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Homework assignments and use of technology comparison of F301 and F260 classes at Indiana University South Bend

Abstract

This paper compares the use of technology and the importance of homework assignments among students from personal finance and financial management courses at Indiana University South Bend in USA. In this research, 112 students from Spring 2006 through the Fall 2008 semesters were surveyed about the use of technology both outside and inside the classrooms. The results of this study indicate no statistical difference among male or female students in those classes. However, it is apparent from this analysis that students with higher GPAs use more technology than students with lower GPAs.

Keywords: finance students, homework assignments, use of technology and classroom.

Introduction

The importance of problem solving, communication skills and use of technology plays an important role in students' development. At many universities, Personal Finance course is taught at the freshman level, where the students come just after completing their High school education. Also, business finance or financial management course is the only finance course that students majoring in finance take during their undergraduate academic career. This paper compares the use of technology and importance of homework assignments among students, taking personal finance and financial management courses.

Homework assignments may compensate for low ability of some students and, hence, increase their academic capability. Assuming that students in currently high technological environments are well familiar with computers and have excellent motor skills (due to playing video games), using computers in their homework assignments and in the classroom may also become an entertaining experience for the students. In this scenario, they can be more involved in the studies as it also engages them in using their motor skills.

Many empirical studies indicate that the time spent on studies and completing assignments by secondary school or college students is a good predictor of their academic achievement. It is known that hard working students may compensate for low academic skills to some extent and enhance their grade point average (GPA), morale and confidence. Alavi (1994) reports that collaborative learning leads to higher level of perceived skill development and self enhanced learning among MBA students. Kelley (1972) reports that student achievement was positively and significantly related to number of assignments completed (Upperclassman or Sophomore) at University of Wisconsin-Madison survey in principal of economics course. According to King and Jennings (2004), traditional education, used with technology and experimental exercise, significantly increases business student learning and satisfaction at the undergraduate level. Kohli (2007) shows no difference among male or female students about the use of technology and GPA level in personal finance class. However, the students with higher GPAs use more technology than students with lower GPAs.

Use of technology for academic activities plays an important role both outside and inside the classroom today. For example, Cudd, Tanner, and Lipscomb (2004) reported that about forty percent of finance faculty use intranet-based software or blackboard to augment classroom instruction and that sixty-seven percent of finance faculty use the Internet for education. Peng (2006) reported that students react positively to Internet-based resources because it enhances their learning experience. Burrus, Dumas and Graham (2001) have reported, prior GPA, hours spent studying for the class, and the perceived usefulness of the homework for exam preparation are positively and significantly related to the final homework grade. They further stated that the perception that homework assignments help students prepare for exams motivates student to high quality homework performance among macroeconomics students.

The objective of this study is to compare the student's response in personal finance and financial management Course at Indiana University South Bend.

1. Data and methodology

The data, used in this study, is student's response to a survey[1] from Personal Finance Course at Indiana University South Bend in the Fall semester 2006 and Spring semester 2007. The data also includes survey of students from financial management classes in Fall 2007 and Spring 2008. Four sections of personal finance courses and five sections of financial management courses at Indiana University South Bend were surveyed for this study. Altogether, one hundred and twelve students volunteered to complete the survey. A correlation analysis and descriptive statistics are used in this analysis.

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[1] Questionnaire is attached in the Appendix B.

2. Results

The results of the descriptive statistics are reported in Table 1, Table 2 and Table 3 (see Appendix A). Results in Table 1 indicate that thirty three of the one hundred twelve respondents (30 percent)[1] were part time students, and eighty eight from one hundred twelve (77.6 percent) students were expecting final grade of either A or B. While sixty two percent of male students were studying full-time, eighty two percent of the female students were full-time students. There is no difference between male and female students in the expected grades from F301 and F260 classes. These results indicate that majority of students are full-time students and are expecting academically good achievements.

Further analysis of descriptive statistics in Table 3 (see Appendix A) shows that twenty percent of male students and ten percent of female students never use spreadsheet or word processor, while Completing their homework assignments. Thirteen of sixty-six male students (20 percent) and ten of forty-six female students (21 percent) never used the Internet, while working on the assignments. Therefore, the results of this study show that female and male students use computers (spreadsheet or Internet) equally in doing the homework assignments.

