

The Impact of Daily Feeding Timing on Academic Performance: An Econometric Analysis of Environmental Technology Students

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Abstract

Although students' economic and nutritional circumstances may influence their academic outcomes, evidence concerning the role of daily meal timing remains limited. This study examined the relationship between daily meal timing and cumulative grade point average (CGPA) among 36 students from the Faculty of Environmental Technology who were enrolled in a practical workshop course. Data were collected through a survey and analyzed using descriptive statistics, Pearson's correlation, and linear regression. The results revealed a very weak negative correlation between daily meal timing and academic performance ($r = -.060$), and the relationship was not statistically significant ($p = .365$). Thus, daily meal timing did not significantly affect academic performance within the study sample. These findings indicate that meal timing alone may not adequately explain variations in students' academic outcomes. Further research should therefore investigate other economic and nutritional factors associated with academic performance, while relevant institutional policies should focus more broadly on improving students' economic conditions and academic support.

Keywords: Academic Performance; Daily Meal Timing; Econometric Analysis; Student Nutrition; University Students

Introduction

The econometrics methods are used to obtain the values of parameters which are essentially the coefficients of the mathematical form of the economic relationships.

The statistical methods which help in explaining the economic phenomenon are adapted as econometric methods. The econometric relationships depict the random behavior of economic relationships which are generally not considered in economics and mathematical formulations. It may be pointed out that the econometric methods can be used in other areas like engineering sciences, biological sciences, medical sciences, geosciences, agricultural sciences etc. In simple words, whenever there is a need of finding the stochastic relationship in mathematical format, the econometric methods and tools help. The econometric tools are helpful in explaining the relationships among variables.

The performance of the students is affected by psychological, social, personal, environmental and economical factors, but in the case of this research work we would be considering the economical factor affecting the student academic performance.

Mostly issue factors are different from person to person and society to society. Precious students an academic performance focused on such issues like teacher education, class environment, gender difference, teaching style, family background, financial background and demographical factors.

The majority of the researchers in the mostly applied the GPA to access the performance of the students. They applied GPA evaluate of the students in particular semester. The academic engagement is significant impact on the students' performance in particular way and success full path.

The academic Performance is showing high level in cities than town. Due to factors like inadequate knowledge in choosing a course and proper guidance and communicational skills. These factors are highly impact on student performance at academic level. Finally students are responsible for social and country development. The main objective of the higher education institution is to provide quality education to its students.

One way to achieve highest level of quality higher education system is by discovering knowledge for prediction regarding enrolment of students in a particular course. Professional course refers to a variety of education and training which match these specific needs of an industry. The focus of these courses is on skill building, career

development, self improvement etc. these are specifically designed to meet industry requirements address and fulfill certain requirements of an individuals and employers. Entry requires vary depending on the sector. Many professional course qualifications are mandatory for entry into an industry or profession. These have turned out to be a popular choice in the present times as students opting for various courses of the preference want to focus on to a definite chalked out career early in life.

Statement of the Problem.

This study investigates the impact of daily feeding timing on students' academic performance, measured by their Grade Point Average (CGP). Despite previous research linking various economic factors to academic outcomes, the specific influence of feeding timing remains unclear. The problem addressed in this research is whether daily feeding timing significantly affects students' academic performance, as it relates to their CGP, in the context of students from the Faculty of Environmental Technology. Understanding this relationship could provide insights into how economic factors like feeding habits influence academic success.

Aim and objectives of the Study

The aim of this study is to examine the impact of daily feeding timing on students' academic performance, specifically focusing on how feeding habits influence students' Grade Point Average (CGP), with the following objectives

1. To investigate the relationship between daily feeding timing and students' academic performance (CGP).
2. To analyze the correlation between students' daily feeding habits and their academic outcomes.
3. To assess whether daily feeding timing significantly affects students' academic performance using econometric tools such as correlation and regression analysis.
4. To provide recommendations for improving students' academic performance based on economic factors such as feeding timing.

