

## Surveys of Two Sections of a Cost Accounting Course to Determine Students' Overall Experience Using an Online Homework System and Whether it Helped the Students Obtain a Better Understanding of the Topics Presented in the Course

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### Abstract

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This article presents the result of surveys that were administered to two sections of a cost accounting course. The purpose of the surveys was to determine students' overall experience using an online homework system and whether it helped the students obtain a better understanding of the topics presented in the course. The two sections of the cost accounting course were taught by two different professors. Homework was part of the overall grade in day section while it was not in the evening section. Even though the sections were taught by different professors both followed the same syllabus. The survey questions were answered anonymously by the students. The evening class had a sample size of 23 students and the day class had a sample size of 23. In conclusion it appears that the students of the classes surveyed had a positive experience using the online homework system. It also appears that the use of the online homework was an effective tool in gaining a better understanding of the topics. An interesting result was that the students did not make use of the additional tools for example, multimedia library, which is included in the online homework system. It appears that the students believe that these tools have little or no effect on the time spent on their studies. This could serve as a basis for additional studies to find out why the students feel this way and see what can be done to introduce these tools to the students.

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**Keywords:** survey, online graded homework, cost accounting, correlation analysis, regression analysis, summary descriptive analysis.

This article presents the result of surveys that were administered to two sections of a cost accounting course. The purpose of the surveys was to determine students' overall experience using an online homework system and whether it helped the students obtain a better understanding of the topics presented in the course. I taught the day section and another professor taught the evening section. Homework was part of the overall grade in my section while it was not in the evening section. Even though the sections were taught by different professors both followed the same syllabus. The following are the results of the survey questions answered anonymously by the students. The table on the left, Class 1 Evening, represents the response from the evening class. That survey had a sample size of 23. The table on the right represents the survey result for Class 2 Day and that class had a sample size of 19.

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**1. To which of the following age ranges do you belong?**

**Class 1 Evening**

Category	Percentage
1. Under 17	0%
2. 17 - 20	4.5%
3. 21 - 30	82%
4. 31 - 40	4.5%
5. Over 40	9 %
Total	100%

**Class 2 Day**

Category	Percentage
1. Under 17	0%
2. 17 - 20	21%
3. 21 - 30	79%
4. 31 - 40	0%
5. Over 40	0%
Total	100%

**2. What year of school are you in?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Freshman	0%
2. Sophomore	0%
3. Junior	14%
4. Senior	86%
Total	100%

Category	Percentage
1. Freshman	0%
2. Sophomore	0%
3. Junior	63%
4. Senior	37%
Total	100%

**3. Your G.P.A.**

Class 1 Evening	Class 2 Day	Category	Percentage
		1. 2.0-2.5	9%
		2. 2.5-3.0	64%
		3. 3.0-3.5	18%
		4. 3.5-4.0	9%
		5. Don't know	0%
		Total	100%

Category	Percentage
1. 2.0-2.5	5%
2. 2.5-3.0	42%
3. 3.0-3.5	37%
4. 3.5-4.0	16%
5. Don't know	0%
Total	100%

**4. Which of the following best describes your reason for taking the course?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Major / minor requirement	91%
2. Major elective course	9%
3. General education	
Total	100%

Category	Percentage
1. Major / minor requirement	58%
2. Major elective course	42%
3. General education	
Total	100%

**5. Was the difficulty of the course in line with your expectations?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Yes	72%
2. No	14%
3. N/A	14%
Total	100%

Category	Percentage
1. Yes	63%
2. No	32%
3. N/A	5%
Total	100%

**6. How effective, is/was the teaching within your major at (York)?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Very effective	66%
2. Moderately effective	29%
3. Not at all effective	5%
Total	100%

Category	Percentage
1. Very effective	11%
2. Moderately effective	89%
3. Not at all effective	0%
Total	100%

**7. Do you think the use of online homework affected the amount of time you spent studying?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Yes	68%
2. No	18%
3. N/A	14%
Total	100%

Category	Percentage
1. Yes	58%
2. No	26%
3. N/A	16%
Total	100%

**8. To what degree did you experience technical difficulties while using the online homework system?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. No problems	55%
2. Some problems	36%
3. Many problems	9%
Total	100%

