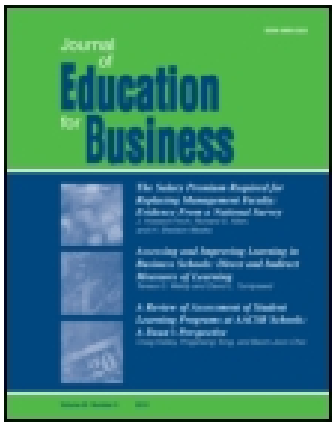
This article was downloaded by: [California State University Northridge]
On: 02 November 2014, At: 18:57
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Education for Business
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/vjeb20

Scholarly Networking Among Business Students: Structured Discussion Board Activity and Academic Outcomes

Kristen Walker [a] , Mary T. Curren [a] , Tina Kiesler [a] , H. Bruce Lammers [a] & Jamie Goldenson [a]
[a] California State University, Northridge , Northridge , California , USA
Published online: 06 Jun 2013.

To cite this article: Kristen Walker , Mary T. Curren , Tina Kiesler , H. Bruce Lammers & Jamie Goldenson (2013) Scholarly Networking Among Business Students: Structured Discussion Board Activity and Academic Outcomes, Journal of Education for Business, 88:5, 249-252, DOI: 10.1080/08832323.2012.690352

To link to this article: http://dx.doi.org/10.1080/08832323.2012.690352

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at http://www.tandfonline.com/page/terms-and-conditions

JOURNAL OF EDUCATION FOR BUSINESS, 88: 249–252, 2013
Copyright © Taylor & Francis Group, LLC
ISSN: 0883-2323 print / 1940-3356 online
DOI: 10.1080/08832323.2012.690352

Routledge
Taylor & Francis Group

Scholarly Networking Among Business Students: Structured Discussion Board Activity and Academic Outcomes

Kristen Walker, Mary T. Curren, Tina Kiesler, H. Bruce Lammers, and Jamie Goldenson
California State University, Northridge, Northridge, California, USA

Downloaded by [California State University Northridge] at 18:57 02 November 2014

The authors' intent was to show the effect of student discussion board activity on academic outcomes, after accounting for past academic performance. Data were collected from 516 students enrolled in a junior-level required business course. Controlling for students' grade point average, stepwise regression showed a significant relationship between scholarly discussion board usage and both group and individual grades. Students who read the discussion board improved their final grade. More importantly, those students who posted to the discussion board showed further improvement in their academic performance. The findings strongly support the critical notion that when discussion board activity is structured, scholarly networking leads to better student performance. This should encourage more faculty to incorporate task-oriented online discussion in their courses.

Keywords: academic performance, discussion boards, scholarly networking, student interaction

As the use of computer and online technology becomes pervasive and invasive for students and faculty, academicians struggle to understand potential effects on learning. Student use and familiarity with computer-based learning and their use of social networking is forcing faculty to embrace this technology as well. While a hybrid course in college (a course blending online components with traditional face-to-face techniques) once was a unique pedagogy in higher education, it has almost become the norm (DeNeui & Dodge, 2006; Harasim, 2000; Jackson, Helms, Jackson, & Gum, 2011; Swenson & Evans, 2003). Faculty use online components in their courses for simulations, examinations, research, and even for communication purposes. Jackson et al. found that students' ideal college learning environment changed significantly between 1996 and 2006. Students in 2006 wanted instructors to engage in more extensive use of electronic mail and wanted professors to access the internet in class significantly more than did students surveyed 10 years earlier.

Discussion in class and outside the classroom has always been considered important for student learning and for critical thinking skills (Ackerman, Gross, & Perner, 2003; Brookfield & Preskill, 1999; Sautter, 2007). Researchers have examined technology and its role in discussion boards or online forums to determine how effective these were for students and learning. Celsi and Wolfinbarger (2002) explained that asynchronous discussion outside of class played an important role in going beyond mirroring classroom activities and enhanced students' classroom experience. This asynchronous nature of discussion boards or online forums has also been shown to make interaction easier for international students and students who would otherwise be shy about in-class participation (Sautter, 2007; Sweeney & Ingram, 2001; Tiene, 2000). Yet, the effectiveness of online discussions has been questioned. Karns' (2005) research shows that students perceived online discussion exercises as enjoyable, but not very challenging and students expressed negative attitudes toward online discussion.

