

Impact of family background and Study skills on the Academic Performance of Higher Education Students: The case of Botho University

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Abstract

The academic performance of students may be affected by different factors besides their personal characteristics. It is a general belief that the backgrounds of students and environmental factors have the greatest influence on their academic performance. It is also a general trend that the present generation of students spend less time on their academic work when compared to their predecessors. In this study the authors examined the influence of students' characteristics, family background, program of study and frequency of class attendance on academic performance as determined by the students' self-reported GPA. The study also sought to determine the influence of preferred methods of teaching and learning, study skills and approach to examinations on academic performance. The researchers conducted a survey on a stratified sample of 75 students out of a possible population of 139 students from the departments of Accounting, Business and Computing at Botho University, Francistown campus. Data were analysed using the Statistical Package for Social Sciences (SPSS) version 20. One-way ANOVA and multiple linear regressions were used to investigate the association between students' GPA (dependable variable) and the students' background characteristics which served as predictor variables. The ANOVA results indicated a significant effect on GPA for students who reported having parental support and for those who reported high frequency of class attendance in comparison to those who reported otherwise. The results from the stepwise multiple regression analysis indicated a significant coefficient for composite variable "general study skills" with GPA as the outcome variable. There was no significant difference in the performance of males when compared to females and most students did not subscribe to the traditional notion of pedagogical preferences. Based on the results it is recommended that lecturers and educationists have to take into account the changing habits of 21st century students if they are to be truly student centered in their practices.

Keywords: Academic performance, family background, Study skills

1. Introduction

It is often taken for granted to consider grades first when evaluating academic achievement. Schools rank students by their Grade Point Average (GPA) and scholarship offering organizations and universities look at grades in selecting those that are to be awarded bursaries. In the same way, those hiring recent graduates depend mainly on candidate's grades. It would appear that grades carry more weight in some industries especially technical proficiency (Williams, 2015; Bratti & Staffolani, 2002).

Academic achievement is often measured through formal examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects is most important procedural knowledge such as skills or declarative knowledge such as facts (Nelson, Devardhi, and Panigrahi, 2013). The academic

performance of students may be affected by different factors besides their personal characteristics. For overall development of a nation it is important to provide quality education to its citizens.

Students joining a university have to adapt to the daily routines of university life. This may result in picking up new sleeping and eating habits, increased workload, and new responsibilities. University students are prone to stress due to the transitional nature of university life (Wright, as quoted by Umar, Yakubu and Bada, 2010). They must adjust to being away from home, perhaps for the first time, and maintain a balance between high level of academic success and the new social environment.

Botho University is a private university that has a student population of more than 6000 and 500 staff members. It has three campuses located in Gaborone, Francistown and Maun. This study was conducted at the

Francistown campus which offers courses in Accounting, Computing and Business.

Research Problem

Many universities experience high levels of attrition and non-completion rates. One of the reasons advanced for this is the attitudes, dispositions, the varied family backgrounds of the students and the mismatch between learners' study habits, learning and teaching preferences. Although this trend has not been observed at Botho University, there is still a need to investigate issues surrounding attitudes, dispositions; and preferences of students at the university.

This study has been formulated with following questions in mind:

- (1) What is the effect of family background on the quality of students' academic performance?
- (2) What students' characteristics have influence on the quality of their achievement?
- (3) What is the effect of general study skills, listening skills, approach to examination, and preferred method of teaching and learning on students' performance?

Objectives of the study

- 1) To analyze the impact of family background on students' academic performance.
- 2) To find out the impact of study skill, listening skill and approach to examination on students' academic performance.
- 3) To determine the influence of preferred method of teaching and preferred method of learning on students performance.
- 4) To find out the difference in quality of students achievements in relation to their gender.

Literature Review

A study of this nature requires the support of literature in order to bring the variables and constructs that are being investigated into sharp focus. Literature review also delineates the scope of the study while identifying gaps in the knowledge of the phenomena under study. This review therefore reports on studies investigating the influence of social economic status, general study skills, listening skills, and preferred method of teaching on students' performance.

