoka .K ,(1987). “ Effects of “ on - line “ Test Feedback and of Subsequent Errors “ . Journal of Educational Measurement. Vol.24 ,No.2 , P145-155 .
3. Clariana, R. B. ,Ross,S.M., & Morrison,G. R. (1992). The effect of different feedback strategies using computer administered multiple-choice questions as instruction . Paper Presented at the Annual Meeting of the Association for Education Communications and Technology ,Washington D.C (Feb, 1992).
4. Deese,J . & Hulse,S.H. ( 1977 ) . The Psychology of Learning . 3<sup>rd</sup> ed . , New York Mc Graw-Hill .
5. Fink, W.T. ,and Carnine,D.W. ( 1975 ) Control of arithmetic errors using informational feedback and graphing .journal of applied behavior analysis . 8 : p461 .
6. Gagne , R.M.,Briggs, J.L.,&Wager ,W.W.(1992) . Principles of Instructional Design (4<sup>th</sup> ed). NY : Holt,Rinehart,&Winston.
7. Gottieb , J.A .( 1990 ) . “ the Effect of Feedback Timing and Learner Respanse Confidance on Delayed Retention of Verabel Information “ Dissertation Abstracts International , 50 ( 7 ) , 1917 – a .
8. Hanna , Gerald S. (1976) . “ Effects of Total and Partial Feedback in Multiple- Choice Testing Upon Learning “ The Journal of Education Research , 69 (5), 202 –205 .
9. Hillerich ,R.L.( 1984 ) “ An Effort Toward Improving the Spelling Pretest “ Journal of Education Research , 77 (51) .309 –311 .
10. Huang , J.C (1995) .The effects of types of feedback on achievement and attitudes during computer-based cooperative condition . Paper Presented at the Annual Meeting of the American Association for Education for Education Communications and Technology . Anaheim,California (Feb,8-12,1995) .
11. Iskander H., ( 1995 ) .The Efficiency of Different Methods of Providing Feedback to Distance Learners in Developing Country. PH.D , Syracuse university.
12. Kizlik , S.B .(1987 ) “ Effects of Feedback and Learning Process on the Learning on Factoring Polynomial , Dissertation Abstracts International , 48 ( 7 ) , 1685- a .
13. Klein ,E.M.(1989 ) . “ Effects of Type and Mode of Corrective Feedback on Student Performance “ Dissertation Abstract International .51, ( 2 ) , 398

14. Kulhavy , R.W (1977) ,Feedback in Written Instruction . Review of Education Research ,47 ( 1 ) 211- 232 .
15. Lee, O.M , ( 1985) . “ The Effect of Type of Feedback on Rule Learning in Computer Based Instrucion “ , Dissertation Abstracts International , Vol .46 ,No .4 , P 55-A.
16. Mehrens, W.A, & Lehman, I.J (1975). Measurement and Evaluation in Education and Psychology. 2<sup>nd</sup>. ed . , New York: Holt, Rinehart and Winston.
17. Merrill,M .D . (1983 ) “ The component displas theory “ Inc.C M. Reigeluth , (ed . ) , Instructional design theories and models ; An overview of their status U.S.A., Hillsdale .n.j .Erbawm Assoc .
18. Peggy, F . (1990) . “ the Effect of Student Feedback on Achievement , Attendance , and Attitude in Undergraduate Science College Classes “ . Dissertation Abstracts International . 51 ( 8 ) .916 –a
19. Peeck , J . (1979). “Effects of Differential Feedback on The Answering of Two Types of Questions by Fifth – and Sixth Grades “ Brithish Journal of Educational Psychology ; 49 , ,87 –92 .
20. Peggy , F . (1990) . “ the Effect of Student Feedback on Achievement , Attendance , and Attitude in Undergraduate Science College Classes “ . Dissertation Abstracts International . 51 ( 8 ) .916 –a
21. Penchan , G.( 1986 ) . the Effects of Three Feedback Methods in Computer Assisted Instruction on Solving Proportion Problems , Dissertation Abstracts International , 47 ( 5 ) 1639-a.1988 .
22. Pifer , R.E ( 1981 ) , Effects of the Use of Feedback on Achievement ,PH.D . Abstract Dissertations , University of Chicago .
23. Pridemore, D.R.&klien, J.D. (1992 ) .Effects of learner control over feedback in computer-based instruction . . Paper Presented at the Annual Meeting of the Association for Educational communication and Technology . Washington D.C, ( Feb.,1991).  
psychology, 67: 894-899
24. Richards, D.R., ( 1991 ) .A comparison of three Computer-Generated Feedback Strategies . Paper Presented at the Annual Meeting of the Association for Education Communications and Technology , Florida : Orland ( feb ., 1991 ) .
25. Sassenrath , J.M.& Garverick,C.M, (1965) . Effects of Differential Feedback from Examination of Retention and Transfer , Journal of Education Psychology , 56 : 259- 263 .
26. Sassenrath ,J.M. (1975) theory and results on feedback and retention. Journal of Educational Psychology , 67 : 894 –899 .

