



Determinants of Student Success in Finance Courses

Alexandr Akimov – a.akimov@griffith.edu.au

Mirela Malin – m.malin@griffith.edu.au

Sonja Kobinger – s.kobinger@griffith.edu.au

Department of Accounting, Finance and Economics
Griffith Business School

Griffith University, Gold Coast, Australia

Structure of Presentation

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Introduction

- Greater competition in the higher education environment
 - Changing student demands
 - Digital media
 - Online education

- Student success is an important element in achieving and maintaining university:
 - accreditation, reputation, quality of teaching

- This paper:
 - Investigates the use of existing strategies students adopt to learn
 - Examine how effective these strategies are to student success
 - Online and face-to-face strategies comparison

Theoretical Foundation

From a student's perspective:

- Wang, Haertel and Walberg (1994) find direct influences (psychological, instructional and contextual) of student success:
 - Classroom management
 - Metacognitive processes
 - Cognitive processes
 - Student and teacher social interactions
 - Home environment/parental support

- Pintrich (1994) components of learning taxonomies:
 - Cognitive processing activities
 - Affecting activities
 - Regulating activities

- Biggs' (1989) 3P model describes learning as an interaction of:
 - Student characteristics and learning environment (**P**resage),
 - Students' approach to learning (**P**rocess) and
 - Learning outcomes (**P**roduct)

Theoretical Foundation

From a teacher's perspective:

- Vermunt and Vermetten (2004) - activities that promote high-quality student learning:
 - Cognitive processing functions – the way content is presented and clarified
 - Affecting functions – creation of positive, motivational climate for learning
 - Regulating functions – the way teachers guide students' learning processes

- Slavich and Zimbardo (2012):
 - Principles of learning that guide instruction:
 - Active learning
 - Student-centered learning
 - Methods of instruction:
 - Collaborative learning
 - Experiential learning
 - Problem-based learning

Evidence from Literature

- Orlov and Roufagalas (2012):
 - Positive relationship between student ability and performance; females outperformed males
- Stinebrickner and Stinebrickner (2008), Bonestrønning and Opstad (2012), and Andrietti and Velasco (2015):
 - Effort spent on studying is an important determinant of success
- Marburger (2001), Chen and Lin (2008), Cohn and Johnson (2006), Stanca (2006), and Dobkin, Gil, and Marion (2010):
 - Lecture attendance had positive impact on exam scores
- Williams, Birch, and Hancock (2012):
 - Viewing lecture recordings instead of attending live lectures led to poorer performance
- Burgan (2006, p. 32):
 - *'The two features of an individual instructor's pedagogy that most engage undergraduates are control of the material and concern with students' understanding of it'*

Data and Methodology

- Core second year Finance major in Bachelor of Commerce with:
 - 13 week semester, 3h contact/week (2h lecture;1h tutorial)
 - Mid semester, group assignment, final exam
 - Online access to: lecture notes, tutorial Q&A, recorded lectures

- Model:

$$Score_i = a + \beta_1 \times CLH_i + \beta_2 \times OR_i + \beta_3 \times LS_i + \beta_4 \times TQ_i + \beta_5 \times TA_i + \beta_6 \times TR_i + \beta_7 \times CA_i + \beta_8 \times EL_i + \varepsilon_i$$

Where:

CLH	number of class hours (lecture & tutorial) students attended during the semester	TA	number of files with tutorial answers each individual student downloaded
OR	the volume of online recordings of lectures students accessed measured as an average (0-100%) viewing completion of recorded lectures	TR	how many chapters of prescribed textbook reading students have done.
LS	number of lecture slides students downloaded from the course website	CA	proxy for cognitive and analytical ability
TQ	number of tutorial tasks students downloaded from the course website.	EL	proxy for English language ability

Evaluation

Use of teaching and learning resources

Type of learning resource	Average % overall	Average % excluding non-attempting students	% students who did not access the resource	% students who accessed the resources once only
Class attendance	37.89	40.39	6.19	9.73
<i>incl. lectures</i>	38.29	42.42	9.73	13.27
<i>tutorials</i>	36.99	49.17	24.78	7.08
Recorded lectures	8.83	13.86	36.28	16.81
Prescribed book chapters read	19.82	33.93	41.59*	1.77
Lectures slides downloaded	95.82	96.67	0.88	6.19**
Tutorial questions downloaded	96.37	97.23	0.88	4.42**
Tutorial answers downloaded	94.87	96.58	1.77	7.96**

Note. *figure includes students who opted not to fill in the survey (18.49%); **figure reflects the percentage of students who downloaded at least one file but not the full set.

Evaluation:

Which learning resource contributed to success?

Dependent variable: Score

Independent variable	Coefficient (<i>p</i> -value)	Independent variable	Coefficient (<i>p</i> -value)
Constant	0.562 (0.976)	TA	-0.904 (0.604)
CLH	0.528 (0.012)	TR	0.981 (0.106)
OR	0.262 (0.032)	CA	0.693 (0.001)
LS	-0.722 (0.200)	EL	0.667 (0.023)
TQ	2.459 (0.198)		
R-squared	0.504	No. observations	41
Adjusted R-squared	0.399		

Note: Bold indicates significant at a conventional level

Evaluation

Recording lectures - substitutes or complements to f2f lectures?

	Score	LH	TH	OR	LS	TQ	TA	TR
Score	1.000	0.306	0.415	0.272	-0.082	0.227	0.155	0.125
LH	0.306	1.000	0.635	-0.203	0.027	-0.017	-0.088	0.131
TH	0.415	0.635	1.000	-0.103	0.073	0.066	0.068	0.092
OR	0.272	-0.203	-0.103	1.000	0.112	0.052	0.003	0.329
LS	-0.082	0.027	0.073	0.112	1.000	-0.087	-0.110	0.192
TQ	0.227	-0.017	0.066	0.052	-0.087	1.000	0.910	-0.038
TA	0.155	-0.088	0.068	0.003	-0.110	0.910	1.000	-0.008
TR	0.125	0.131	0.092	0.329	0.192	-0.038	-0.008	1.000

Evaluation

Recording lectures - substitutes or complements to f2f lectures?

Dependent variable: Score

Independent variable	Coefficient (<i>p</i> -value)	Independent variable	Coefficient (<i>p</i> -value)
LH	0.045 (0.962)	TQ	2.829 (0.155)
TH	1.184 (0.061)	TA	-1.297 (0.478)
IT	0.033 (0.596)	TR	1.162 (0.073)
OR	0.129 (0.607)	CA	0.751 (0.001)
LS	-0.794 (0.169)	EL	0.669 (0.024)
R-squared	0.526	No. observations	41
Adjusted R-squared	0.389		

Conclusion

- Students have intention to study evidenced by access to course content.
- Class attendance and recorded lectures contributed the most to student success.
- Regarding face-to-face interaction, tutorials were more effective than lectures.
- Recorded lectures are used as a substitute to campus lecture.