Family background of students

Many researchers have conducted studies regarding factors contributing to student performance. Graetza, as quoted by Alam, Billah and Allam (2014) and Martha, (2009) observed that a student's educational success is

heavily contingent on the social status of student's parent or guardians in the society. Considine and Zappala (2002) noticed the same pattern and postulated that parent's income or social status positively affects the student test score in examinations. Durden and Ellis quoted by Stanca (2004) also observed that the measurement of students previous educational outcomes are the most important indicators of students' future achievement, put differently, the higher the previous performance, the better the student's academic performance in future endeavors.

Parent's socio-economic condition, which includes parent's academic and professional qualification, revenue and occupational affiliation, is also associated with academic gain of students. The results of many studies confirm that academic achievement of students is contingent upon their parent's socio-economic condition. Students from higher social economic backgrounds will perform better than other students associated with low social economic backgrounds. According to Jeynes (2002) the social and economic status of a student is generally determined by combining parents' qualification, occupation and income standard.

Conversely however, Pedrosa, Dachs, Maia, and Andrade (2006) in their study of students' social and educational background found out that students who come from deprived socio-economic and educational backgrounds performed relatively better than those coming from higher socio-economic and educational area. This may be because the criteria for categorizing socio-economic standards in different countries differ depending on the norms and values of a particular country. For example, the criteria used to determine socio-economic status in a developed country will be different from that used in a developing or under developed countries.

A number of studies have been carried out to identify and analyze the numerous factors that affect academic performance in various centers of learning. The findings identify students' effort, previous schooling (Orvel & Rofalagus, (ND), Siegfried & Fels, 1979; Anderson & Benjamin, 1994); parents' education, family income (Caviglia-Harris, 2006; Devadoss & Foltz, 1996); self-motivation, age of student, learning preferences (Aripin, Mahmood, Rohaizad, Yeop, & Anuar, 2008); class attendance (Romer in Mlambo, 2011); and entry qualifications as factors that have a significant effect on the students' academic performance in various settings. The utility of these studies lie in the need to undertake corrective measures that improve the academic performance of students, especially in publicly funded institutions. In the current global economic downturn the throughput of public-funded institutions is under scrutiny due to demands by governments to improve efficiency in financial resource allocation and utilization.

Although there has been considerable debate about the determinants of academic performance among educators, policymakers, academics, and other

stakeholders, it is generally agreed that the impact of these determinants vary (in terms of extent and direction) with context, for example, culture, institution, course of study. Since not all factors are relevant for a particular context, it is imperative that formal studies be carried out to identify the context-specific determinants for sound decision making.

This therefore, literature review has provided a brief examination of some of the factors that influence academic performance. The choice of factors reviewed here was based on their importance as perceived by the researchers of the current study.

Students' teaching and learning preferences

A good match between students' learning preferences and instructor's teaching style has been demonstrated to have positive effect on student's performance (Harb & El-Shaarawi, 2006). According to Reid as quoted by Mlambo (2011), learning preference refers to a person's "natural, habitual and preferred way" of assimilating new information. This implies that individuals differ with regard to what mode of instruction or study is most effective for them. Scholars, who promote the learning preference approach agree that effective instruction can only be undertaken if the learner's learning preferences are diagnosed and the instruction is tailored accordingly (Pashler, McDaniel, Rohrer, & Bjork, 2008). The quote, "I hear and I forget. I see and I remember. I do and I understand." (Confucius as quoted by Veillancourt, 2009) provides evidence that, even in early times, there was recognition of the existence of different learning preferences among people. Indeed, Omrod (2015) reports that some students seem to learn better when information is presented through words (verbal learners), whereas others seem to learn better when it is presented in the form of pictures (visual learners). Clearly in a class where only one instructional method is employed, there is a strong possibility that a number of students will find the learning environment less optimal and this could affect their academic performance. Felder as quoted by Wirz (2004) established that alignment between students' learning preferences and an instructor's teaching style leads to better recall and understanding. The learning preferences approach has gained significant mileage despite the lack of experimental evidence to support the utility of this approach.

