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Examining Self-directed Learning Readiness and Performance of Business Students

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Abstract

This study investigates student readiness for self-directed learning and its impact on academic performance. Changes in course delivery and modality have been widespread due to governmental mandates. Courses that were traditional face-to-face or blended learning moved to online learning. In this study, survey data from 350 upper-level business students at an AACSB accredited institution were collected prior to and after the online teaching mandates. This data measured students' level of self-directed learning readiness compared to their final grade percentage. An analysis of overall self-directed learning readiness, the sub-scales of self-management, desire to learn, and self-regulation, course content, and course modality was conducted. The results showed a significant correlation between the self-management sub-scale score and the final grade percentage. No significant differences were found for the other comparisons or demographic data. The results may allow students and faculty to improve self-management behaviours before or early in the course semester to improve learning and academic performance.

Key words*: Self-directed learning; blended learning; course modality; on-line learning.*

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Introduction

Course modality has changed significantly due to COVID-19, with imposed mandates causing online courses to become the norm in institutions that previously used other modalities. To follow these mandates, some institutions built on the scope of the current programs, while others had to quickly figure out how to implement online offerings for the first time. While most institutions reacted rapidly to keep faculty and students safe and in school, there was little time to understand student learning with these new or different teaching approaches. Specifically, there remains a need to better understand student readiness for these more self-directed learning modalities and less face-to-face (F2F) contact, particularly as these changes relate to the student's academic performance.

Literature Review

Even before the spring of 2020, some business schools were increasingly implementing various modalities for teaching to incorporate more active and experiential learning for undergraduate students. Schools increased online, hybrid, flipped, and blended learning, but much of it was still a 'work in progress' (Sahni, 2019).

While digital technology advancements improved the quality and content of courses, they often came in a new format. Institutions burdened students with learning new technology platforms and content while also finding unscheduled time and space to study. Some students enjoyed the format and demanded access to online classes to meet their needs for flexibility outside of school, while others struggled.

Self-Directed Learning

Blended and online courses require students to engage in self-directed learning that differs significantly from traditional, F2F-only courses. Research has shown that "student readiness has a positive impact on student's achievements in online learning" (Kusel, Martin & Markic, 2020,1). Readiness includes having a goal orientation, being independent, persistent, utilizing cognitive abilities, and being motivated to work independently outside of class sessions (Abdelaziz, 2012). Activities such as reviewing materials, watching videos, reading cases, and taking quizzes are often self-directed. Moreover, this type of student learning requires individuals to take the initiative by "diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and, evaluating learning outcomes" (Knowles, 1975, 18).

While many students enjoy the flexibility to decide when the work gets done, they are also expected to be responsible for completing that work, meeting deadlines, and evaluating their performance before the F2F class (Linder, 2016, Lieberman & Linn, 1991). The critical elements of self-directed learning are a desire for learning, self-regulation, and self-management (Fisher, King, & Teague, 2001).

Ultimately, self-directed learning readiness (SDLR) is "the degree to which the individual possesses the attitudes, talents and personality features necessary for self-directed learning" (Wiley, 1983, 182). Some studies have compared student SDLR survey scores and academic performance and linked increased readiness to improved performance (Alotaibi, 2016). Students who accessed the online modules in a military college had a higher degree of SDLR and academic performance than those who did not (Gabrielle, 2006). A business school study found a relationship between the student level of self-directed learning and performance (Kimmel et al., 2020). In a meta-

analysis investigating self-directed learning and academic performance in higher education, Broadbent and Poon (2015) found a correlation between elements of self-directed learning (i.e., time management, self-regulation, critical thinking) and positive academic outcomes.

Online Learning

The increase in online courses is a trade-off between students and institutions. The demand for online classes is growing, with as many as 72% of undergraduate students taking at least one online course (Seaman, Allen, & Seaman, 2018).

However, research suggests that students may learn more in traditional F2F classes; many want the online format to accommodate scheduling and a convenient location to balance education with their other responsibilities. Online courses provide the flexibility and accessibility to meet student needs (Waschull, 2001, Xu & Jaggars, 2014). Institutions also benefit from enrolling more students in online courses to increase their programs' diversity, geographic reach, scope, and revenue (Ehrenberg, 2012).