Category	Percentage
1. No problems	58%
2. Some problems	42%
3. Many problems	0%
Total	100%

**9. Online homework helped me gain a better understanding of the topics.**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Strongly Agree	18%
2. Agree	36%
3. Neither Agree or Disagree	18%
4. Disagree	23%
5. Strongly Disagree	5%
Total	100%

Category	Percentage
1. Strongly Agree	21%
2. Agree	53%
3. Neither Agree or Disagree	21%
4. Disagree	5%
5. Strongly Disagree	0%
Total	100%

**10. Online homework helped me gain technical competencies in accounting.**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Strongly Agree	23%
2. Agree	45%
3. Neither Agree or Disagree	14%
4. Disagree	18%
5. Strongly Disagree	0%
Total	100%

Category	Percentage
1. Strongly Agree	5%
2. Agree	63%
3. Neither Agree or Disagree	21%
4. Disagree	11%
5. Strongly Disagree	0%
Total	100%

Category	Percentage
1. Yes	64%
2. No	36%
Total	100%

Category	Percentage
1. Yes	37%
2. No	63%
Total	100%

**11. On the average how many hours a week do you spend doing online homework?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. 0 hours	0%
2. 1-2 hours	0%
3. 2-3 hours	22.5%
4. 3-4 hours	22.5%
5. over 4 hours	55%
Total	100%

Category	Percentage
1. 0 hours	0%
2. 1-2 hours	16%
3. 2-3 hours	42%
4. 3-4 hours	16%
5. over 4 hours	26%
Total	100%

**12. Overall, how would rate your experience using the online homework system?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Excellent	5%
2. Very Good	36%
3. Good	41%
4. Poor	18%
5. No opinion	0%
Total	100%

Category	Percentage
1. Excellent	16%
2. Very Good	37%
3. Good	47%
4. Poor	0%
5. No opinion	0%
Total	100%

**13. With respect to your learning, how does the use of online homework compare to “paper and pencil” homework?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Much better	9%
2. Better	50%
3. Much Worse	4.5%
4. Worse	22.5%
5. No Difference	14%
Total	100%

**14. Do you use Chapter Resources in MyAccountinglab?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Much better	25%
2. Better	37%
3. Much Worse	11%
4. Worse	11%
5. No Difference	16%
Total	100%

**15. Do you use the Multimedia Library in MyAccountinglab?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Much More	0%
2. More	29%
3. Much Less	0%
4. Less	33%
5. No effect	38%
Total	100%

Category	Percentage
1. Yes	21%
2. No	79%
Total	100%

**16. Do the use of any Demonstration Problem or Solution Walkthrough Videos impact the effectiveness of time spent on learning?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Much More	6%
2. More	35%
3. Much Less	6%
4. Less	0%
5. No effect	53%
Total	100%

Category	Percentage
1. Yes	27%
2. No	73%
Total	100%

Category	Percentage
1. 0 hours	0%
2. 1-2 hours	0%
3. 2-3 hours	11%
4. 3-4 hours	26%
5. over 4 hours	63%
Total	100%

**17. How comfortable are you in using any technology?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. Extremely comfortable	64%
2. Comfortable	36%
3. Novice	
4. Uncomfortable	
Total	100%

Category	Percentage
1. Extremely comfortable	53%
2. Comfortable	47%
3. Novice	
4. Uncomfortable	
Total	100%

**18. On the average how many hours a week do you spend online?**

**Class 1 Evening Class 2 Day**

Category	Percentage
1. 0 hours	0%
2. 1-2 hours	4.5%
3. 2-3 hours	4.5%
4. 3-4 hours	14%
5. over 4 hours	77%
Total	100%

Chart 1 shows the result of a multiple regression analysis for the evening class, predicting how the student would rate their experience using the online homework system when you take into account the answers to the following independent variables:

1. To what degree did you experience technical difficulties while using the online homework system?

2. Online homework helped me gain a better understanding of the topics.
3. Online homework helped me gain technical competencies in accounting.

The regression statistics show: Multiple R = .82; R Square = .67. The results show that 67% of the variability in, how the student rate their experience using the online homework system is explained on the basis of the three independent variables. The probability that the results obtained were purely random was 0 % so we can accept the results.