There are a number of methods used to assess the learning preferences/styles of students but they all typically ask students to evaluate the kind of information presentation they are most at ease with. One of these approaches being used widely is the Visual/Aural/Read and Write/Kinaesthetic (VARKR) questionnaire, pioneered by Neil Fleming in 1987. VARKR categorizes learners into at least four major learning preferences classes (Flemming, 2011). He described these four major learning preferences as follows:

- *Visual learners*: students who prefer information to be presented on the whiteboard, flip charts, walls, graphics, pictures, and in color. Probably creative and may use different colors and diagrams in their notebooks.
- *Aural (or oral)/auditory learners*: prefer to sit back and listen. They do not make a lot of notes. They may find it useful to audio-record lectures for later playbacks and reference.
- *Read/write learners*: prefer to read the information on their own and take a lot of notes. These learners benefit from being given access to additional relevant information through handouts and guided readings.
- *Kinesthetic (or tactile) learners*: these learners cannot sit still for long and like to fiddle with things. They prefer to be actively involved in their learning and thus would benefit from active learning strategies in class.

A number of learners however, are multimodal, with more than one preferred style of learning in addition to using different learning styles for different components of the same subject. There is a strong possibility that learning preferences would depend on the subject matter being taught. The question that arises is whether a particular learning preference is favored in certain subjects/courses.

Class attendance and academic performance

In his widely cited paper, Romer (1993) is one of the first few authors to explore the relationship between student attendance and examinations performance. A number of factors have contributed to declining class attendances around the world in the last 15 years. The major reasons given by students for non-attendance include assessment pressures, poor delivery of lectures, timing of lectures, and work commitments (Newman-Ford, Lloyd & Thomas, 2009). In recent times, students have found a need to seek employment while studying on a part-time basis due to financial constraints. The numbers of part-time and mature students has also risen sharply. The use of information technology also means that information that used to be obtained from sitting through lectures can be obtained at the click of a mouse. Indeed, web-based learning approaches have become the order of the day. Given all these developments that either make it impossible or unnecessary for students to attend classes, *the question that needs to be asked is whether absenteeism affects students' academic performance. Research on this subject seems to provide a consensus that students who miss classes perform poorly compared to those who attend classes* (Devadoss & Foltz, 1996; Durden & Ellis, 1995; Romer, 1993; Park & Kerr, 1990; Schmidt, 1983). Based on these findings a number of stakeholders have called for mandatory class attendance. While existing evidence points to a strong correlation between attendance and academic performance, none of

the studies cited above demonstrated a causal effect. The inability of these cross-sectional studies to isolate attendance from a myriad of confounding student characteristics (e.g. levels of motivation, intelligence, prior learning, and time-management skills) is a major limiting factor to the utility of these findings (Rodgers & Rodgers, 2003).

In their study, Durden and Ellis, (1995) controlled for student differences in background, ability and motivation, and reported a nonlinear effect of attendance on learning, that is, a few absences do not lead to poor grades but excessive absenteeism does.

Other determinants of academic performance

The influence of age and gender on academic performance has been investigated in a number of studies with widely differing conclusions. Most of the differences in reported findings are due to varying contexts such as subject of study, age and gender interactions. Research has shown that men perform better than women in certain settings while women outperform men in other settings (Haist, Wilson, Elam, Blue, & Fosson, 2000). Borde in Mlambo (2011), on the other hand, found no evidence of academic performance being influenced by gender. Based on an analysis of close to two million graduating students, Woodfield and Earl-Novell (2006) found that female students outperformed male students and attributed this partly to female students being more conscientious and thus less likely to miss lectures. Other determinants of academic performance as discussed earlier include self-motivation, family income, and parents' level of education. Socioeconomic status of students and their families show moderate to strong relationship with academic performance (Sirin, 2005) but these relationships are contingent upon a number of factors such that it is nearly impossible to predict academic performance using socioeconomic status.

