Survey to Determine the Factors That Influence the Overall Satisfaction with Online Homework

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A survey was administered to obtain feedback from students to determine factors such as age, G.P.A., amount of time spent on doing online homework that might influence the overall satisfaction with online homework. The survey was administered to students during the spring, 2017 semester taking principles of accounting course. The sample size of the data was 29 students. The students used a course management system to submit homework. The homework was algorithmic and graded. The course management system allowed the student to access a variety of tools to help with their understanding of the course materials. The tools included: demonstration problems and solution walkthrough videos. The class selected was an accounting principles hybrid course. The survey consisted of 17 questions that were filled out anonymously by the students. The following are the questions and the results obtained.

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

Category	Percentage
1. Under 17	3%
2. 17 - 20	62%
3. 21 - 30	34%

2. What year of school are you in?

Category	Percentage
1.Freshman	55%
2. Sophomore	17%
3. Junior	24%
4. Senior	3%

3. Your GPA

Category	Percentage
1. 2.0-2.5	3%
2. 2.5-3.0	31%
3. 3.0-3.5	28%
4. 3.5-4.0	17%
5. Don't know	21%

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

Category	Percentage
1. Major / minor requirement	69%
2. Major elective course	24%
3. General education	7%

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

Category	Percentage
1. Yes	41%
2. No	38%
3. N/A	21%

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

Category	Percentage
1. Yes	59%
2. No	24%
3. N/A	17%

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

Category	Percentage
1. No problems	24%
2. Some problems	73%
3. Many problems	3%

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

Category	Percentage
1. Strongly Agree	34%
2. Agree	41%
3. Neither Agree or Disagree	24%
4. Disagree	
5. Strongly Disagree	

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

Category	Percentage
1. Strongly Agree	21%
2. Agree	59%
3. Neither Agree or Disagree	17%
4. Disagree	3%
5. Strongly Disagree	

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

Category	Percentage
1. 0 hours	
2. 1-2 hours	3%
3. 2-3 hours	38%
4. 3-4 hours	31%
5. over 4 hours	28%

11. Overall, how would you rate your experience using the online homework system?

Category	Percentage
1. Excellent	17%
2. Very Good	34%
3. Good	41%
4. Poor	3%
5. No opinion	3%

12. With respect to your learning, how does the use of online homework compare to "paper and pencil" homework?

Category	Percentage
1. Much better	31%
2. Better	48%
3. Much Worse	7%
4. Worse	3%
5. No Difference	10%

13. Do you use Interactive Demonstration Problem in WileyPlus?

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

14. Do you use Solution Walkthrough Videos in WileyPlus?

Category	Percentage
1. Yes	69%
2. No	31%

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

Category	Percentage
1. Much More	14%
2. More	52%
3. Much Less	10%
4. Less	3%
5. No effect	21%

16. How comfortable are you in using any technology?

Category	Percentage
1. Extremely comfortable	55%
2. Comfortable	38%
3. Novice	7%
4. Uncomfortable	0%

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

Category	Percentage
1. 0 hours	
2. 1-2 hours	7%
3. 2-3 hours	21%
4. 3-4 hours	7%
5. over 4 hours	66%

CHART 1 shows the result of a multiple regression analysis predicting how the student would answerthequestion;online homework helped me gain a better understanding of the topics when you take into account the answers to the following questions or 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 Solution Walkthrough Videos in WileyPlus?
4. Do the use of any Demonstration Problem or Solution Walkthrough Videos impact the effectiveness of time spent on learning?

Chart   1

Regression Statistics					
Multiple R	0.65				
R Square	0.42				
Adjusted R Square	0.32				
Standard Error	0.63				
Observations	29				
ANOVA					
	df	SS	MS	F	Significance F
Regression	4	7.03	1.76	4.36	0.01
Residual	24	9.66	0.40		
Total	28	16.69			

The regression statistics show: Multiple R= 0.65; R Square= 0.42; Adjusted R Square =0.32.The results show that 32% of the variability in, online homework helped me gain a better understanding of the topics, can be explained by the four independent variables. The probability that the answers generated were due to random chance was 1% so that we can reject that hypothesis.