The few studies that have focused on student outcomes and discussion boards were more recent. Sautter (2007) indicated the design of discussion board or online forum was critical. Her research suggested that a structured discussion format was preferred for critical thinking. O'Reilly, Rahinel, Foster, and Patterson (2007) found that students who posted at least one course-related entry ultimately earned higher grades than other students. They found that those posting course-related material performed better than those whose posts were categorized as social. Similarly, Strang (2011)

Correspondence should be addressed to Kristen Walker, California State University, Northridge, Department of Marketing, 18111 Nordhoff Street, Northridge, CA 91330-8377, USA. E-mail: kristen.walker@csun.edu

found that online interactions categorized as general in nature were negatively correlated with final grade whereas those interactions categorized as research, case study, or project-related were positively correlated with final grade.

Unfortunately, it is not clear from either of these studies whether those students with a history of academic achievement tended to engage in more task-related discussion board activity and performed better or whether those students who engaged in more task-related discussion board activity, regardless of past academic performance, performed better. The primary purpose of the present study is to address this issue by including students' grade point average (GPA) as a proxy for past academic performance in the analysis of the relationship between task-related discussion board activities and performance in the course.

METHOD

Procedure

This study was conducted from fall 2008 through spring 2010 in five sections of an upper division required business course (introductory marketing) taught in a lecture hall at a large public university. The same professor taught this course across the five semesters. Course requirements included two group assignments (a situation analysis paper and a final marketing plan) as well as several individual components (seven exams, a pop quiz, and class participation). Group sizes for the situation analysis and the marketing plan project ranged from four to five. The grading rubrics and weights were constant across the five semesters, although the topics for the situation analysis and marketing plan were changed from semester to semester to avoid plagiarism and to incorporate current events when possible. Seven online exams were given and students usually had about three days to complete the exams. In addition, one pop quiz was administered in class. To encourage participation both in the lecture hall and outside of the class, a WebCT online discussion board (Blackboard, Inc., Washington, DC) was created as part of the course.

The WebCT platform provided an online location for students to retrieve the class materials, take exams, and interact with each other on the discussion board. The professor set up the discussion board with threads that covered various class components (e.g., sections of the situation analysis, marketing plan) and monitored the discussion regularly. Students' participation in online discussions could count towards their class participation grade. Class participation was 5% of a student's final grade and was determined by the quality of a student's class contributions in three in-class or online occasions. For a class contribution to be considered for class participation, the student had to submit a short online form to the professor with a description of the student's online or in-class contribution on a particular date. The quality of the contribution was then assessed and assigned credit if it added value to the course.

Most students also completed an online student profile at the start of the semester. In the profile they shared information with the professor regarding the course prerequisites, basic demographic data about themselves, and employment status/hours. The typical frequency of their class participation was determined by asking students to characterize their history of participating in class ("always participate" to "rather not participate at all in class discussions").

Participants

Students enrolled in five sections of introduction to marketing served as participants ($n = 516$). Because the course was required of all business majors, the profile of the participants did not deviate significantly from that of the college's business majors. Table 1 shows the breakdown of the participants by major. Most of the respondents, 82%, were 18–25 years old. More than half, 52%, of the participants were men. When characterizing their class participation, almost 11% of students in the course preferred not to participate or disliked class participation in general. A clear majority, 77%, of the students were employed at the time they took the course and 49% of those employed were working more than 20 hours per week.

Independent Variables

The three independent variables served as primary predictors of performance in the course: readings (postings read; i.e., the number of times a person clicked on discussion threads), posts (how many times a person contributed in writing to a discussion on the discussion board), and GPA (overall grade point average coming in to the course, a presumed proxy for prior academic achievement).

In addition to the three primary independent variables, gender and major were also examined as potential predictors of performance. Gender was included because it has been shown that female students tend to use online forums more than male students (e.g., DeNeui & Dodge, 2006). Major was included because it was suspected that students taking a course in their major (here, marketing) may somehow be

TABLE 1
Frequency, by Major

Major	*n*	%
Accounting	53	10.27
Business law	35	6.78
Economics	3	9.58
Finance	107	20.74
Information systems	19	3.68
Management	128	24.81
Marketing	107	20.74
Systems and operations management	5	0.97
Other	59	11.43

Downloaded by [California State University Northridge] at 18:57 02 November 2014

more motivated to engage in discussion board activities, regardless of their GPA. Major, then, was defined as either marketing (1) or nonmarketing (0).