Despite the demand for and benefits of online courses, not all students will succeed due to the nature of the learning format. Success relies on students' ability to autonomously and actively engage in the learning environment (Wang, Shannon, & Ross, 2013). Success in online courses requires an independent, self-directed learner (Serdyukov & Hill, 2013). Research shows that academically weak students often perform poorly in online courses (Baum & McPherson, 2019).

To ensure the success of these modalities, the business school accreditation body, AACSB, monitors schools and programs using the assurance of learning standards (AACSB International, 2019, Harvey & McCorhan, 2017). These standards are designed to demonstrate the degree to which program offerings meet the course and program objectives. Each business school provides the documentation used to analyze school, program, and student data to demonstrate that courses meet the standards. Meeting these standards allows the business school to earn and keep its AACSB accreditation (Weldy, 2018).

The two popular formats for online courses are synchronous and asynchronous. While both are delivered virtually, synchronous classes meet in a virtual real-time two-way streaming format such as Zoom or Microsoft Teams. The lectures, discussions, and collaboration have set scheduled times, thus minimizing the students' flexibility in their coursework (Hrastinski, 2008). Asynchronous courses do not have scheduled meetings or 'live' meetings. Instead, course content, deadlines, and resources are provided online through the institution's learning management system or another web-based forum, allowing students to work at their own pace (Wang & Newlin, 2001).

Blended Learning

Blended learning is a popular and effective method for course delivery that combines teaching and learning pedagogies. These pedagogies may include the mode of delivery, integrative and reflective activities, and teaching styles (Manninen, 2014, Bokolo, 2021, Wai & Seng, 2015). In the broadest sense, this pedagogical approach combines traditional F2F and online teaching, addressing the many learning styles of students (Okaz, 2015, Lim & Morris, 2009).

Popular blending learning modalities include hybrid and flipped learning formats. Students benefit from both learning at their own pace while also participating in active learning F2F classroom environments (Sarkar et al., 2020, Graham et al., 2013, Maise, 2006). Hybrid and flipped courses are designed to expect students to self-study content

before the F2F instruction. This content knowledge is explored and applied in-depth in the F2F session, utilizing specific experiential learning opportunities (Diep & Zhu et al., 2017).

The critical difference between flipped and hybrid courses is the time students spend F2F with faculty. Flipped and traditional courses have the same F2F contact hours, while hybrid courses split the contact hours between F2F and online learning (Kurthen and Smith, 2006). In so doing, hybrid courses offer "the unique opportunity to glean the best practices of both F2F and online instructions design" (Baker et al., 2020 177) by integrating student engagement and technology (Sahni, 2019). Prior work has shown that blended learning has far fewer downsides than online-only learning (Marquis and Ghosh, 2017). In business education, students have the opportunity to engage and participate more in focused applications and critical thinking in blended course formats. Increased student engagement and flexibility maximize student learning while balancing education with other activities (Jeffrey & Suddaby, 2014).

This study aims to understand better the role of SDLR of upper-level business school students at an AACSB accredited institution. The research investigates the association between SDLR scores and course performance.

Regarding student academic performance and SDLR scores, it is hypothesized that:

Null Hypothesis 1: There will be no relationship between students' course performance and overall SDLR score.

Null Hypothesis 2: There will be no relationship between students' course performance and SDLR sub-scores.

- **Null Hypothesis 2_1:** There will be no relationship between students' course performance and SDLR sub-score of self-management.
- **Null Hypothesis 2_2:** There will be no relationship between students' course performance and SDLR sub-score of desire to learn.
- **Null Hypothesis 2_3:** There will be no relationship between students' course performance and SDLR sub-score of self-regulation.

Null Hypothesis 3: There will be no relationship between students' course performance and SDLR score by course content.

- **Null Hypothesis 3_1:** There will be no relationship between students' course performance and SDLR survey results for Leadership in Teams content.
- **Null Hypothesis 3_2:** There will be no relationship between students' course performance and SDLR survey results for Human Resource Management content.
- **Null Hypothesis 3_3:** There will be no relationship between students' course performance and SDLR survey results for Business Ethics.

Null Hypothesis 4: There will be no relationship between students' course performance and SDLR score by course modality.