FIGURE 1Multiple Regression Analysis Predicting The Answerto Online Homework Helped Me Gain a Better Understanding of the Topics.
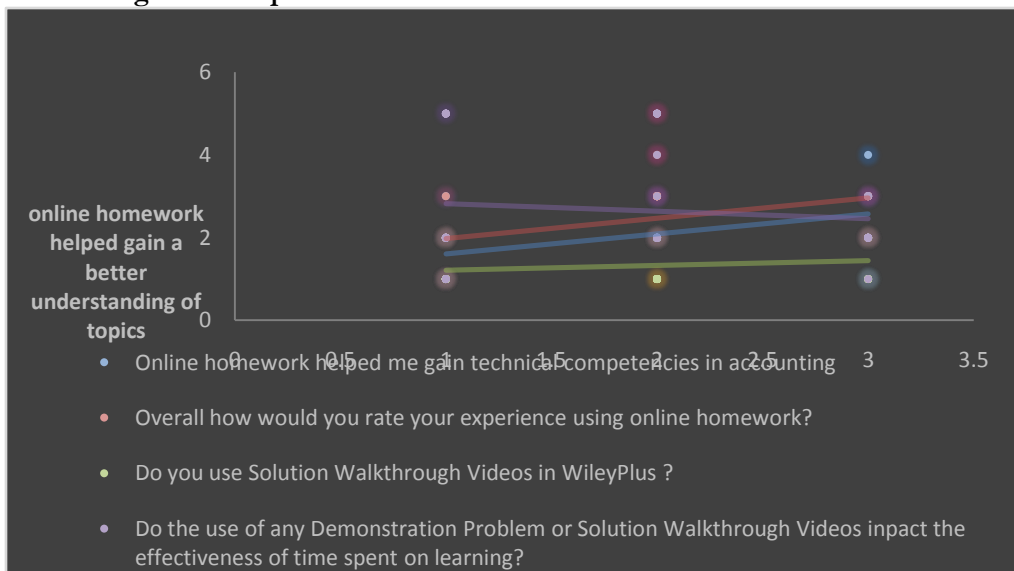
CHART 2 shows the result of a multiple regression analysis predicting how the student would answer the question, how would you rate your overall experience using the online homework system, when you take into account the answers to the following questions or independent variables:

1. Was the difficulty of the course in line with your expectations?
2. To what degree did you experience technical difficulties while using the online homework system?
3. On the average how many hours a week do you spend doing online homework?

Chart 2					
Regression Statistics					
Multiple R	0.65				
R Square	0.43				
Adjusted R Square	0.36				
Standard Error	0.76				
Observations	29				
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	10.67	3.56	6.19	0.003
Residual	25	14.36	0.57		
Total	28	25.03			

The regression statistics show: Multiple R = 0.65; R Square = 0.43; Adjusted R Square = 0.36.The results show that 36% of the variability in how would you rate your overall experience using the online homework system, can be explained by the three independent variables. The probability that the answers generated were due to random chance was .3% so we can reject that hypothesis.

FIGURE 2 Multiple Regression Analysis Predicting How You WouldRate Your Overall Experience Using the Online HomeworkSystem.
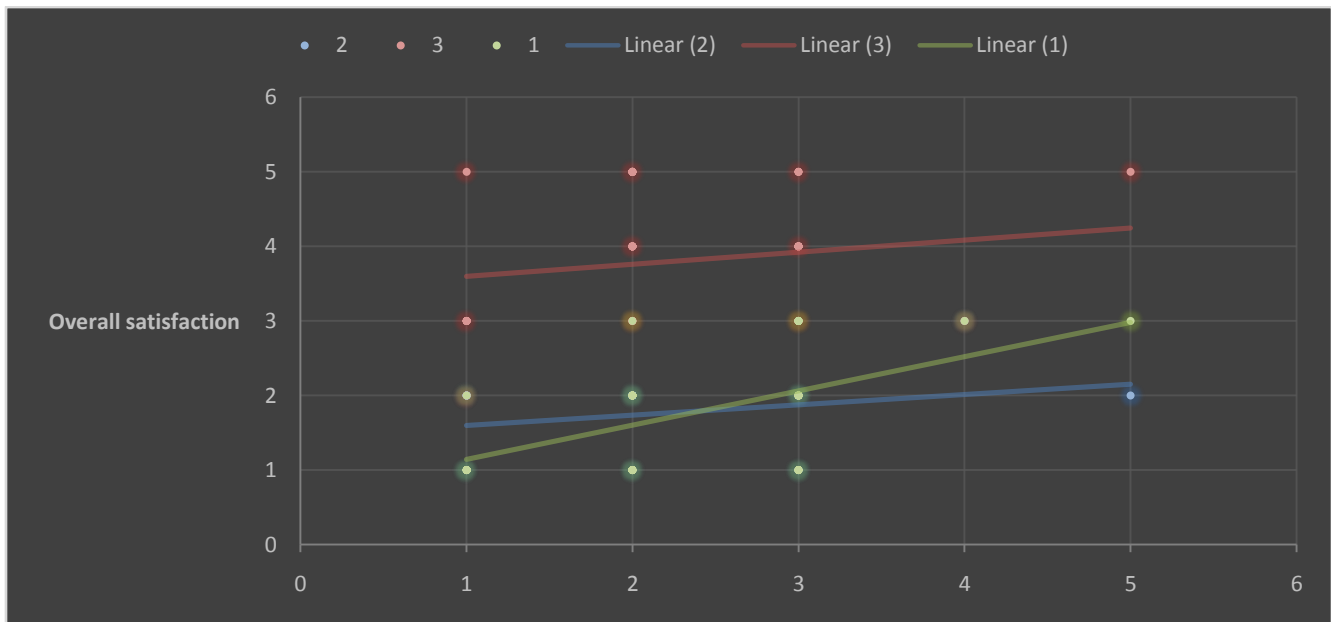
TABLE 1 Moderate correlation coefficient, r.