**Chart 1 Class 1 Evening**

Overall how would you rate your experience using the online homework system?					
<i>Regression Statistics</i>					
Multiple R	0.78				
R Square	0.61				
Adjusted R Square	0.54				
Standard Error	0.56				
Observations	22				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	8.73	2.91	9.30	0.00
Residual	18	5.63	0.31		
Total	21	14.36			

Chart 2 shows the result of a multiple regression analysis for the evening class, predicting online homework helped me gain a better understanding of the topics when you take into account the answers to the following independent variables:

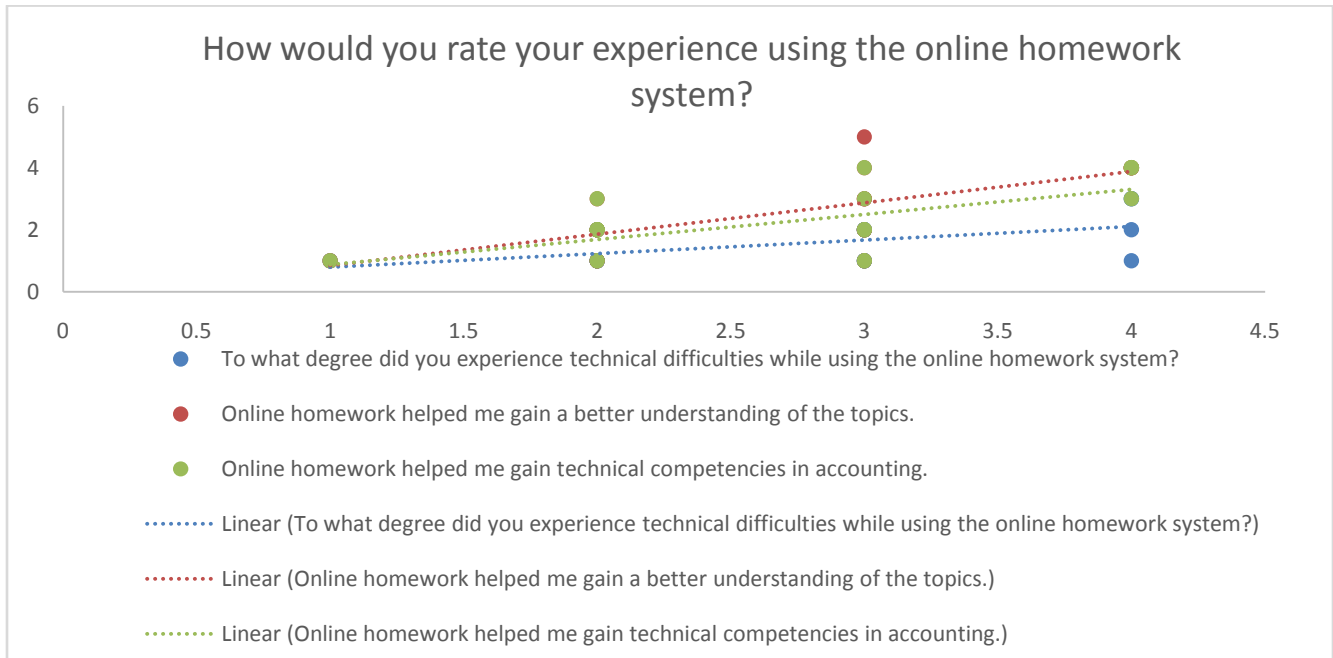
1. Online homework helped me gain technical competencies in accounting.
2. Overall, how would you rate your experience using the online homework system?
3. Do you use the Multimedia Library in MyAccountingLab?