Pearson correlation coefficient (PCC) results between selected variables for both classes F301 and F260 are shown in Tables 5. And, Table 6 shows the coefficients for F260 and F301 separately. For purpose of simplicity, only statistically significant coefficients are reported in these Tables.

Table 5 (see Appendix A) shows PCC between homework helps to understand materials discussed in class and understanding materials clearly is 0.499 (significant at 1 percent level). Similarly PCCs between homework helps to understand material discussed in the class and preparing for the class, in thinking or problem solving, working alone, not submitting homework are 0.211 (5% significant), 0.261 (5% significant), 0.166 (10% significant), and 0.289 (1% significant), respectively. PCCs between materials not discussed in the class and clear understanding, preparing for the class, use of Internet, and using technology by instructor in class are 0.244 (1% significant), 0.411(1% significant), -0.279 (1% significant), and 0.173 (10% significant), respectively.

PCCs between understanding materials clearly and class preparation, entertaining class, problem solving, not submitting homework, use of technology by instructor outside class are 0.447 (1% significant), 0.239 (5% significant), 0.297 (1% significant), 0.174 (10% significant), -0.305 (1% significant), and -0.266 (1% significant), respectively. A further look at Table 5 indicates that PCCs are statistically significant between instructor requiring students to use technology and preparing for the class and problem solving.

Thus, the PCC, reported in Table 5 for both classes F301 and F260, are significant. A careful look at PCCs in Table 5, it is seen that use of technology for doing homework assignments helps students for class preparation, problem solving and understanding the materials clearly are positively correlated. The results in Table 5 also show that PCCs are statistically negative between instructor's posting the class related materials on Internet means that students are not satisfied with the instructor's timeliness in helping students.

Table 6 and Table 7 PCC among selected technology questionnaires for F260 and F301 classes, respectively. For purpose of simplicity, only statistically significant coefficients are reported in these Tables.

Table 6 shows PCC between homework helps to understand materials discussed in class, and understanding materials clearly is 0.252 (significant at 5 percent level), and preparing for class is 0.318 (5% significant). Similarly PCCs between homework helps to understand material clearly and preparing for the class are 0.425 (1% significant), enjoyable experience 0.263 (5% significant), instructor requiring use of technology -0.294 (5% significant), instructor using technology in class -0.26 (5% significant), instructor using technology outside class -0.213 (1% significant), and instructor posting class related materials on Internet 0-0.290 (5% significant), respectively. Interestingly enough, the results in Table 6 also show that PCCs are statistically negative between instructor's posting the class related materials on Internet means that students are not satisfied with the instructor's timeliness in helping students.

Table 7 shows PCC between homework helps to understand materials discussed in class and problem solving are 0.441 (significant at 1 percent level) and doing homework alone 0.255 (10% significant), respectively. Similarly PCCs between homework helps to understand material clearly and preparing for the class are 0.458 (1% significant) and instructor using technology outside class -0.401 (1% significant), respectively. Respondents PCC for problem solving and instructor's forcing students to use technology is 0.278 (10% significant). The results in Table 7 also show that PCCs are statistically negative between instructor's posting the class related materials on Internet means that students are not satisfied with the instructor's timeliness in helping students.

The results of one-way ANOVA between F301 (financial management) and F260 (personal finance) students are reported in Table 8 (see Appendix A). The results, reported in this Table, indi-

[1] In order to manage the size of Tables, the percentages for all variables are not shown in the descriptive statistics but can be provided at request.

cate statistically significant difference (10%) between these two classes when it comes to completing homework and understanding materials discussed in the class. As expected, all students in both classes are familiar with computers as per the results shown in Table 8. Students' responses, reported in Table 8, also show that F260 and F301 students have a statistically different (1%) view on instructor's requirement for use of spreadsheet/word processor in the class. Similarly the students in these two classes indicate significantly different (1%) opinion on instructor's posting of class related information on the website.

Summary and conclusion

By looking at all results, one can conclude that there is no difference among male or female students about the use of technology and current GPA. However, it is apparent that students with high GPA use more technology than students with a lower value of GPA.

When comparing F301 and F260 classes, the results of this analysis show no significant difference among students using technology in the two classes. Except for a few questions (7 out of 26), students' responses from F301 and F260 classes do not seem to indicate any significant difference. Similarly, there is no difference of opinion in use of technology for homework assignments between male and female student. An interesting conclusion of this analysis shows negative correlation between instructors's posting the class related materials on Internet means that students are not satisfied with the instructor's timeliness in helping students.

