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INVESTIGATION INTO RELATIONSHIP BETWEEN PROCRASTINATORY BEHAVIOUR AND MATHEMATICS ACHIEVEMENT OF OSUN STATE COLLEGE OF EDUCATION STUDENTS

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Abstract

The study examined academic procrastination in relation to Mathematics academic achievement of Osun State College of Education Students, Ila-Orangun. One hundred students taken via census constituted the study sample. An adopted and modified version of a 35-item standardized procrastination scale with r = 0.90 via Cronbach alpha was used for data gathering. Three hypotheses were developed and tested using Pearson Product Moment Correlation; Analysis of Variance [ANOVA], and students-t statistical tools. The result indicated that procrastination had an inverse relationship to and influence on mathematics academic achievement of students and the influence was irrespective of gender. Implication of procrastination on Mathematics achievement was highlighted. And parts of the suggestions for students to overcome procrastination include that; they should find help if needed because staff can usually offer a lot of support and advice if they are confused about a piece of work.

Keywords: Procrastination, Procrastinatory Behaviour, Mathematics, Achievements, College Students

Introduction

The word procrastination is not new in literature, only that much research has not been done on it in recent time. College students are notorious for procrastination that is the act of needlessly delaying a task until the point of some discomfort – a behavioural problem that many adults experience on a regular basis (Janssen & Carton, 1999), particularly on tasks, which should be completed by a specific deadline (Oweini & Haraty, 2002). It is not an overstatement as well that majority of College Students in Nigeria engage in frequent academic procrastination, mostly with writing term papers, reading for test and examination and submitting assignment. As Oweini and Haraty (2002) explained, consequences of failure to meet deadline include heightened tension and higher incidence of conflicts between teachers and students, persistence of inefficient time management skills, and poor work ethics, all of which transcend the walls of college or university and have major implications for

our fast-paced and deadline-obsessed world.

It is acknowledged that procrastination is a common and at times, serious problem (Yaakub, 2000). This complex phenomenon is manifested in both the general public and the academic environment (Ferari, Johnson, & McCown, 1995). Students have been found to have high procrastination and this tendency seems to increase in higher education especially among mathematics students. It is a well known fact that mathematics as a subject or a course is not something to toy or joke with. It is designed exclusively for serious minded students. Most research on procrastination that had been carried out has focused primarily on college students (McCown & Roberts, 1995). Findings from such studies showed academic procrastination to be quite prevalent among college students.

However, the fact remains that academic procrastination do more harm to mathematics academic achievement of college students than good. This is because learners continue to manifest weak performance in mathematics courses, skills and generalization.

It is against this backdrop that the present study is designed to examine academic procrastination in relation to mathematics academic achievement of Osun State College of Education Students, Ila-Orangun.

Literature Review

Procrastination has been defined as avoiding doing a task, which needs to be accomplished (Yaakub, 2000). This author gave an example that, one would rather be spending time socializing with friends or relatives rather than working on an important work project that is due too soon; or one would rather be watching an exciting movie at the cinema or television rather than sitting down at a desk for an upcoming quiz or test. Ellis and Knaus (1977) defined procrastination as the desire to avoid an activity, the promise to get to it later, and the use of excuse making to justify the delay and avoid blame. Silver and Sabini in Popoola (2005) described the procrastinator as someone who knows what he wants to do in some sense, can do it, is trying to do it, yet doesn't do it. Yaakub (2000) looked at the procrastinator as someone who knows what (s)he wants to do, is equipped to perform the task, is trying and planning to perform the task, but does not complete the task, or excessively delays performing the task. He added that, the procrastinator will work on less important obligation, rather than fulfilling the more important obligation, or (s)he may use his or her time wastefully in

some minor activity or pleasure. The author concluded that in most cases, procrastinators keep themselves ready to work, but end up avoiding the activity. Ferrari & Emmon (1994) found that procrastinators have low self-esteem and delay task completion because they believe they lack the ability to achieve a task successfully. An individual postpones doing things that make him or her anxious, apprehensive, or likely to loose face in the presence of peers (Milgram, Danour & Raviv, 1992).

According to (Yaakub, 2000), there are three components in procrastination, these include behavioural, cognitive, and emotional. Yaakub asserts that behaviourally, procrastination is viewed as a bad habit, which has been reinforced. Students have been found to avoid tasks, which they find unpleasant (Solomon and Rothblum, 1984). They engaged doing activities which are more rewarding, especially with short term at the expense of long term gain, or the anxiety associated with studying.