Online homework helped me gain a better understanding of the topics.					
Multiple R	0.82				
R Square	0.67				
Adjusted R Square	0.62				
Standard Error	0.73				
Observations	22				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	19.71	6.57	12.31	0.00
Residual	18	9.61	0.53		
Total	21	29.32			

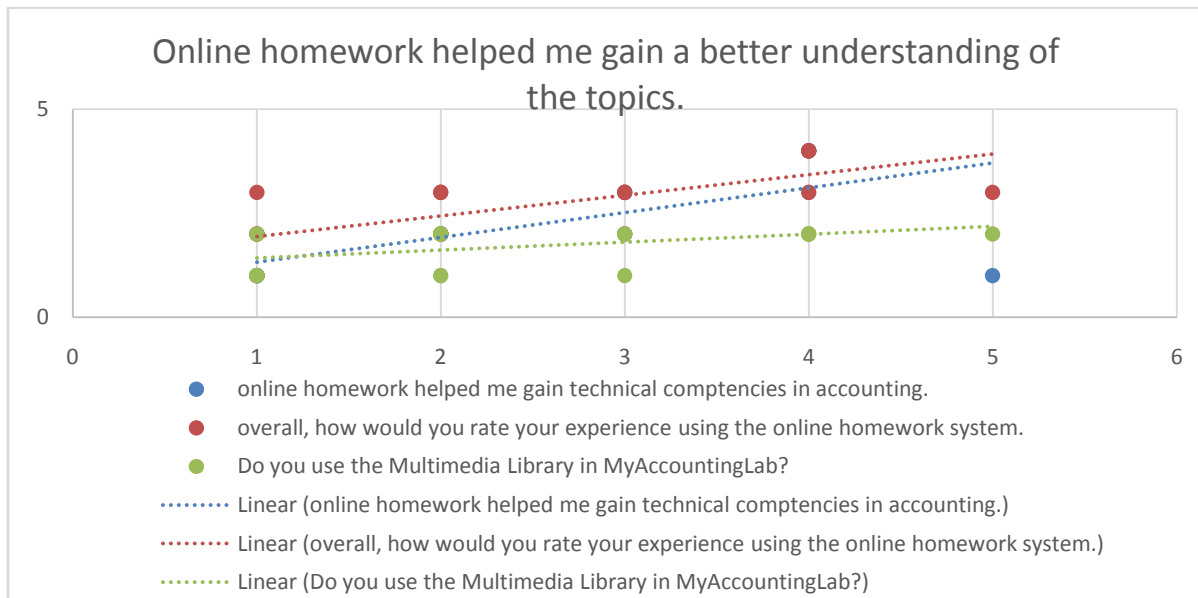
The regression statistics show: Multiple R = .78; R Square = .61. The results show that 61% of the variability in, how the student believed that online homework provided a better understanding of the topics is explained on the basis of the three independent variables. The probability that the results obtained were purely random was 0 % so we can accept the results.

**Chart 2 Class 1 Evening**

**Figure 1 Class 1 Evening**



**Figure 2 Class 1 Evening**



	To what degree did you experience technical difficulties while using the online homework system?	Online homework helped me gain a better understanding of the topics.	Online homework helped me gain technical competencies in accounting	On the average how many hours a week do you spend doing online homework?	Overall, how would you rate your experience using the online homework system?	Do you use the Multimedia Library in MyAccountinglab?	Do the use of any Demonstration Problem or Solution Walkthrough Videos impact the effectiveness of time spent on learning?
Online homework helped me gain technical competencies in accounting.	0.53	0.68					
Overall, how would rate your experience using the online homework system?	0.54	0.71	0.65				
With respect to your learning, how does the use of online homework compare to "paper and pencil" homework?			0.43		0.44		
Do you use Chapter Resources in MyAccountinglab?							
Do you use the Multimedia Library in MyAccountinglab?		0.49					
How comfortable are you in using any technology?							-0.44
On the average how many hours a week do you spend online?				0.61		0.51	0.47



**Table 1 Moderate and Significant Correlation of Coefficient (r) Class 1 Evening**

	What year of school are you in?	Your G.P.A .	Which of the following best describes your reason for taking the course?	Was the difficulty of the course in line with your expectations?	How effective, is /was the teaching within your major at (York)?	What year of school are you in?	Do you think the use of online homework affected the amount of time you spent studying?
our G.P.A.	-0.56					-0.56	
Was the difficulty of the course in line with your expectations?		0.55					
Do you think the use of online homework affected the amount of time you spent studying?				0.61			
Online homework helped me gain a better understanding of the topics.					0.42		
Online homework helped me gain technical competencies in accounting	-0.42						