Methodology

As previously stated in the introduction, this study was conducted at Botho University at the Francistown campus in the faculties of Accounting, Business and Computing.

Population and sampling

According to the university's Management Information System (MIS) there are 139 second year students¹ for the academic year 2014-15 who are pursuing degree programs in Accounting, Business and Computing. Stratified sampling was used to select participants for the study. Each of the three programs of study had two

classes. The three areas of study served as strata for sampling where by one class was picked randomly from each strata. Consequently, 75 students participated in the study. Out of the 75 students: 25(33.3%) majored in Accounting, 28 (37.3%) in Business and 22 (29.3%) in Computing. The other characteristic of this sample was that there were 49 female and 26 male students.

Instrument

A questionnaire was used to collect data. It went through several stages of development which involved piloting and peer editing. Although the original questionnaire consisted of 68 close-ended and four open-ended questions, after piloting and peer editing, the questions were trimmed down to 60 close-ended and three open-ended items. The items were distributed in seven sections of the questionnaire as follows: Section A had five items that gather information about participants' general characteristics such as gender and study discipline. Section B had seven items on family background and included items such as parental occupation, class attendance and personal commitment(s). Section C, D, E, and F consisted of 4-point Likert scale with items rated from Strongly Agree to Strongly Disagree. The items in the subscales were designed to gather information on: (i) *General study habits*. This dimension had 25 items such as "I listen to music when I study", "I don't like to read my textbooks", "I concentrate completely on my readings when I study" and "I put off study until just before exams". (ii) *Listening skills practiced* – this construct had eight items including: "In class I prefer to listen than taking notes", "As I want to remember, I listen carefully to any explanation in class", "I switch off my mobile during lesson time" and "I receive and send SMS during lesson time". The subscale (iii) *General approaches to examinations* had seven items such as "I get very nervous before writing exams", "Before starting exams, I plan how much time to use on each section of the exams" and "I keep my mind calm and pray prior to writing exams". Lastly, (iv) *Preferred method of instruction* had eight items with questions like: I prefer "lecturer using Power Point," "Lecturer writing notes on the chalkboard within the lecture" and "Lecturer using question and answer from students".

The questionnaire also contained three open-ended items (Section G) to gather information on "preferred style of studying", "preferred methods of instruction", "technological tools used when studying" and "preference for individual or group study."

Piloting

The instrument was piloted by requesting five students who were not part of the final sample to complete the questionnaire. Based on their responses some questions were modified and edited to improve clarity. A member of staff who was not part of the research team was also

¹ At the time of this study, only two cohorts of students Year 1 & 2 were pursuing degree programs. Only year 2 students were considered for the study because the year 1 students were still new to tertiary education

asked to look at the questionnaire and edit it, as well as comment on its structure, language use and clarity of concepts. The comments and suggestions were also incorporated in the final questionnaire that was administered to respondents. Arising from comments obtained from the pilot study, a section on “Learning approaches” was left out since the responses were similar to those of the section on “Teaching approaches”.

Ethical Considerations

The confidentiality of information gathered through the survey was guaranteed since individual responses were not reported. Respondents were also informed that their participation in the study was voluntary. Permission to conduct the study was also sought from the Campus Manager of Botho University – Francistown Campus.

Data Collection Procedure

One member of the research team distributed the questionnaire to the respondents. The respondents completed the questionnaire in the researcher’s presence to avoid sharing ideas among the respondents. The respondents took 20 to 30 minutes to complete the questionnaire. The questionnaire was administered in April which is in the second semester over a period of one week.