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Appendix A

Table 1. Full time students and expected grade by male versus female students

Full-time student		Mean	N	Std. deviation
Male	Yes	2.98	41	1.037
	No	3.08	25	1.115
	Total	3.02	66	1.060
Female	Yes	3.68	38	1.093
	No	3.25	8	1.165
	Total	3.61	46	1.105
Total	Yes	3.32	79	1.116
	No	3.12	33	1.111
	Total	3.26	112	1.113

Table 2. Expected grade by male versus female students

Expected grade		Mean	N	Std. deviation
Male	A	1.29	17	.470
	B	1.43	35	.502
	C	1.54	13	.519
	D	2.00	1	.
	Total	1.42	66	.498

Table 2 (cont.). Expected grade by male versus female students

Expected grade		Mean	N	Std. deviation
Female	A	1.27	22	.456
	B	1.62	13	.506
	C	1.64	11	.505
	Total	1.46	46	.504
Total	A	1.28	39	.456
	B	1.48	48	.505
	C	1.58	24	.504
	D	2.00	1	.
	Total	1.44	112	.498

Table 3. Do you use spreadsheet and/or word processor in completing homework?

		Mean	N	Std. deviation
Male	Never	1.54	13	.519
	Sometimes	1.41	37	.498
	Always	1.38	16	.500
	Total	1.42	66	.498
Female	Never	1.60	5	.548
	Sometimes	1.42	24	.504
	Always	1.47	17	.514
	Total	1.46	46	.504
Total	Never	1.56	18	.511
	Sometimes	1.41	61	.496
	Always	1.42	33	.502
	Total	1.44	112	.498

Table 4. Do you use Internet in completing homework?

		Mean	N	Std. Deviation
Male	Never	1.54	13	.519
	Sometimes	1.40	48	.494
	Always	1.40	5	.548
	Total	1.42	66	.498
Female	Never	1.60	10	.516
	Sometimes	1.38	32	.492
	Always	1.75	4	.500
	Total	1.46	46	.504
Total	Never	1.57	23	.507
	Sometimes	1.39	80	.490
	Always	1.56	9	.527
	Total	1.44	112	.498

Table 5. Pearson correlation coefficients between selected variables combined for F260 and F301 classes, N = 112

	Does homework help to understand the text material not discussed in the class?	understand the material clearly?	prepare for the next class?	learning experience enjoyable?	thinking or problem solving?	Work alone or in a group	Did not hand in your home work?	Use of Internet in soreadsheet and/or word processor required	Use of Internet in soread-sheet and/or word processor required	Require you to use Internet for this course?	Instructor uses technology	Technology outside the class for this	Regularly post class related information (like but not limited
Understand the text material discussed in the class	0.207**	0.499***	0.211**		0.261**	0.166*	0.289***						-0.165*
Understand the text material not discussed in the class		0.244***	0.411***					-0.279***			0.173*		
Help to understand the material clearly			0.447***	0.239**	0.297***		0.174*					-0.305***	-0.266***
Help you to prepare for the next class					0.238*			-0.200**	0.158*			-0.245***	-0.210**

Table 5 (cont.). Pearson correlation coefficients between selected variables combined for F260 and F301 classes, N = 112

	Does homework help to understand the text material not discussed in the class?	understand the material clearly?	prepare for the next class?	learning experience enjoyable?	thinking or problem solving?	Work alone or in a group	Did not hand in your home work?	Use of Internet in soreadsheet and/or word processor required	Use of Internet in soread-sheet and/or word processor required	Require you to use Internet for this course?	Instructor uses technology	Technology outside the class for this	Regularly post class related information (like but not limited
Help you in thinking or problem solving						0.164*	0.266***		0.345***	0.244***			-0.242*
Work alone or in a group											-0.186**		
Use of spreadsheet and/or word processor									-0.183*				
Use Internet in completing homework										-0.212**			
Require use spreadsheet and/or word processor										0.372***			
Require you to use Internet											-0.170*		
Instructor uses technology during the class												0.446***	
Instructor uses technology outside the class for this													0.345***

Notes: *** Coefficient is significant 1 percent level, ** Coefficient is significant 5 percent level.