**Table 1 Moderate and Significant Correlation of Coefficient (r) Class 1 Evening**

	What year of school are you in?	Your G. P. A.	Which of the following best describes your reason for taking the course?	Was the difficulty of the course in line with your expectations?	How effective, is /was the teaching within your major at (York)?	What year of school are you in?	Do you think the use of online homework affected the amount of time you spent studying?
On the average how many hours a week do you spend doing online homework?			-0.51				
With respect to your learning, how does the use of online homework compare to "paper and pencil" homework?				0.43			0.59
Do you use Chapter Resources in My Accountinglab ?	-0.53		0.42				

A correlation coefficient that falls in the .4 to .7 range is considered to be a moderate correlation. Table 1 shows that the highest positive correlation of .71 is between: Overall, how would you rate your experience using the online homework system and online homework helped me gain a better understanding of the topics. The correlation between: Overall, how would you rate your experience using the online homework system and online homework helped me gain technical competencies in accounting was also high at .65.

**Table 2 Summary of Descriptive Statistics: Mean, Standard Error, Median, Mode and Standard Deviation Class 1 Evening**

Your G.P.A.		How effective, is/was the teaching within your major at (York)?		Do you think the use of online homework affected the amount of time you spent studying?		Was the difficulty of the course in line with your expectations?	
Mean	2.27	Mean	1.38	Mean	1.55	Mean	1.41
Standard Error	0.16	Standard Error	0.13	Standard Error	0.14	Standard Error	0.16
Median	2.00	Median	1.00	Median	1.00	Median	1.00
Mode	2.00	Mode	1.00	Mode	1.00	Mode	1.00
Standard Deviation	0.77	Standard Deviation	0.59	Standard Deviation	0.67	Standard Deviation	0.73
2.0 = 2.5-3.00 G.P.A.		1=very effective		1=Yes		1=Yes	

**Table 2 Summary of Descriptive Statistics: Mean, Standard Error, Median, Mode and Standard Deviation**

To what degree did you experience technical difficulties while using the online homework system?		Online homework helped me gain a better understanding of the topics.		Online homework helped me gain technical competencies in accounting.		On the average how many hours a week do you spend doing online homework?		Overall, how would you rate your experience using the online homework system?	
Mean	1.55	Mean	2.59	Mean	2.27	Mean	4.32	Mean	2.73
Standard Error	0.14	Standard Error	0.25	Standard Error	0.22	Standard Error	0.18	Standard Error	0.18
Median	1.00	Median	2.00	Median	2.00	Median	5.00	Median	3.00
Mode	1.00	Mode	2.00	Mode	2.00	Mode	5.00	Mode	3.00
Standard Deviation	0.67	Standard Deviation	1.18	Standard Deviation	1.03	Standard Deviation	0.84	Standard Deviation	0.83
1=No Problems		2=Agree		2=Agree		4= 3to 4 hours 5= Over 4 hours		2= Very Good 3= Good	

**Table 2 Summary of Descriptive Statistics: Mean, Standard Error, Median, Mode and Standard Deviation**

Do you use the Multimedia Library in MyAccountinglab?		Do the use of any Demonstration Problem or Solution Walkthrough Videos impact the effectiveness of time spent on learning?	
Mean	1.73	Mean	3.81
Standard Error	0.10	Standard Error	0.27
Median	2.00	Median	4.00
Mode	2.00	Mode	5.00
Standard Deviation	0.46	Standard Deviation	1.25
1= Yes 2= No		4= Less 5= No effect	

Chart 3 shows the result of a multiple regression analysis for the Class 2 Day, predicting how the student would rate their experience using the online homework system when you take into account the answers to the following independent variables:

1. To what degree did you experience technical difficulties while using the online homework system?
2. Online homework helped me gain a better understanding of the topics.