Data from questionnaire was compiled, sorted, edited, classified and coded into the coding sheet of Statistical Package for Social Sciences (SPSS) version 20. Standard data entry and quality control procedures were used including double entry, range and consistency checks, and manual review of outliers. The positive statements on the Likert scale were coded as “1” Strongly Disagree, “2” Disagree, “3” Agree and “4” Strongly Agree. The negative statements were scored in the reverse polarity with “1” representing Strongly Agree and “4” representing Strongly Disagree. Said in another way, a high score reflected a positive attitude or a desired action.

Table 1: Summary results depicting number of cases, mean values, t/F values, p-values eta-square (GPA with demographic variables)

Predictor Variable	Categories	n	Mean	SD	t/F	df	Sig (P)	Eta ² (η^2)
Parental Support	Yes	56	3.11	.283	t = 2.51	73	.016*	.080
	No	19	2.86	.570				
Occupation of parents	Employed	30	3.11	.303	F = 1.88 (Welch) ³	3, 43	.140	.074
	Self-Employed	19	3.05	.337				
	Unemployed	21	3.05	.332				
	Other	5	2.67	.926				

Note: *considered significant at $p < .05$. The null hypothesis tested here is that the predictor variables (Family background) have no systematic effect on academic performance.

Table 2: Summary Table for ANOVA results for GPA against student characteristics

Predictor Variable	Categories	n	Mean	SD	t/F	df	Sig (P)	Eta-Square ⁴ (η^2)
Gender	Male	26	3.04	.390	t = .007	73	.461	.000
	Female	49	3.05	.391				
Major Course	Accounting	25	3.1	.331	F = 1.02	2, 72	.366	.028
	Business	28	3.08	.394				
	Computing	22	2.95	.438				
Frequencies of attendance of classes	Often	7	2.62	.593	F = 7.85 (Welch)	1,741	.049*	.183
	Very Often	54	3.12	.303				
Other Commitments	Yes	17	2.97	.627	t = .365	73	.553	.103
	No	58	3.06	.289				

Note: *considered significant at $p < .05$. The null hypothesis tested here is that the predictor variables (student characteristics) have no systematic effect on academic performance

Table 3: Internal reliability as assessed using Cronbach’s alpha (α)

Subscale	Number of items	Cronbach’s alpha (α)
General Study Skills	25	.805
Overall Listening Skills	8	-
Approach to examinations	7	.544
Preferred teaching/ learning Approach	8	.534

² Eta-square measures how much of the total variance in the outcome variable is explained by the independent variable

³The assumption of homogeneity of variance was assessed using Levene’s test and where not tenable, Welch’s F-test (robust test) was reported

⁴ Eta-square measures how much of the total variance in the outcome variable is explained by the independent variable

Table 4: Students’ responses to the listening skills scale together with their GPA

Items	Listening Skills	SA	A	D	SD
1	In class i take notes during the lecture	33% (3.1)	19% (2.9)	0%	5% (2.69)
2	I prefer to listen than take notes	31% (3.1)	27% (3.0)	23% (3.0)	1% (3.1)
3	I listen carefully to the lecturer but I do not take notes	21% (2.99)	35% (2.99)	27% (3.05)	17% (3.22)
4	For me to remember i listen carefully in class	28% (2.98)	25% (2.97)	33% (3.09)	12% (3.2)
5	I have hard time listening to lecturers	17% (2.98)	17% (2.97)	43% (3.01)	23% (3.23)
6	I stay alert and focused during class	25% (3.14)	35% (2.99)	28% (3.04)	12% (3.03)
7	I switch off my mobile during lesson time	21% (3.19)	36% (2.98)	24% (2.84)	18% (3.25)
8	I can receive and send SMS during lesson time	16% (3.08)	19% (2.90)	32% (3.11)	32% (3.05)

Variables and statistical tests

Academic performance was measured using self-reported Grade Point Average (GPA) on a four point scale. GPA served as the dependent variable for the analysis and the various categorical data (demographic variables) served as independent (predictor) variables. The average GPA for the categorical variables were calculated and *t-tests* were run to compare the group averages. Where more than two categories were involved, one-way analysis of variance (*one-way ANOVA*) was done. A significant ANOVA (omnibus test) was followed with post-hoc tests to establish which pair of means are significantly different. Specifically, Bonferroni post-hoc test was used. Bonferroni is one of the conservative (Field, 2011) post-hoc tests. Further, multiple regression analysis was run to investigate the relation between the dependent variable (GPA) and the overall variables which were computed from each of the four subscales.