- **Null Hypothesis 4_1:** There will be no relationship between students' course performance and SDLR survey results for flipped hybrid (50% F2F) courses.
- **Null Hypothesis 4_2:** There will be no relationship between students' course performance and SDLR survey results for flipped hybrid, using two-way real-time streaming with Zoom.

Method

The purpose of this study is to compare students' reported self-directed learning readiness scores with their end-of-course performance. Upper-level undergraduate business school students attending an AACSB-accredited four-year college were invited to participate in the online survey for three courses and two modalities between Fall 2019 and Spring 2021 (Table 1). All classes were taught using the flipped hybrid modality. The F2F classroom interaction and the two-way real-time streaming with Zoom are targeted at 50%.

Table 1:
Modality and Courses

Semester/Modality	Course Content	Students
Fall 2019 – Flipped hybrid, F2F 50% of class/ 50% self-directed online sessions	Human Resource Management	53
	Leadership in Teams	23
Spring 2020 – Flipped hybrid, F2F 50% of class/50% self-directed online sessions (last four weeks were online due to the pandemic)	Human Resource Management	58
	Business Ethics	32
Fall 2020 – Online synchronous flipped hybrid, 50% two-way real-time/50% self-directed online sessions	Human Resource Management	64
	Business Ethics	31
Spring 2021 – Online synchronous flipped hybrid, 50% two-way real-time streaming in Zoom /50% self-directed online sessions	Human Resource Management	56
	Business Ethics	33

The study received Institutional Board Approval, and all responses were anonymous and kept confidential. Participation was voluntary.

The Self-Directed Learning Readiness (SDLR) survey (Fisher, King, & Tague, 2001) presented 40 items that were scored on a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree.' Each item was assigned to one of three categories: Self-Management (SM), Desire to Learn (DL), and Self-Control (SC). The final grade percentage was used to measure student performance (Table 2).

Table 2:
Mean scores of individual items of the SDLR

Item		Mean	SD
Self-Management			
1	I manage my time well	3.84	.833
2	I am disorganized	3.60	1.257
3	I am self-disciplined	3.95	.849
4	I set strict time frames	3.48	.945
5	I have good management skills	3.97	.823
6	I am methodical	3.67	.855
7	I am systematic in my learning	3.76	.857
8	I set specific times for my study	3.31	1.176
9	I solve problems using a plan	3.83	.954
10	I prioritize my work	4.13	.850
11	I can be trusted to pursue my own learning	4.18	.843
12	I prefer to plan my own learning	3.47	1.088
13	I am confident in my ability to search out information	4.13	.837
Desire to Learn			
1	I want to learn new information	4.42	.736
2	I enjoy learning new information	4.41	.796
3	I have a need to learn	4.10	.882
4	I enjoy a challenge	3.99	.897
5	I dislike studying	2.93	1.165
6	I critically evaluate new ideas	3.72	.884
7	I like to gather the facts before I make a decision	4.28	.791
8	I like to evaluate what I do	4.10	.846
9	I am open to new ideas	4.40	.702
10	I learn from my mistakes	4.48	.721
11	I need to know why	4.27	.887
12	When presented with a problem I cannot resolve, I will ask for assistance	4.09	.954
Self-Control			
1	I prefer to set my own goals	4.30	.797
2	I like to make decisions for myself	4.46	.724
3	I am responsible for my own decisions/actions	4.66	.631
4	I am not in control of my life	3.56	1.487
5	I have high personal standards	4.31	.796
6	I prefer to set my own learning goals	3.93	.908
7	I evaluate my own performance	4.12	.894
8	I am logical	4.18	.822
9	I am responsible	4.42	.725
10	I have high personal expectations	4.37	.756
11	I am able to focus on a problem	4.05	.841
12	I am aware of my own limitations	4.01	.980
13	I can find out information for myself	4.22	.820
14	I have high beliefs in my abilities	4.25	.809
15	I prefer to set my own criteria on which to evaluate my performance	3.89	.919

Results and Analysis

A sample of 350 students participated (58% female, 42% male). More than half were non-white (60%), and 11% did not identify their ethnicity. The highest percentage of students were management majors (35%), followed by marketing (25%), accounting (14%), and management information systems (11%). The least common majors were finance, international business, economics, and supply-chain management.