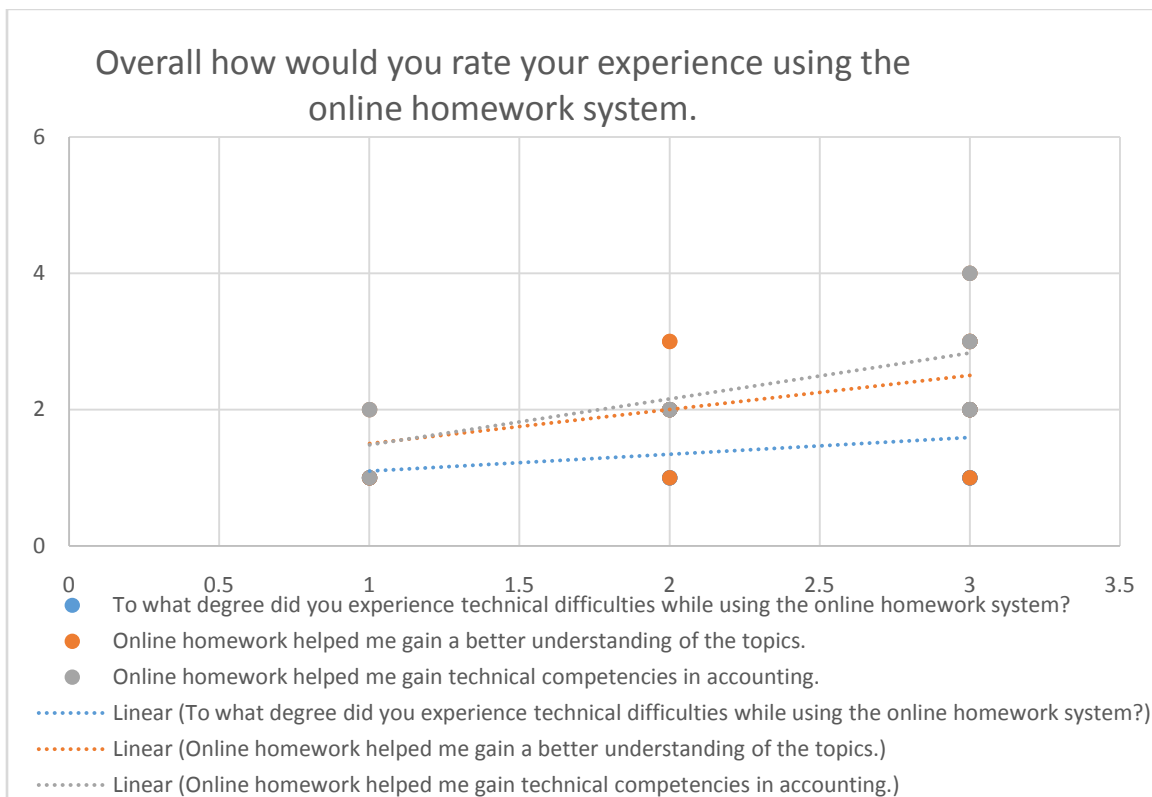
3. Online homework helped me gain technical competencies in accounting.

The regression statistics show: Multiple R = .75; R Square = .57. The results show that 57% of the variability in, how the student rate their experience using the online homework system is explained on the basis of the three independent variables. The probability that the results obtained were purely random was 0 % so we can accept the results.

**Chart 3 Class 2 Day**

Overall how would you rate your experience using the online homework system?					
<i>Regression Statistics</i>					
Multiple R	0.75				
R Square	0.57				
Adjusted R Square	0.48				
Standard Error	0.54				
Observations	19				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	5.75	1.92	6.59	0.00
Residual	15	4.36	0.29		
Total	18	10.11			