Results

The results are presented according to the three research questions underpinning the study.

Research question 1: *What is the effect of family background on the quality of students’ academic performance?*

In response to this question, *t-tests* were run with GPA as the dependent variable and family background (“Parental Support” and “Occupation of parents”) as the grouping variables. The results are presented in Table 1.

The overall GPA for the 75 participants was 3.05 with a standard deviation of .389 on a 4-point scale.

The results in Table 1 indicate that the only variables which had significant influence on students’ performance was parental support ($t_{(73)} = 2.51; p < .05; r^2 = .080$). That is, students who responded “yes” to parental support

performed significantly better than those who indicated no parental support with mean GPAs of 3.11 and 2.86 respectively. However, the effect size (eta-square) was very small with parental support explaining only 8% of the variance in the GPA scores. Parental occupation was not significant.

Research Question 2: *Do students characteristics have influence on the quality of students’ achievement?*

Student characteristics were represented by “Gender”, “Area of study (major course)”, “Frequency of class attendance” and “Other commitments”. These indicator variables served as grouping variables and GPA served as the outcome variable. ANOVA results are represented in Table 2.

Frequency of class attendance showed a significant effect on GPA ($F_{(1,74)}; p < .05, r^2 = .183$). Those who

indicated that they attend classes “very often” had a significantly higher GPA (3.12) than those who chose otherwise. The effect size due to *frequency of class attendance* was relatively high (in comparison to family background) with the variable explaining 18.3% of the variance in the GPA scores. “Gender”, “Major course of study” and “Other commitments” had no significant effect on students’ performance.

Research Question 3: *What is the effect of general study skills, listening skills, approach to examination, and preferred method of teaching and learning on students’ performance?*

Data analysis for each of the four sub-scales started with item analysis which consisted of item-to-item correlations and item – total correlations. The internal reliability of each scale was assessed using *Cronbach’s alpha* (α). The results are depicted in Table 2.

Table 5: Summary of Stepwise multiple regression analysis between GPA and the four subscale variables

Model	Coefficients β s	Standard error	t	p	R ²
Constant	2.13	.323	6.607	.000**	.101
General Study Skills	.318	.111	2.863	.005**	
Excluded Variables from the model					
Overall Listening Skills	.078		.604	.548	
Approach to examinations	.041		.353	.725	
Preferred teaching Approach	.091		.669	.506	

**significant at $p < .01$

The subscale which had a high internal consistency (high reliability) was General Study Skills ($\alpha = .805$) with item-total correlations ranging between-.417 to .897. Regarding the reliabilities for the last two scales, though low ($\alpha \approx .5$) according to Field (2011) such values should be expected depending on the diversity of the construct measured and the number of items involved. The internal reliability coefficient for the “overall listening skills” was not recorded because it was negative. Even after reverse coding some seemingly negative statements, the scale remained unreliable. The values under “Crombach’s alpha if item deleted” were all negative, they ranged from -.108 to -.979. Results from this scale should be consumed with caution. Coding for most items in this scale was not easy to determine. Most students would disagree with statements such as “I switch off my mobile during lesson time”. One could surmise that maybe they use their mobiles to research the topic. Some say they “listen carefully to a lecture but do not take notes”.

Determining whether to reverse code these or not was not easy. In addition, this scale had the highest number of missing responses with item 1 not attempted by 43% of the students. Students’ responses to the listening skills scale together with their GPA are indicated in Table 4.

