Procrastination and Posting Day on Overall Course Performance

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Abstract

COVID-19 caused educators and students alike to move online and to a virtual environment. Through distance learning, students were offered the opportunity to engage in accredited coursework found in typical undergraduate or graduate degree programs without attending a traditional classroom environment. While most students had no difficulty in this transition, a significant number of students did not adapt to this transition. Research has shown that a student's procrastination level may influence overall performance. This might hurt students who lack the motivational feedback that a teacher can provide in a face-to-face setting where maladaptive behaviours exist. This study examined the variables of when a student first posts and their level of procrastination, on overall course performance. Pearson Product Moment correlations were run; students with higher levels of procrastination had lower overall course grades (-.508*). As individuals wait longer to make their first post in the course, their grades decreased (-.659*); additionally, a relationship between procrastination and the first post was telling. (.431*). Educators and teachers should structure courses and monitor students in the first few weeks for late posts and design interventions around those students since their overall grade seems to be affected. While virtual and online learning are the immediate solution, they won't be going away when learning returns to "normal." Watch your students, engage, and if necessary take a longer look at those who are waiting to post.

1. Introduction

1.1 COVID-19 and Online Courses

The global pandemic of 2020 is something no one has ever experienced on a first hand basis. This pandemic was caused by a novel coronavirus that has not been previously identified and caused schools, businesses, and governments to move to "virtual" and "online" learning. While the sudden shift was new and alarming, the shift to the online format in education has been gradual and steady for some time.

Technology allowed classes to be shifted into a delivery process that is completely online. Through distance learning, students were offered the opportunity to engage in accredited coursework found in typical undergraduate or graduate degree programs without attending a traditional classroom environment. The use of the internet facilitates distance learning by allowing students to fulfill required assignments and discussions from any location with internet connection as well as by allowing more control of the learning process and pace to the student [1] Without debating all of the issues surrounding online learning, how can we immediately help students in this virtual world? Is there a way to identify students who need help within the first few interactive sessions? Teachers already have this skill in a face to face classroom. A student may look away or avoid the teacher if he/she doesn't know or understand a concept. Unless the

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student asks or writes in a discussion board (or similar), these cues are not apparent in virtual learning. Previous work on procrastination in educational settings does reveal some trends.

1.2. Procrastination Overview

Procrastination is intentionally or habitually putting off what should be done. There is general agreement that procrastinating in an educational environment results in overall lower performance, as measured by grades [2].

The nature of online course structure may yet increase the detrimental effects of procrastination on course grade. Online courses do not offer the motivations and face-to-face accountability typically found in traditional classroom environments. Tuckman [3] measured online student procrastination through the use of the previously validated *Tuckman Procrastination Scale* [4] and used the scores to separate a class of online students into "high" or "low" procrastinators. Tuckman then implemented a structured and motivational "scaffolding" to the experimental group's course while allowing the typically loose online structure to remain for the control group. Students in the experimental group who may not have exhibited structured time-management skills in order to complete coursework now had an external "scaffolding" provided for them. High procrastinators in the class with additional scaffolding had higher grade performance than both high and low procrastinators in the control group [3]. This suggests that while online courses offer many advantages for students, the inherent lack of structure may exacerbate the effects of procrastination.

To stress further the importance of self-structuring skills in online courses which are characterized by a lack of structure, Seale et al. [5] predicted that procrastination would be practiced at a higher rate in students who exhibit poor learning strategies than students with superior learning strategy skills. Students exhibiting "deep" and strategic learning, such as possessing an interest in a subject, seeking meaning in a subject, and utilizing time management skills as well as self-structuring coursework showed significantly higher GPA scores than those who did not possess these learning strategies. Contrary to prediction, students possessing strategic learning skills and earning higher GPA did not score significantly higher or lower in measured procrastination than their peers [5]. The ability to structure coursework and learning plays a more significant role in GPA than procrastination habits.

In addition to the *Tuckman Procrastination Scale*, habitual procrastination can also be subjectively measured using *Lay's Procrastination Scale*, a widely used tool in which participants self-evaluate several opportunities to procrastinate in everyday life as well as the tendency to put

off academic work [6] or the *Irrational Procrastination Scale* [7]. The latter uses 9 simple statements to determine procrastination level.

Procrastination may also be quantitatively assessed in online courses by using built-in software time-stamps on assignment due times and dates. Evaluating the time at which a student uploads an assignment compared to the submission deadline may offer insight into the relationship between a student's earned grade and promptness of completion.