**Figure 3 Class 2 Day**



**Chart 4 Class 2 Day**

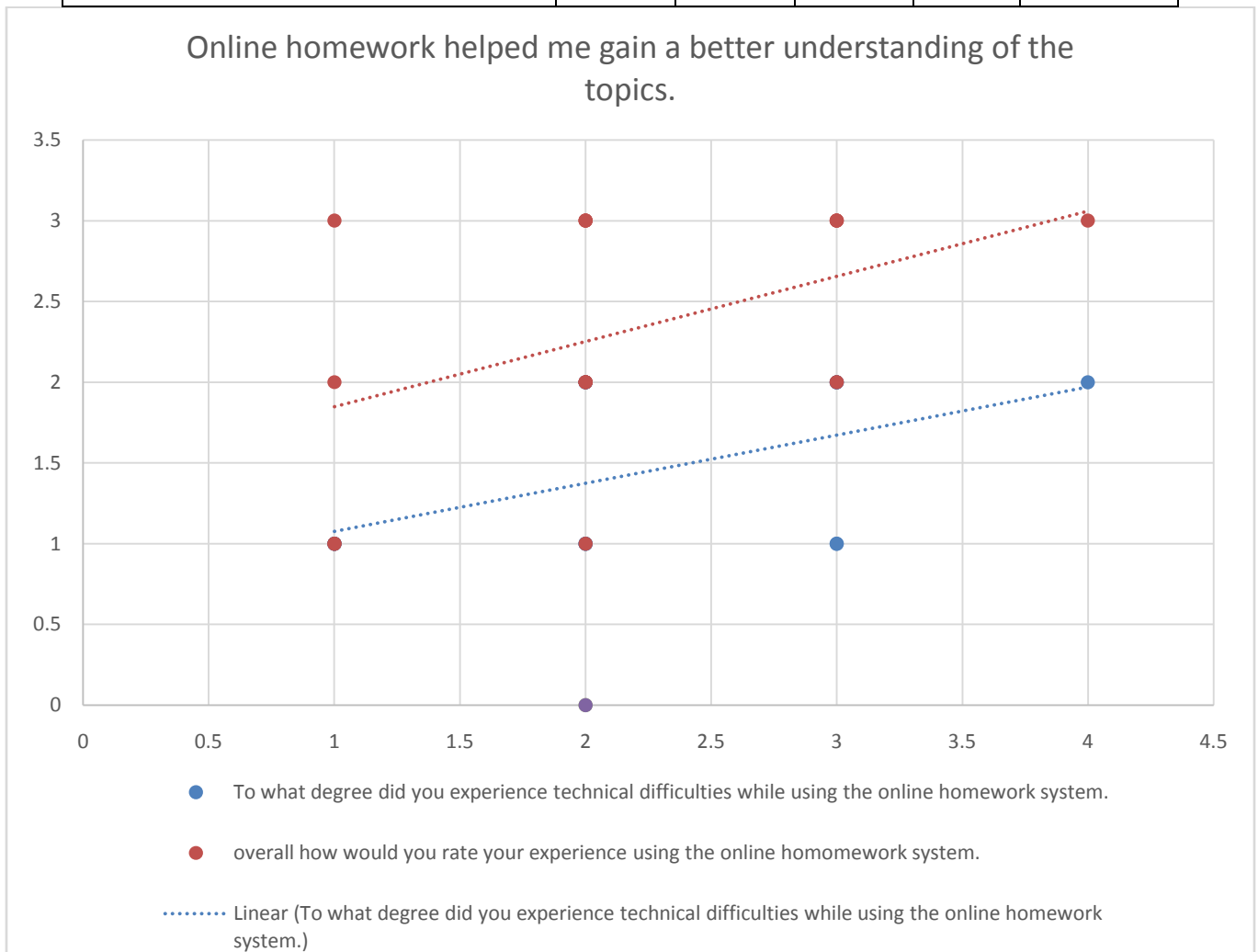
Chart 4 shows the result of a multiple regression analysis for the Class 2 Day, predicting that online homework helped me gain a better understanding of the topics when you take into account the answers to the following independent variables:

1. To what degree did you experience technical difficulties while using the online homework system?
2. Overall, how would you rate your experience using the online homework system?

The regression statistics show: Multiple R = .57; R Square = .33. The results show that 33% of the variability in, how the student rate their experience using the online homework system is explained on the basis of the three independent variables. The probability that the results obtained were purely random was 4 % so we can accept the results.

**Figure 4 Class 2 Day**

Online homework helped me gain a better understanding of the topics.					
Multiple R	0.57				
R Square	0.33				
Adjusted R Square	0.24				
Standard Error	0.73				
Observations	19				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	4.08	2.04	3.86	0.04
Residual	16	8.45	0.53		



**Table 3 Moderate and Significant Correlation of Coefficient (r) Class 2 Day**

	To which of the following age ranges do you belong?	What year of school are you in?	Your G.P.A.	Was the difficulty of the course in line with your expectations	Do you think the use of online homework affected the amount of time you spent studying?	To what degree did you experience technical difficulties while using the online homework system?
To what degree did you experience technical difficulties while using the online homework system?	0.44	0.45				
Online homework helped me gain a better understanding of the topics.						0.49
Online homework helped me gain technical competencies in accounting.				-0.47		
<i>Overall, how would you rate your experience using the online homework system?</i>				-0.43		
With respect to your learning, how does the use of online homework compare to "paper and pencil" homework?			0.45			0.52