27. Schunk ,D.H and Cox, P.D ( 1986 ) “ Delayed Information Feedback ,Feedback Gues , Retention –set and Delayed Retention “ , Journal of Education Psychology . 59 ( 2 ), 69 –73 .
28. Silverman , S .& etal . (1993 ) : “ Teacher Feedback and Achievement : Mediating Effects of Initial Skill Level and Sex “ . Journal of Human Movement Studies . 24 ( 3 ), 97 – 118 .
29. Stephens , Larry J (1979) ,What Role Does the Grading of Homework Play in Upper Engineering Courses , Science Education , 63 ( 4 ) , p .485 .
30. Sturges ,P.T.(1969). Verbal Retention as a Function of Informativeness and Delay of Informative Feedback . Journal of Education Psychology. 60 ( 1 ) ,11 – 14 .
31. Tuckman , B.W.(1992) . Educational psychology :Form theory to Application . Harcourt Brace Jovanovich college Publishers .U.S.A.
32. Turen ,R .R . Et al .( 1973 ) Effects of Familiarization Feedback on the Performance of Lower – Class and Middle –Class kindergartner on the Raven Coloured Progressive Matrices . Journal of Education Psychology, 65 : 350-363.
33. Waldrop, P. B ., Justen , J.E , and Adams II ,T. M ( 1986 ) “ Comparison of three Types of Feedback in a Computer Assisted Instruction Task . Education Technology , 26 ( 6 ) ,43 –45 .



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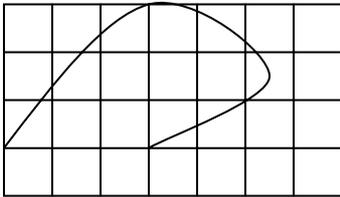
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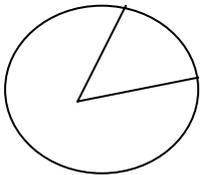
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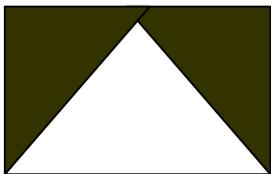
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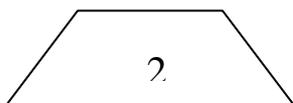
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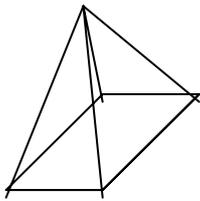
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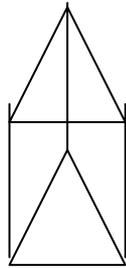
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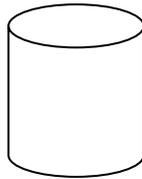


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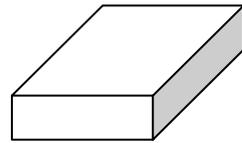