Ellis and Knaus (1977) found procrastination to result from cognitive distortions or faulty thinking while Aitken, (1982) reported it related to problems perceiving and estimating time. To Yaakub, (2000) procrastinators in the first category often have perfectionist expectation and are over conscientious. They are believed to fear success or failure which eventually leads to neurotic avoidance; lacking self-efficacy and esteem, and are self-conscious and self-critical.

The other category, the emotional procrastinators may fail to pick up cues from the environment (Ferari & Emmons, 1994). This is because they lack the ability to delay gratification of pleasure, lacking self control, motivation for achieving target goals and energy or organizational abilities.

The phenomenon of procrastination is attributed to several specific causes. Fear of completing a task can inspire inaction (Steinman, Granoff, Hattis, Zerden & Wittels, 2004). To them many procrastinators suffer from perfectionism, which is characterized by fear of failing to meet high expectations, over involvement in details, and overall delay. Some students thrive on the adrenaline rush of a last minute deadline and will procrastinate in order to create a crisis (Steinman *et al.* 2004). Worry over the expectations of others may delay progress in an assignment. Over commitment and over extension may also impede the prompt undertaking of a task (Domingnez, Robin, 1999).

Empirically, research findings on the proportion of students who procrastinate have not been consistent (Popoola, 2005). Solomon and Rothblum, (1984) for example estimated that at least half of all students consistently and problematically procrastinate, while Ellis and Knaus, (1977) found that the number of students who procrastinate at some points approaches 95%. This was reviewed by Ferari and Beck, (1998) and their report revealed that approximately 70% of U.S. College students engage in frequent procrastination and this occurs regardless of race or gender.

Procrastination has debilitating effects on the University and College students. A study of 374 undergraduate students by the procrastination research Group at Carleton University in Ottawa found that procrastination is related to not only higher stress, and poor coping strategies, but also avoidance behaviours (Sirois & Pychyl, 2002). Students who suffer from these avoidance coping styles resist completing assignments and addressing other deadlines that evoke tension and anxiety.

Tice and Baumeister (1997) found that procrastinators received significantly lower paper and examination grades than non-procrastinators. Its been reported as well that procrastination could lead to total failure (Popoola, 2005). However, some research evidence have revealed that procrastination is associated with poor academic achievement (e.g. Popoola, 2005; Steinman *et al.* 2004; Tuckman, Abry & Smith, 2002; Beck, Koons & Migram, 2000 & Wesley, 1994). Other research findings relating procrastination and mathematics achievement include that of (Asikhia, 2010; Pedro, Marta, Rosa, Josec, Julio and Antonio, 2007; Akinsola, Tella and Tella, 2007; Diana, 2001 and Dianal, 1998) which reveals that procrastination leads to underachievement in mathematics learning outcomes and reduces carreer aspiration in the field of mathemantics. It is against this background of literature reviewed that the present study sought to examine procrastination in relation to academic achievement of the college of education students.

To achieve this basic objective, the following research hypotheses were postulated.

i. There is no significant relationship between the academic procrastination and mathematics academic achievement of the college of education students.
ii. There is no significant difference between male and female students procratination and their achievement in mathematics.

iii. There is no significant difference in the mathematics academic achievement of college of education students who are low, moderate and high procrastinators.

Methodology

Research Design

The study adopted an ex-post-facto research approach. It is an after the fact study. An approach of this nature does not involve the manipulation of variables in the study. It neither adds to nor subtracts from existing facts. It observes carefully and records information as it naturally occurred at the time the study was conducted.

Subject

Since the study was carried out in Osun state College of Education, a census technique was used to select the 100 students who took part in the study. These were the entire number of degree students from 200 level to 300level. They comprised 78 male and 22 female with their age ranging from 21-28 years and a mean age of 24.5years.

Instrumentation

An adopted and modified version of a thirty five (35) items procrastination scale by (Tuckman, 1991) was used to measure academic procrastination. The instrument was modified in order to suit the purpose of the study and to eliminate cultural bias therein in the formal version of the instrument. It is Likert type of five points scale with response ranging from Strongly Agree to Strongly Disagree. Some of the items of the scale read as follows (i) I needlessly delay finishing jobs, even when they're important (ii) when I have a deadline, I wait till the last minute (iii) studying makes me feel entirely miserable. The instrument has a Cronbach alpha value of 0.9 after it has been subjected to test-re-test to ascetain its validity. A high score on the scale indicates a high level of procrastination while a low score is indicative of a low level of procrastination. After the administration of the instrument, data on subjects' academic achievement in all their mathematics courses in the semester using their General Average Performance (GPA) were collected from their record in the mathematics department.

Method of Data Analysis

Pearson's Product Moment Correlation Coefficient, t-test and Analysis of Variance (ANOVA) Statistical tools were employed to analyse the data.