	To which of the following age ranges do you belong?	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?
What year of school are you in?	0.71			
On the average how many hours a week do you spend doing online homework?	0.49			
Overall, how would you rate your experience using the online homework system?			0.56	
With respect to your learning, how does the use of online homework compare to "paper and pencil" homework?				0.40
. Do the use of any Demonstration Problem or Solution Walkthrough Videos impact the effectiveness of time spent on learning?		0.41		0.43
How comfortable are you in using any technology?		0.46		

TABLE 2 Moderate correlation coefficient, r.

	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	Overall, how would you rate your experience using the online homework system?	Do you use interactive Demonstration Problems in WileyPlus?	Do you use Solution Walkthrough Videos in WileyPlus?	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		.051					
Overall, how would you rate your experience using the online homework system?		0.40					
How comfortable are you in using any technology?				0.40			0.42

A correlation coefficient that falls in the .4 to .7 range is considered a moderate and substantial relationship.

Summary Descriptive Analysis: Mean, Median, Mode and Standard Deviation.

Table 3 Summary of Descriptive Statistics:Mean,Medium,Mode, and Standard Deviation

To which of the following age ranges do you belong?		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?	
Mean	2.31	Mean	1.76	Mean	3.21	Mean	1.38	Mean	1.79
Median	2.00	Median	1.00	Median	3.00	Median	1.00	Median	2.00
Mode	2.00	Mode	1.00	Mode	2.00	Mode	1.00	Mode	1.00
Standard Deviation	0.54	Standard Deviation	0.95	Standard Deviation	1.21	Standard Deviation	0.62	Standard Deviation	0.77

Table 3 Summary of Descriptive Statistics:Mean,Medium,Mode, and Standard Deviation

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?		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 the online homework?	
Mean	1.59	Mean	1.79	Mean	1.90	Mean	2.03	Mean	3.83
Median	1.00	Median	2.00	Median	2.00	Median	2.00	Median	4.00
Mode	1.00	Mode	2.00	Mode	2.00	Mode	2.00	Mode	3.00
Standard Deviation	0.78	Standard Deviation	0.49	Standard Deviation	0.77	Standard Deviation	0.73	Standard Deviation	0.89

Table 3 Summary of Descriptive Statistics:Mean,Medium,Mode, and Standard Deviation

Do the use of any Demonstration Problem or Solution Walkthrough Videos impact the effectiveness of time spent on learning?		How comfortable are you in using any technology?		On the average how many hours a week do you spend online?	
Mean	2.66	Mean	1.52	Mean	4.31
Median	2	Median	1.00	Median	5.00
Mode	2	Mode	1.00	Mode	5.00
Standard Deviation	1.37	Standard Deviation	0.63	Standard Deviation	1.04

Table 3 Summary of Descriptive Statistics:Mean,Medium,Mode, and Standard Deviation

Overall, how would you rate your experience using the online homework system?		With respect to your learning, how does the use of online homework compare to "paper and pencil" homework?		Do you use Interactive Demonstration Problem in WileyPlus?		Do you use Solution Walkthrough Videos in WileyPlus?	
Mean	2.41	Mean	2.14	Mean	1.64	Mean	1.31
Median	2.00	Median	2.00	Median	2.00	Median	1.00
Mode	3.00	Mode	2.00	Mode	2.00	Mode	1.00
Standard Deviation	0.95	Standard Deviation	1.22	Standard Deviation	0.49	Standard Deviation	0.47

Conclusion

62% was 17-20 age category.

55% was afreshman.

31% was in the 2.5-3.0 G.P.A. category.

59% agreed that use of online homework affected the amount of time studying.

73% had some problems with technical difficulties using the online homework system.

75% agreed or strongly agreed that online homework system helped gain a better understanding of thetopics.

80% agreed or strongly agreed that online homework helped gain technical competencies in accounting.

97% had a positive experience using the online homework system.

There is a moderate correlation and substantial relationship of0.56, betweenhow would you rate your experience using the online homework systemand the difficulty of the course was in line with your expectations.

There is also a moderate correlation and substantial relationship of.051, between online homework, helped me gain technical competencies in accounting and online homework helped me gain a better understanding of the topics. 64% answered that they did not use interactive demonstration problem in Wiley Plus. The results of this survey could serve as a basis for further studies to find out why the students did not use demonstration problems.