Dependent Variables

The five dependent variables in this study included course grade (grade in the course excluding participation), pop quiz grade (4-point scale grade on the single, unannounced quiz), exam grade (average grade on the seven exams), and the grades on each of the two group assignments (situation analysis grade and marketing plan grade).

RESULTS

A stepwise regression analysis of the five independent variables was performed on each of the five dependent variables. Stepwise regression normally results in the most parsimonious model of predictors relative to simultaneous, forward, and backward regressions (Brace, Kemp, & Snelger, 2009). In this case, a search was made for the best and simplest model to predict grade performance in the course. More specifically, the goal was to determine if the inclusion of discussion board activities improved the predictive power of models that incorporated GPA alone. In essence, the predictive power of discussion board activities while controlling for GPA was assessed. See Table 2 for a summary of the most parsimonious models.

Exam Grade

The stepwise regression analysis of exam grades showed that the best fitting and most parsimonious model included GPA and readings (standardized Bs = .44 and .12, respectively, ps < .003) at the exclusion of posts, gender, and major, $F(2, 509) = 77.69$, $p < .001$, adjusted $R^2 = .231$.

TABLE 2
Parsimonious Stepwise Regression Models

	Standardized beta values for independent variables				
Dependent variable	GPA	Read	Posts	Major	Adjusted R^2 full model
Exam grade	.44**	.12**			.231
Pop quiz grade	.226*	.156*		.106*	.097
Situation analysis grade	.117*	.094**			.024
Marketing plan grade	.051**				.016
Course grade	.453*	.106*	.088*		.27

Note. GPA = grade point average.
*$p < .05$. **$p < .01$. ***$p < .001$.

Pop Quiz Grade

The best fitting model for the pop quiz grade included GPA, readings, and major (standardized Bs = .226, .156, and .106, respectively, ps < .012) with posts and gender excluded, $F(3, 508) = 19.29$, $p < .001$, adjusted $R^2 = .097$.

Situation Analysis Grade

For the situation analysis grade, the best fit model included GPA and readings (standardized Bs = .117 and .094, respectively, ps < .038) and excluded posts, major, and gender, $F(2, 509) = 7.31$, $p < .001$, adjusted $R^2 = .024$.

Marketing Plan Grade

The best fitting model for marketing plan grade included GPA alone (standardized $B = .051$, $p < .002$) and excluded the other four independent variables, $F(1, 510) = 9.39$, $p < .002$, adjusted $R^2 = .016$.

Course Grade

The best fitting stepwise regression model for course grade included GPA, Readings, and Postings (standardized Bs = .453, .106, and .088, respectively, ps < .043) at the exclusion of major and gender, $F(3, 508) = 63.96$, $p < .001$, adjusted $R^2 = .27$.

DISCUSSION

Overall, the findings show that scholarly discussion board activity, especially reading the posts, is significantly related to course grades on both individual and group assignments. Most importantly, students who engaged in both reading and posting activity see the greatest improvement in their final grade in the course. These findings strongly support the critical notion that when discussion board activity is structured, scholarly networking leads to better student performance. This should encourage more faculty to incorporate task-oriented online discussion in their courses.

An important feature of this study was the inclusion of GPA in the models predicting academic performance to see if discussion board activity's relationship to academic performance is, in a sense, overpowered by GPA alone. Not surprisingly, GPA is a significant element in predicting academic performance. Students with a stronger past of academic achievement (i.e., higher GPAs) earn higher grades in the course. However, including discussion board activity along with GPA significantly improves the predictive power of these models over GPA alone. Thus, structured discussion board activity appears to be somewhat independent of past academic achievement in how it relates to current academic performance.

Interestingly, gender has no significant relationship to academic performance in any of these regression models. This

Downloaded by [California State University Northridge] at 18:57 02 November 2014

is a bit surprising given that this study and others (DeNeui & Dodge, 2006) found that women engage in significantly more discussion board activity than men. Specifically, women read more posts ($M = 182.51$) than did men ($M = 117.55$, $SD = 119.78$), $F(1, 514) = 29.93$, $p < .000$. Women also actively posted more messages ($M = 3.56$, $SD = 3.93$) than did men ($M = 2.66$, $SD = 3.61$), $F(1, 514) = 7.36$, $p < .01$. Perhaps there is a ceiling effect or leveling-off effect when it comes to receiving the full benefits (better grades) from discussion board activity, and female students tend to surpass that level of diminishing returns. If so, perhaps the quality of the discussion board activity should somehow be enhanced to raise that point of diminishing returns.