Literature Review

Several studies have been conducted to find out students' academic performance (Applegate and Daly, 2006; Hedjazi and Omidi, 2008; Ramadan and Quraan, 1994; Al-Rofo, 2010; Torki, 1988; Hijaz and Naqvi, 2006; Naser and Peel, 1998; Abdullah, 2005). All

these studies engaged the Grade Point Average (GPA) as a common indicator of the performance of the students. Kochhar (2000) says proper guidance is necessary to help the students with problems like lack of correlation between talent and achievement, faulty study practice, imperfect methods of learning. Researchers have demonstrated that the performance of the students depended upon several factors like, learning facilities, age and gender differences. The most significant factor with the positive outcome on the performance of the students is competence of students in English. Students having good communication skills it expands the students' Performance (Abdullah, 2011).

William & Burden (1997) found that language classrooms inculcate confidence among students to use the new language to communicate, to discuss, to try new ways of conveying meanings and to be trained from failures and successes. Robert and Sampson (2011) investigated that the students who effectively participate in the learning procedure are seen to have a higher CGPA (cumulative grade point average).

Noble (2006), found that academic activities of students, perceptions of their adapting strategies and background qualities (for example family pay, direction from parents, number of negative circumstances in the house and parents' level of education) were indirectly connected to their compound scores, during academic achievement in secondary school. Direction is a component through which a student knows how to progress his study approach and study schedule and is directly corresponding to academic accomplishment. The students who are appropriately guided by their guardians have done well in the exams. The direction from the educator also influences performance of the students. The guidance from the guardians and the educators indirectly influence the students' performance (Hussain, 2006). Raychauduri et al. (2010) examined that various studies have been concluded to recognize those variables which are influencing academic performance of the students.

The academic performance of the students also rely on a various socioeconomic variables like students' participation in the class, family pay, and teacher-student ratio, presence of qualified teachers in school and gender of the student. Several studies have also been done on the impact of peer influence on student performance (Gonzales et. al., 1996; Goethals, 2001; Hanushek et. al, 2002) investigated that peer influence has more influential effects than family. Peer help was positively associated with the students' average grade point. Giuliadori, Lujan and DiCarlo (2006) found that through peer interaction, students

might increase their skills on solving qualitative problems. Peer teaching will also encourage student's participation (Rao and Di Carlo 2000).

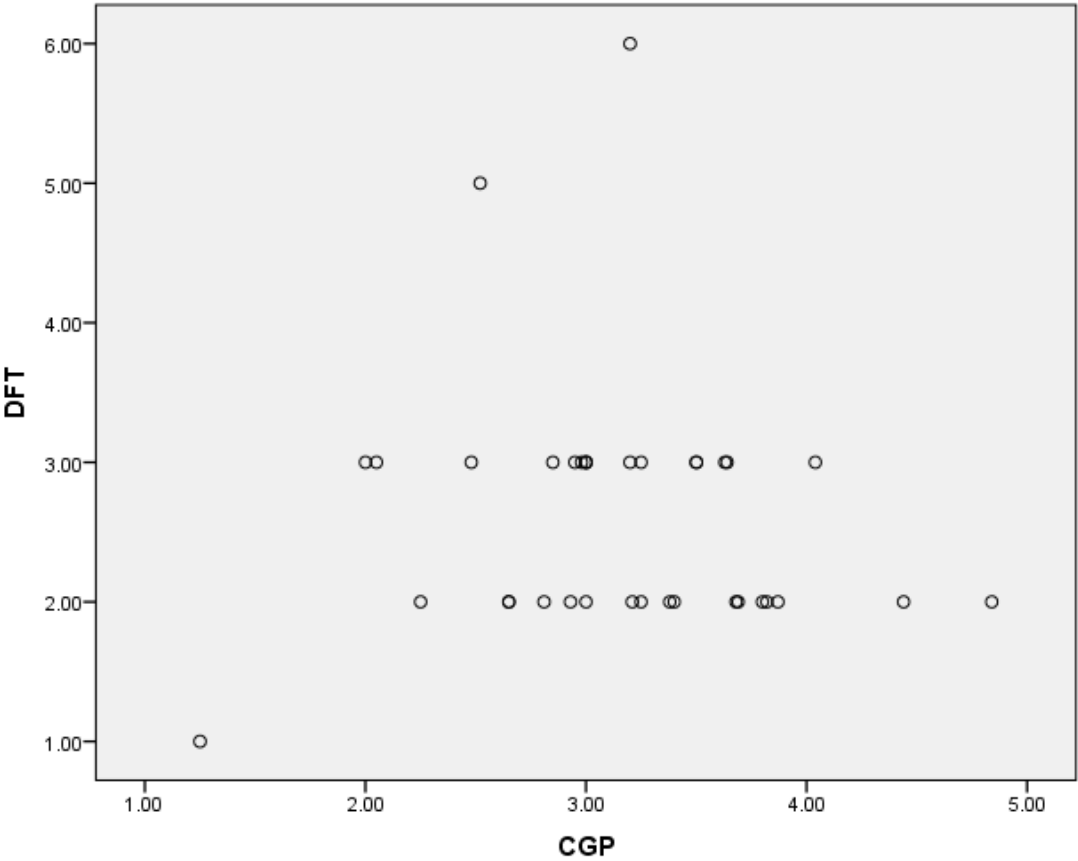
Rangvid, B. S. (2003) found that mixing skills influence weak students positively on the other hand the results for brilliant students were found negative. Goethals (2001) found that homogeneous group students do better than heterogeneous group students. Al-Otaibi (1996) examined the influence of gender on the student's performance and found that male students are not better than female students. Beaumont-Walters, Y., & Soyibo, K. (2001) explored that student performance is dependent on a socio economic background like grade level, school type and school location.