Table 6. Pearson correlation coefficients between selected variables for F260 class N = 63

	Understand the text material not discussed in the class	Understand the material clearly	Prepare for the next class	Learning experience enjoyable	Thinking or problem solving	Use spreadsheet and/or word processor	Require you to use spread-sheet and/or word processor for this	Require you to use Internet for this course	Instructor uses technology during the class	Instructor uses technology outside the class for this	Regularly post class related information
Understand the text material discussed in the class	0.375***	0.252**	0.318**								
Help to understand the material clearly			0.425***	0.263**		-0.294**			-0.26**	-0.213*	-0.290**
Help you to prepare for the next class					0.336***						
Help you in thinking or problem solving							0.452***	0.214*			
Work alone or in a group									-0.221*	-0.249**	-0.370***
Did not hand in your home work									0.235*	0.244*	
Use of Internet								-0.372***			
Instructor uses technology during the class										0.6357***	0.439***
Instructor uses technology outside the class for this											0.303**

Notes: *** Coefficient is significant 1 percent level, ** Coefficient is significant 5 percent level.

Table 7. Pearson correlation coefficients between selected variables for F301 class, N = 49

	Understand the material clearly	Help you to prepare for the next class	Help you in thinking or problem solving	Work alone or in a group	Did not hand in your home work	Use Internet in completing homework	Require you to use Internet	Instructor use of technology during the class	Instructor uses technology outside the class	Regularly post class related information
Understand the text material discussed in the class	0.641***		0.441***	0.255*	0.312**					
Understand the text material not discussed in the class	0.360**	0.618***				-0.552***		0.278*	-0.304**	
Help to understand the material clearly		0.458***	0.438***		0.273*				-0.401***	-0.247*
Help you to prepare for the next class				0.240*		-0.344**			-0.445***	-0.256*

Table 7 (cont.). Pearson correlation coefficients between selected variables for F301 class, N = 49

	Understand the material clearly	Help you to prepare for the next class	Help you in thinking or problem solving	Work alone or in a group	Did not hand in your home work	Use Internet in completing homework	Require you to use Internet	Instructor use of technology during the class	Instructor uses technology outside the class	Regularly post class related information
Does homework make your learning experience enjoyable									-0.298**	
Help you in thinking or problem solving				0.356**	0.469***		0.278*			-0.349**
Instructor require you to use spreadsheet and/or word processor for this							0.558***			
Instructor uses technology during the class									0.283**	
Instructor uses technology outside the class										0.393***

Table 8. Analysis of variance between F260 and F301 classes

		Sum of squares	df	Mean square	F	Sig.
If a choice is given, how often would you prefer the homework assignments?	Between groups	.014	1	.014	.015	.902
	Within groups	103.093	110	.937		
	Total	103.107	111			
Does homework help to understand the text material discussed in the class?	Between groups	.545	1	.545	3.041	.084
	Within groups	19.705	110	.179		
	Total	20.250	111			
Does homework help to understand the text material not discussed in the class?	Between groups	.007	1	.007	.018	.895
	Within groups	43.270	110	.393		
	Total	43.277	111			
Does homework help to understand the material clearly?	Between groups	.274	1	.274	.499	.481
	Within groups	60.440	110	.549		
	Total	60.714	111			
Does homework help you to prepare for the next class?	Between groups	1.024	1	1.024	2.566	.112
	Within groups	43.896	110	.399		
	Total	44.920	111			
Does homework make your learning experience enjoyable?	Between groups	.009	1	.009	.020	.887
	Within groups	49.420	110	.449		
	Total	49.429	111			
Does homework help you in thinking or problem solving?	Between groups	.007	1	.007	.040	.841
	Within groups	18.984	110	.173		
	Total	18.991	111			
Do you do your homework yourself (alone or in a group)?	Between groups	.300	1	.300	1.330	.251
	Within groups	24.807	110	.226		
	Total	25.107	111			
How many times you did not hand in your home work?	Between groups	1.940	1	1.940	1.781	.185
	Within groups	119.837	110	1.089		
	Total	121.777	111			
Are you familiar with use of computers?	Between groups	.000	1	.000	.	.
	Within groups	.000	110	.000		
	Total	.000	111			
Do you use spreadsheet and/or word processor in completing homework?	Between groups	.238	1	.238	.538	.465
	Within groups	48.753	110	.443		
	Total	48.991	111			
Do you use Internet in completing homework?	Between groups	.128	1	.128	.466	.496
	Within groups	30.122	110	.274		
	Total	30.250	111			
Does your instructor require you to use spreadsheet and/or word processor for this?	Between groups	2.395	1	2.395	7.590	.007
	Within groups	34.712	110	.316		
	Total	37.107	111			