Tardiness can be used as a clear measure of procrastination, using late assignment submission as a marker for procrastination. Late assignments are those that miss the submission deadline. Late submission is shown to be negatively correlated to course grades as well as exam scores [8]. Evaluating time markers of on-time work may also effectively measure procrastination, as not all procrastination leads to missed deadlines. Active procrastination may be a self-motivational strategy to individuals who feel that working under pressure enhances performance [9]. Students practicing active procrastination do not necessarily miss deadlines nor perform poorly.

1.3. Delay vs. Procrastination

The aforementioned "active procrastination" may better fit into a designation more recently used to describe the intentional and controlled delay of work termed "active delay" [10] or "purposeful delay" [2]. Active delayers exhibit a planned delay of work and high self-efficacy in their performance. Corkin, Yu, & Lindt [10] found that while procrastination positively correlated to maladaptive self-regulatory practices, active delay was negatively correlated to maladaptive behavior as well as linked to higher grades. Individuals who practice active delay exhibit reasons for doing so that include feeling as though active delay helps them to perform more efficiently, learning that they have the ability to put off work yet still complete it in time for a deadline, or feeling that it is worth it to delay academic work in order to socialize and experience college life. An active delayer is often characterized by high academic confidence and a history of earning high grades while putting forth minimal effort [11].

Active delay may be subjectively measured using the *Active Procrastination Scale* [12]. This scale can highlight differences in behavior between active procrastinators and traditional, or passive, procrastinators, such as the previously mentioned differences in self-efficacy.

1.4. Relationship Between First Submission and Course Grade

McElroy & Lubich [13] examined online student course grade

against how early students registered for the course as well as their first posting to course assignments. The date of registration was found to have no relevance to grade earned, but prompt initial posts were correlated to higher scores than tardy initial posts. The students who responded the soonest earned higher grades than their peers [13]. These findings can be expanded upon by examining student response time to individual assignments or blocks of assignments. Referencing timeliness against each assignment grade as well as overall course grade and GPA may provide insight into the effects of delay and procrastination in online settings.

1.5. Purpose

The purpose of the exploratory study was to determine if academic results are related to first course submission, procrastination, and any interactional effects.

2. Method

Data was collected on students enrolled in a Health Science introductory course on Procrastination using Lay's Scale [6]. Lay's scale has a reported reliability of .89-.92 and is the most widely used scale on examining procrastination [14]. First course submission was measured using an introductory post during the first week of class. The due date was scored as zero while every day before the due date was assigned a positive number (e.g., one day before due date was one, two days before due date was assigned a two and so on for a highest possible score of seven) and every day after the due date was scored a negative number with a lowest score of negative seven. Student academic result was taken at the end of the course. To determine truthfulness response on Lay's Procrastination Scale, The Balanced Inventory of Desirable Responding (BIDR, a 40-item self-report inventory) was administered to determine whether the responses in the self-report survey are deliberately inaccurate [15].

3. Results

Twenty-three students completed the study (Females=14, mean age 22.3; Males=9, mean age=19.6). Descriptive data for the scales and first post are presented in Table 1. To determine if posting submission date is related to overall academic performance in a course, Pearson Product Moment Correlations were run and the data is presented in Table 2.

Table 1. Descriptive Statistics.

Variable	Mean	SD
Procrastination	52.26	10.42
Course Performance	84.4	6.42
Posting Day	4.13	3.70
BIDR	96.39	11.51

Table 2. Pearson Product Moment Correlations.

Variable	r	Variable
Procrastination	-.508*	Course Performance
Course Performance	-.659*	Posting Day
Posting Day	.431*	Procrastination

4. Discussion

This preliminary study examined procrastination and first posting day on academic performance. The study showed that for higher levels of procrastination the student had a lower overall course grade (-.508*). The same can be said for the longer an individual waits to make their first post in the course, their grade decreased (-.659*). In fact, there is a relation to procrastination and when that individual posts (.431*).

5. Conclusion

This study raises some important points in the world of virtual learning. COVID-19 has brought about enormous changes to the way learning will occur in future pandemics. Simply having students "online" and "interacting" is not enough. The student and teacher need to realize that becoming engaged in the content early is important. The longer a student waits to become engaged and post in the course, the lower the overall grade is. We can't answer whether procrastination causes lower grades or posting later; this is a need for a future study. We can say that they are related and identifying students who post late during the week or later than other students is important for identification and correction. The coming school year and future ones have more questions than answers at the moment. While virtual and online learning are the immediate solution, they won't be going away when learning returns to "normal." Educators and especially teachers need to be aware of the late posting student and what it may mean. Watch your students, engage, and if necessary take a longer look at those who are waiting to post.

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