Table 3 Moderate and Significant Correlation of Coefficient (r) Class 2 Day

	To which of the following age ranges do you belong?	What year of school are you in?	Your G.P.A.	Was the difficulty of the course in line with your expectations	Do you think the use of online homework affected the amount of time you spent studying?	To what degree did you experience technical difficulties while using the online homework system?
Do you use Chapter Resources in MyAccountinglab?			0.46			
Do you use the Multimedia Library in MyAccountinglab?						
<i>Do the use of any Demonstration Problem or Solution Walkthrough Videos impact the effectiveness of time spent on learning?</i>		-0.40				
How comfortable are you in using technology?	0.49					
On the average how many hours a week do you spend online?					-0.50	

A correlation coefficient that falls in the .4 to .7 range is considered to be a moderate correlation. Table 3 shows that the highest positive correlation .68 is between: Do you use the Multimedia Library in MyAccountingLab and do you use Chapter Resources in MyAccountingLab. The correlation between: Overall, how would you rate your experience using the online homework system and online homework helped me gain technical competencies in accounting was also high at .66.

**Table 4 Summary of Descriptive Statistics: Mean, Standard Error, Median, Mode and Standard Deviation Class 2 Day**

<i>Your G.P.A.</i>		<i>Was the difficulty of the course in line with your expectations?</i>		<i>How effective, is/was the teaching within your major at (York)?</i>		<i>Do you think the use of online homework affected the amount of time you spent studying?</i>	
Mean	2.63	Mean	1.42	Mean	1.89	Mean	1.58
Standard Error	0.19	Standard Error	0.14	Standard Error	0.07	Standard Error	0.18
Median	3.00	Median	1.00	Median	2.00	Median	1.00
Mode	2.00	Mode	1.00	Mode	2.00	Mode	1.00
Standard Deviation	0.83	Standard Deviation	0.61	Standard Deviation	0.32	Standard Deviation	0.77
2= 2.5-3.0 GP.A. 3= 3.0-3.5 GP.A.		1=Yes		1=Very effective 2= Moderately Effective		1= Yes	

**Table 4 Summary of Descriptive Statistics: Mean, Standard Error, Median, Mode and Standard Deviation Class 2 Day**

**Conclusion**

**The results of the surveys show the following:**

1. 86% of the evening students were seniors and 63% of the day class were juniors.
2. 72% of the evening class students said the course difficulty was in line with their expectations compared to 63% of the day class students.
3. 68% of the evening class students thought the online homework affected the amount of time spent on studying compared to 58% of the day class students.
4. 91% of the evening class students had either no or some technical difficulties using the online homework system compared to 100% of the day class students.
5. 54% of the evening class students agreed or strongly agreed that online homework helped the student gain a better understanding of the topics compared to 74% of the day class students.
6. 68% of the evening class students either agreed or strongly agreed the online homework helped them gain technical competencies in accounting to 68% of the day class students.
7. 55% of the evening class students spent over 4 hours doing online homework, whereas 42% of the day class students spent 2-3 hours doing online homework.
8. 82% of the evening class students rated the experience of using online homework system as good, very good or excellent. Whereas, 100% of the day class students rated the experience as good, very good or excellent.
9. 64% of the evening class students used chapter resources in MyAccountinglab, while 63% of the day class students did not.
10. 73% of the evening class students did not use the multimedia library in MyAccountinglab, while 79% of the day class students did not use the multimedia library.
11. 71% of the evening class students believed that the demonstration problems or solution walkthroughs had less or no effect on the time spent on learning. 53% of the day class students believed that the demonstration problems or solution walkthroughs had less or no effect on the time spent on learning.

In conclusion it appears that the students of the classes surveyed had a positive experience using the online homework system. It also appears that the use of the online homework was an effective tool in gaining a better understanding of the topics.

An interesting result was that the students did not make use of the additional tools for example, multimedia library, which is included in the online homework system. It appears that the students believe that these tools

have little or no effect on the time spent on their studies. This could serve as a basis for additional studies to find out why the students feel this way and see what can be done to introduce these tools to the students.