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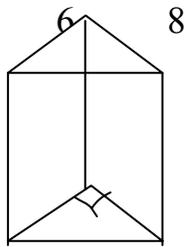
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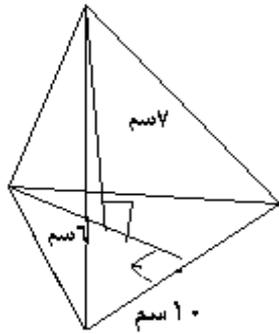
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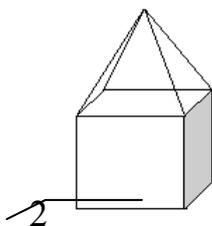
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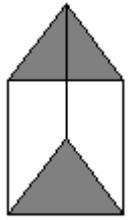
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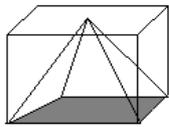
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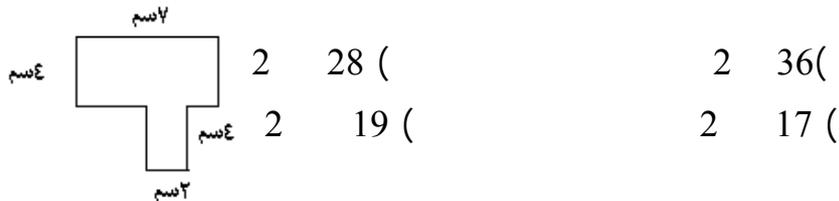
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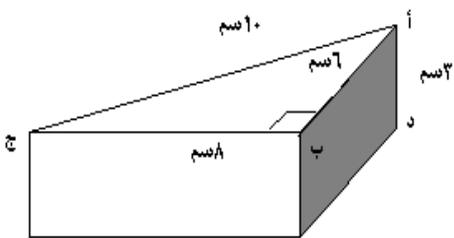
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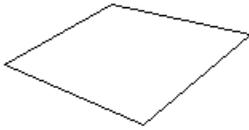
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An-Najah National University  
College of Higher studies

**The effect of Feedback that Providing After the Exam on Academic  
Achievement in Mathematics at 7<sup>th</sup> Grade in Qaqilia District**

**By  
Murad Hassan Saleh Al-Hassan**

**Supervised by  
Dr. Salah Yaseen**

This Thesis is Submitted in Fulfillment of the Degree of Master of  
Mathematics in the High Education College at An-Najah National  
University  
Nablus –Palestine  
2003 / 1424 H.

## Abstract

This study aimed at identifying the effect of feedback that providing after the exam on academic achievement in mathematics at 7<sup>th</sup> grade in Qalqilia district.

The study was applied on the sample of (114) students from 7<sup>th</sup> grade students, the students of the sample were divided to three groups:

1. Group of no feedback (control group): does not know the results for every test and not giving the test papers back to the students.
2. Group of qualitative feedback: knowledge of results for every test by giving the test papers back to the students and written for them the right answers for comparison.
3. Group of quantitative feedback: knowledge of results for every test by giving the test papers back to the students. And solve all the problems and provide the students with more information about their responding.

The researcher dividing the scholastic unit “the areas” to three parts, each part take one week to finished it and teacher applying the strategies of the feedback on the three groups. And then the comprehensive test prepared by the researcher was given to them.

The test was applied to an experimental group of (28) students to know the items difficulty and the coefficient of reliability which was computed by test-retest, the coefficient of reliability was (0.93) and it is good for the purpose of the research.

This study aimed at answering the following questions:

1. Are there statistically difference at the level ( $\alpha = 0.05$ ) between the means of the marks of the groups that provide feedback and the group that does not provide feedback, which may be attributed to the feedback.
2. Are there statistically difference at the level ( $\alpha = 0.05$ ) between the means of the marks of the three groups in the final exam of mathematics which may be attributed to the form of feedback that provides after exams.

The results of the final exam were statistically analyzed by using arithmetic averages, standard deviation, t-test, ANOVA, Scheffe test.

Results of the study showed:

1. There is statistically difference at the level ( $\alpha = 0.05$ ) between the means of the marks of the groups that provide feedback and the group that does not provide feedback which may be attributed to the feedback.
2. There is statistically difference at the level ( $\alpha = 0.05$ ) between the means of the marks of the three groups in the final exam of mathematics which may be attributed to the form of feedback that provides after exams.

The researcher recommends to do like this study on other different stages and differential subjects which is contains both gender. And the researcher recommends the teacher to provide their students with feedback after the examinations.