Although gender is not statistically significant in the predictive models, major is, but in a very limited arena. Marketing majors perform better on pop quizzes than nonmarketing majors, even after controlling for GPA and discussion board activity. Major was included in the regression models because it was thought that marketing majors might be more interested in studying marketing and that stronger academic performance would occur. That premise is supported by the regression models on pop quizzes but not on the other measures of academic performance. All in all, major's relationship to academic performance is limited.

Faculty who incorporate task-related online discussion boards in their courses should be encouraging students to use them and may wish to point out to students that research demonstrates they can benefit academically. It would be worthwhile to point out to students the benefits from reading discussion board posts and that they will benefit even further from posting on task-oriented discussion boards.

The caveats regarding the limitations of this study include the representativeness of the sample and the generalizability of the findings. The participants are from five separate sections of the course over a span of three years and are reasonably representative of students in introductory marketing classes at the university. Given the finding that major played a very limited role in predictive models of academic performance, the findings should generalize well past introductory marketing classes, although that surely remains an open research question.

Future researchers might utilize active learning theories to explore the precise nature of scholarly discussion board usage in hybrid courses. Perhaps the cognitive energy used to post on discussion boards adds value beyond simply reading posts; value is enhanced by the process that students go through when they actively engage in course material.

Downloaded by [California State University Northridge] at 18:57 02 November 2014

REFERENCES

Ackerman, D. S., Gross, B. L., & Perner, L. E. (2003). Instructor, student, and employer perceptions on preparing marketing students for changing business landscapes. *Journal of Marketing Education*, *25*, 46–56.

Brace, N., Kemp, R., & Snelger, R. (2009). *SPSS for psychologists*. Sydney, Australia: Palgrave Macmillan.

Brookfield, S. D., & Preskill, S. (1999). *Discussion as a way of teaching: Tools and techniques for democratic classrooms*. San Francisco, CA: Jossey-Bass.

Celsi, R. L., & Wolfinbarger, M. (2002). Discontinuous classroom innovation: Waves of change for marketing education. *Journal of Marketing Education*, *24*, 64–72.

DeNeui, D. L., & Dodge, T. L. (2006). Asynchronous learning networks and student outcomes: The utility of online learning components in hybrid courses. *Journal of Instructional Psychology*, *33*, 256–259.

Harasim, L. (2000). Shift happens: Online education as a new paradigm in learning. *The Internet and Higher Education*, *3*, 46–61.

Jackson, M. J., Helms, M., Jackson, W. T., & Gum, J. R. (2011). Student expectations of technology-enhanced pedagogy: A ten-year comparison. *Journal of Education for Business*, *86*, 294–301.

Karns, G. L. (2005). An update of marketing student perceptions of learning activities: Structure, preferences, and effectiveness. *Journal of Marketing Education*, *27*, 163–171.

O'Reilly, N. J., Rahinel, R., Foster, M. K., & Patterson, M. (2007). Connecting in megaclasses: The netnographic advantage. *Journal of Marketing Education*, *29*, 69–84.

Sautter, P. (2007). Designing discussion activities to achieve desired learning outcomes: Choices using mode of delivery and structure. *Journal of Marketing Education*, *29*(122), 123–132.

Strang, K. D. (2011). Asynchronous knowledge sharing and conversation interaction impact on grade in an online business course. *Journal of Education for Business*, *86*, 223–233.

Sweeney, J. C., & Ingram, D. (2001). A comparison of traditional and web-based tutorials in marketing education: An exploratory study. *Journal of Marketing Education*, *23*, 55–62.

Swenson, P. W., & Evans, M. (2003). Hybrid courses as learning communities. In S. Reisman (Ed.), *Electronic learning communities issues and practices* (pp. 27–72). Greenwich, CT: Information Age.

Tiene, C. D. (2000). Online discussions: A survey of advantages and disadvantages compared to face-to-face discussions. *Journal of Educational Multimedia and Hypermedia*, *9*, 371–384.