Table 3:
Mean scores of individual items of the SDLR

Race/Ethnicity	
Asian	40
Black African American	91
Hispanic	79
Native American	2
White	101
Did not identify	37
Major	
Accounting	48
Economics	12
Finance	29
International Business	22
Management	105
Marketing	86
Management Information Systems	40
Supply Chain Management	8
GPA	
3.5 - 4.0	86
3.0 > 3.5	119
2.5 > 3.0	108
2.0 > 2.5	37
Gender	
Female	204
Male	146
Level	
Junior	67
Senior	283
Age	
18-21 years	118
22-25 years	167
26-30 years	41
31-40 years	17
Over 40 years	7

Analysis

SPSS and Excel were used to analyze the data. The instrument items specific to this study were validated using Cronbach's alpha, which demonstrated the internal

consistency of the SDLR item. Regression analysis was conducted comparing final grades to SDLR scores for the overall instrument, each subscale, course content, and modality (Table 4).

Table 4:
H1 – H4 Descriptive Statistics and Regression Analysis

Null Hypotheses		***Survey Item Mean***	***SD***	***p-Value***
H1	All Survey Items	159.1	17.37	0.39646
H2	Subscales			
$H2_1$	-Self-management	49.32	7.297	0.00353
$H2_2$	-Desire to learn	49.18	5.952	0.50764
$H2_3$	-Self-control	62.75	7.784	0.92887
H3	Content			
$H3_1$	-Leadership in Teams	161.0	16.14	0.34413
$H3_2$	-Human Resource Management	159.9	17.08	0.15348
$H3_3$	-Business Ethics	156.5	18.22	0.94973
H4	Modality			
$H4_1$	-Flipped Hybrid 50% F2F	159.23	18.22	0.96995
$H4_2$	-Flipped Hybrid 50% F2F via Zoom	158.92	18.01	0.22858

The analysis shows that the self-management subscale demonstrates a significantly high correlation between the SDLR score and the final grade, with a p-value of less than .05. Neither course content nor format directly impacted final grades, nor did they moderate the relationship between the self-directed learning scales and final grades. Self-management showed a consistent relationship with both course grades and pre-course GPA.

The results supported accepting null hypotheses 1, 3, and 4. There was no relationship between the students' final grade and their overall SDLR survey score, the course content, or the course modality. However, null hypothesis 21 was rejected as the analysis demonstrated a significant relationship between the students' final grade and the self-management subscale with a p-value of 0.00353.

Discussion

The focus of this study was to understand the relationship between student SDLR survey scores and course performance, measured by the final grade percentage. Course performance did not significantly correlate with the SDLR survey scores for the overall instrument, the desire to learn subscale, or the self-control subscale. The findings did show that there was a significant relationship between the students' subscale of self-management score and their final course grade. This result is promising, as some prior studies measuring academic achievement saw no relationship to the SDLR overall survey or subscales (Hussain et al., 2019).

The survey participants were limited to junior and senior-level business school students, which may have impacted the SDLR results. By achieving their upper-level student status, they have demonstrated their ability to successfully initiate self-directed learning activities, evidenced by the number of credits attained and GPA they have achieved.

Another factor may be the rigor of the final grade percentage. Many students and faculty faced external challenges during the pandemic resulting in, extended assignment due dates, liberal attendance policies, and flexible exam timing that may have impacted the final grade percentage (Shubert, 2021).

Further, the two modalities for self-directed work: flipped hybrid and online synchronous with two-way real-time streaming in Zoom, showed no significant relationship with the students' final grades. The lack of any significant change in course performance related to the SDLR survey results may confirm that factors other than a modality, despite the increased course self-directed work, are not predictors of student success.

Conclusion

As technology advances in business school education and our student population continues to become more diverse and non-traditional, understanding student readiness by surveying freshmen in their first semester could target areas for improvement that may improve academic performance (Eckton & Palfreyman, 2017). Time management, organization, and problem-solving are the core behaviors of the self-management subscale. Training modules designed to develop student behaviors may be used in the early weeks of the semester. These modules may help students who score low in these areas improve their skills and academic performance (Hardy et al., 2020; Britton & Tesser, 1991).

The ever-changing landscape of business education will impact future challenges. Research that investigates current predictors of academic performance and develops approaches for student success will ensure the best business school educational outcomes that benefit both the graduate and the institution.

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