Results

Table 1: Correlation between Academic Procrastination and Mathematics Academic Achievement

Variables	N	$\bar{x}$	SD	r	P
Procrastination	100	58.74	18.32		
Mathematic Academic Achievement	100	8.64	2.14	-0.59	<0.05

- Significance @ $P < 0.05$

Table 1 shows the correlation between procrastination and students mathematics academic achievement. The correlation yielded an r = -0.59 which is significant at 0.05 probability level. This indicates that there is a significant negative relationship between procrastination and mathematics academic achievement, meaning that students' mathematics academic achievement decreased as their levels of procrastination increased.

Table 2: T-test of mean difference between male and female students' achievement in Mathematics based on their procrastination.

Variables	No	$\bar{x}$	SD	Df	t.obs	t.crit	P	Remarks
Male students	78	29.6	6.8				0.05	
Female students	22	28.9	5.9	98	0.50	1.96		N.S

Not significant @ 0.05

Table 2 above shows the difference in the impact of procrastination on the mathematics academic achievement of the subjects. The result reveals t.obs = 0.50 is < 1.96 at 0.05 level and 98 degree of freedom. This imply that significant difference do not exist between male and female students' procrastination and their achievement in mathematics. This is to say that both male and female students procrastinate studying and solving problems in mathematics.

Table 3: Summary of Analysis of Variance on students' procratination based on level

Source of variance	Sum of square	Df	Mean square	F	P
Between Groups	1275.4	2	637.7	159.42*	<0.05
Within Groups	390.6	97	4.0		
Total	1666.0	99			

Significant @ $p < 0.05$

Table 3 above shows the difference in the level of procrastination and the mathematics academic achievement of the subjects. The result indicates an F-ratio of 159.42, which is significant at the 0.05 probability. This implies that the subjects' level of procrastination has a significant influence over their achievement in mathematics.

Discussion

The result of the first hypothesis in this study reveals that a significant relationship exists between academic procrastination and mathematics academic achievement. This confirms the assertion that procrastination usually has a debilitating effect on academic achievement, meaning that students who have strong tendencies to procrastinate usually tended to have low paper and examination grades than none-procrastinators (Tice & Baum, Eister, 1997). The present finding in this study corroborates the report by (Popoola, 2005; Steinmann et al. 2004; Wesley, 1994; Tuckman, Abry, Smith, 2002; Beck, Koons & Migram, 2000 & Wesley, 1994) that procrastination is associated with poor academic achievement. The reason for the lower academic achievement of the procrastination students might be due to their low self-esteem and self-efficacy. It might also be due to their idiosyncratic delay of task completion based on their belief that they lack the ability to achieve task success (Ferrari & Emmons, 1995).

The second finding in this study reported that no significant difference between male and female students' procratination and their achievement in mathematics. This confirms the view of (Ferrari & Beck, 1998). The fact that procrastination is not gender bias might be due to what Tuckman, (1991) put forward that procrastinators tend to describe people who doubt their capabilities, hence its

impact on the male and female academic achievement.

The last finding in the study reveals that the subjects' level of procrastination has a significant influence on their achievement in mathematics. The explanation in this result goes along with the first and even the second hypothesis.

It should therefore be noted that mathematics at both secondary and tertiary level is not a course to joke with since dealing in studying facts learnt in classroom can lead to failure in mathematics quiz, test and examination. It is a course or a discipline for students who are found up and doing in their study in the pursuit of learning. In other words, mathematics students should always found to be diligent.

Recommendations

To help mathematics students, who are procrastinators, the following are suggested:

1. Do something or anything now. Do not wait for the moment to be right before you start work. Use an odd half-an-hour to read or solve a problem and make some note. Learning to get started without ceremony is one of the main skills of time management.
2. Do not stop because something is difficult. If you come up against an obstacle, look for a way round it. for example if you cannot seem to get the structure of an equation right, make a rough outline and show it to the lecturer or check with a friend. It is important for students not to just put everything or delay till meeting a problem since the problem will then never be solved.
3. Make a list and a timetable, list what you have to do and estimate how long it will take. Then draw up a square plan to represent the next few weeks, marks the deadlines and fit everything in. it might be a painful process if you have a lot to do, but will soon give you a sense of direction. Do not beat yourself up if you don't stick to it 100% - or even 50%. It takes time to learn to plan.
4. Find help if needed. Academic staff can usually offer a lot of support and advice if you are confused about a piece of work. Fellow students and those in the year above you can be a great help. There is no shame in finding studying difficult so try not to be too proud to ask for assistance. (These are ideas courtesy of

Coventry University Schools and Departments-procrastination 2005).

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