Table 8 (cont.). Analysis of variance between F260 and F301 classes

	Sum of squares	df	Mean square	F	Sig.	
Does your instructor require you to use Internet for this course?	Between groups	.009	1	.009	.028	.868
	Within groups	35.705	110	.325		
	Total	35.714	111			
Does your instructor himself/herself use technology during the class?	Between groups	6.014	1	6.014	9.158	.003
	Within groups	72.236	110	.657		
	Total	78.250	111			
Does your instructor himself/herself use technology outside the class for this?	Between groups	.862	1	.862	.946	.333
	Within groups	100.245	110	.911		
	Total	101.107	111			
Does your instructor regularly post class related information (like but not limited)?	Between groups	23.017	1	23.017	30.860	.000
	Within groups	82.045	110	.746		
	Total	105.063	111			

Notes: *** Coefficient is significant 1 percent level, ** Coefficient is significant 5 percent level.

Appendix B

Proposed instrument is for the survey of the importance of homework assignments and use of technology by the personal finance students. Please do not write your name on it.

Questions 1 through 9 relate to student's information (Please check only one answer)

1. Have you received your high school diploma?

   a. Yes b. No

2. If answer to question 1 is yes, how many years back did you receive the diploma?

   a. Less than 1 b. 1 to 2 c. 2 to 3 d. 3 to 4 e. More than 4

3. What is your gender?

   a. Male b. Female

4. What grade are you expecting in this class?

   a. A b. B c. C d. D e. F

5. Are you working towards your Associate/Bachelor degree?

   a. Yes b. No

<u>If answer to question 5 is no then go to question 10, otherwise answer questions 6 through 9</u>

6. What is your current GPA?

   a. Less than 2.0 b. 2.0 to 2.49 c. 2.5 to 2.99 d. 3.0 to 3.49 e. 3.5 to 4.0

7. Are you a full time student, meaning you are enrolled in at least 12 credit hours?

   a. Yes b. No

8. What is your major?

   a. Business b. Non-Business

9. What is your student status?

   a. Freshman b. Sophomore c. Junior d. Senior

Questions 10 through 18 relate to homework assignments (Please check only one answer)

10. If a choice is given, how often would you prefer the homework assignments outside the class room?

    a. Never b. Once every scheduled class c. Once every two scheduled classes

    d. Once every three scheduled classes e. Other

11. Does homework help to understand the text material discussed in the class?

    a. Yes b. No c. Other

12. Does homework help to understand the text material not discussed in the class?

    a. Yes b. No c. Other

13. Does homework help to understand the material clearly?

    a. Yes b. No c. Other

14. Does homework help you to prepare for the next class?

    a. Yes b. No c. Other

15. Does homework make your learning experience enjoyable?

    a. Yes b. No c. Other

16. Does homework help you in thinking or problem solving?

    a. Yes b. No c. Other

17. Do you do your homework yourself (alone or in a group)?

    a. Yes b. No c. Other

18. How many times you did not hand in your home work?

    a. 0 b. 1 c. 2 d. 3 e. 4 f. Other

Questions 19 through 26 relate to technology use to assist you in this course (Please check only one answer). Use of technology may imply (but is not restricted to) using spreadsheet, word processor, power point and Internet.

19. Are you familiar with use of computers?

    a. Yes b. No c. Other

20. Do you use spreadsheet and/or word processor in completing homework?

    a. Never b. Sometimes c. Always

21. Do you use Internet in completing homework?

    a. Never b. Sometimes c. Always

22. Does your instructor require you to use spreadsheet and/or word processor for this course?

    a. Yes b. No c. Other

23. Does your instructor require you to use Internet for this course?

    a. Yes b. No c. Other

24. Does your instructor himself/herself use technology during the class?

    a. Never b. Sometimes c. Very Often d. Always

25. Does your instructor himself/herself use technology outside the class for this course?

    a. Never b. Sometimes c. Very Often d. Always

26. Does your instructor regularly post class related information (like but not limited to) class notes, announcements, assignments and grades on Internet or on Oncourse?

    a. Never b. Sometimes c. Very Often d. Always

27. Approximately how many minutes did you take to complete this questionnaire?

    a. 1-5 b. 5-10 c. 10-15 d. More than 15

Thank you for completing this questionnaire!