Looking at the results indicated in Table 4, some students’ performance was as expended. That is, GPA was increasing according to the desired direction of the item (1, 3,5). For others the results were worrisome with those who claim to ‘listen carefully but not take notes’ being in the majority (56%) and not performing as well as those who disagree with the statement (Item 3).

Students consistently indicated that they would rather listen to the lecturer than take notes (Items 2&3). Interestingly, the students with the highest average GPA (3.25) for this cohort were those who do not switch off their cell phones in class (Item 7).

That aside, items in each scale were averaged into a single variable (composite variable) for that scale and assumed to measure a continuous underlying construct (latent variable). Stepwise⁵ multiple regression was done with GPA as the outcome variable and the four subscale

variables as the predictor variables. The results are presented in Table 4.

The linear regression model

The linear regression model assumes the format of the linear equation below.

$$GPA = \beta_0 + \beta_1 \text{General Study Skills} + \beta_2 \text{Overall Listening Skills} + \beta_3 \text{Approach to examinations} + \beta_4 \text{Preferred teaching Approach} + \text{error}$$

Where GPA is the dependent variable, β_0 is the constant, the other β s are the regression coefficients for the independent variables.

Stepwise method was used to enter the independent variables in the model (equation).The goodness of fit of the model to the data was assessed using R². The t-statistic here tests the null hypothesis that the coefficient is equal to zero ($H_0: \beta = 0$). Table 4 indicates that only one variable *General Study Skills* contributed significantly to the model ($t = 2.86, P < .01$) and was retained in the model. The other three had no significant impact in explaining the observed variance in the GPA scores. That is, statistically, the coefficients for the non-significant variables were considered no different from zero.

The resulting equation is

$$GPA = 2.13 + .318 \text{ General Study Skills}$$

The variable “General study skills” explains 10.1% of why students vary in their GPA. Further, if this “general study skills’ were to change by one unit measure of the variable, GPA will increase by .318. However, a substantive part of the variance in GPA remains unexplained by the model.

Discussion of Findings

The findings in relation to the impact of family background on students’ performance produced mixed results with parental support showing a statistically significant impact on students’ performance while parental occupation had no significant influence on

⁵ Stepwise lets the program determine which variable to retain in the equation and which ones to drop depending on the effect size they have in the model. That is, would adding this variable to the model increase r-square

students' performance. Though parental support had a significant influence on students' performance as also evidenced in other studies (McWayne et al. 2004) one wonders what constitutes this "parental support" in relation to students at tertiary level. Is it financial support, emotional support (parental expectation) or help with academic work? Parental support is a loaded term and its impact and indicators are likely to vary as students' progress along the education ladder. In the case of developing countries, not many parents may be conversant enough with tertiary level material to be able to help the student-child with their assignments (this rules out parental support in the form of assignment for most students). When it comes to monetary issues, not many parents may find it necessary to support their student-child financially because these are government sponsored students (96%) who receive a monthly allowance. Even in the event that the parent supported his/her student-child financially it is not evidenced by the findings of the current study that parental employment status (hence the likelihood of financial support) is a significant contributor to better performance. Follow-up research is needed to establish the type of parental support that is associated with better student performance at tertiary level. In particular, it will be worthwhile finding out if parental expectation (emotional support) could be that significant part of parent support that influences performance significantly at tertiary level. Regarding students' characteristics on performance, the results suggested "frequency of class attendance" as a significant predictor for better performance. This builds upon existing literature (Romer in Mlambo, 2011). Besides that it is logical for a student who attends classes regularly to perform better than others, an added advantage for class attendance at Botho University is the 5% mark that is awarded for class attendance per course. One wonders if without the added 5% of class attendance the results will still be as are. The question is "do those who skip classes really perform poorly or they were disadvantaged by missing on the attendance marks? That is, if one was to control for "frequency of class attendance" would gender still remain insignificant given that female students are more likely to attend classes regularly than their male counterparts. This warrants further research.

The results pertaining to "Other Commitments" indicate no statistically significant difference in performance between those who answered yes to having other commitments and those who answered no. That said, however, the performance of those without commitments was higher than those with. Some of the types of commitments the students gave were:

- has a baby to take care of
- health problems (has to visit clinic often)
- has a spouse who sometimes causes stress

When academic related activities ("General Study Skills", "Overall Listening Skills", and "Approach to examinations and preferred teaching/learning Approach") were assessed for their contribution towards students' performance, only "general study skills" had a significant influence on students' performance. That is, students who generally "take time to study everyday" "prefer to study in a quiet place" and "concentrate on their studies completely" in addition to other indicators achieved higher than others. As already suggested by the results, the composite variables for the other three measures had no significant impact on performance when considered together with general study skills in a model. When simple linear regression of GPA was run on each of the explanatory variables individually, the coefficient for "approach to examination" was significant though it was low in value when compared to that of general study skills. It turned out that the two explanatory variables "General Study Skills", and "Approach to examinations" were significantly correlation. That is, the two contained similar information about GPA. However, according to <https://en.wikipedia.org/wiki/Multicollinearity>, multicollinearity⁶ does not reduce the predictive power or reliability of the model as a whole. In the current study, when "general Study Skills" was dropped to eliminate the collinearity effect, the coefficient for "Approach to examinations" had a significant effect in explaining the variance in GPA but by a small amount of 4.6% and the coefficients for the other two predictor variables did not change; they remained insignificant. Hence all the four predictor variables were retained in the model because the objective of the study was to assess the combined effect of the four predictor variables.

It is worth pointing out that, in general, the responses for the none significant predictor variables "Overall Listening Skills" and "teaching/learning approaches" were mostly neutral and most items had missing values. Just to cite a few items, when asked about how they preferred to be taught, 35 students preferred guest speakers and 39 did not; 38 preferred using email as a teaching tool and 37 did not. The responses sort of neutralize each other. In addition, the mean GPA for these two scales were low 2.72 and 2.74 respectively.

Limitations

The factors examined in this study were not exhaustive. There are many other factors such as socio-economic status, parent's educational level, sporting activity, ambition to go for higher studies and others, that have an impact on academic performance which were not

⁶ Multicollinearity is a condition in which two or more predictor variables in a regression model are highly correlated and hence competing for information about the dependent variable.

considered. Again, the study was based on self-reported GPA which was obtained through the administration of the questionnaire which may not be a true reflection of the respondents' performance. Furthermore the study was conducted at only one of the campus of a single university on one year group. Hence the sample may not be representative of students in other tertiary institutions.

However, despite these limitations, this research has provided insight into the students' views on what constitutes effective university teaching.

Conclusion

This study sought to analyze the impact of family background on students' academic performance. It was found out that family background has some impact on students' performance. In the same way, those students who reported that they regularly attend class performed better than those who were irregular. However, gender, course of study and having other commitments had no significant effect on students' performance.

When it comes to preferred methods of teaching and learning, students who claimed to prefer listening in class rather than taking notes (aural or auditory learners) had a relatively higher GPA than the rest of the cohort. The same group of students who claimed that they "listen and not taking notes" also claimed that they keep their cell phones on in class (and these were mostly male) as well as receive and send SMS during lessons. Interestingly, these students had higher GPA average than those who switch off their phones in class. It can be concluded that these students were the "millennial" type of learners who are able to "multi-task".

In summary, it can be concluded that academic achievement (GPA) for tertiary students in this study was significantly predicted by students parental support, frequency of class attendance and general study habits employed.

Further Research

Based on the findings of this study, the following areas are recommended for further research.

- Studies should be conducted to establish the type of parental support that is associated with better student performance at tertiary level
- An interrogation of the question: "Do those who skip classes really perform poorly or they are disadvantaged by not getting marks awarded for attendance of classes?" should be conducted.

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