Methodology

The research was conducted at the faculty of environmental technology on the student whose are currently on their Student workshop practical course. A sample of 36 students was collected with their various necessary information's like; gender, timing feeding and CGP. Most previous studies that seek to explain factors influencing students' academic performance utilized inferential statistics and are thus quantitatively inclined. This study adopts the qualitative approach, correlation and regression analysis for the investigation. More specifically semi-structured interview was adopted.

Data Analysis

IBM Statistical Package for the Social Sciences (SPSS) PC version 21.0×64 bit was used to analyze satisfaction data and students' performance data. The correlation analysis and linear regression method is a useful tool to analyze the relationship between explanatory variable and student performance results. Linear regression allows the researcher to identify explanatory variable related to academic performance and how it contributes to the overall university satisfaction (Thomas and Galamos, 2002).



Graph 1: simple scatter plot showing relationship between student daily feeding timing and their academic performance (CGP)

Interpretation: from the above scatter plot, since the point are all scattered its shows that there is no significant relationship between the student daily feeding timing and their academic performance (CGP).

Table 2: showing descriptive statistics

Descriptive Statistics			
	Mean	Std. Deviation	N
CGP	3.1586	.69370	36
DFT	2.6111	.90326	36

Interpretation: the table above shows the mean of the student daily feeding timing and their CGP

Table 2: showing the correlation between the student daily feeding timing and the CGP of the student

Correlations			
		CGP	DFT
Pearson Correlation	CGP	1.000	-.060
	DFT	-.060	1.000

Sig. (1-tailed)	CGP	.	.365
	DFT	.365	.
N	CGP	36	36
	DFT	36	36

Interpretation: from the table above the result shows that the correlation is very weak negative relationship, which means that there is no significant relationship between the student daily feeding timing and their academic performance (CGP).

Table 3: showing Model Summary of regression

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.060 ^a	.004	-.026	.70257	.004	.122	1	34	.729
<i>a. Predictors: (Constant), DFT</i>									
<i>b. Dependent Variable: CGP</i>									

Interpretation: Table 3 shows the Adjusted R^2 which indicates the percentage of the variance in the student performance explained by factor affecting their academic performance (CGP) Individual Differences 0.4% of the variance in the student performance (CGP).

Table 4: showing ANOVA

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.060	1	.060	.122	.729 ^b
	Residual	16.783	34	.494		
	Total	16.843	35			
<i>a. Dependent Variable: CGP</i>						
<i>b. Predictors: (Constant), DFT</i>						

Interpretation: from table the result shows, the calculated value of $F_{cal}=0.122 < F_{tab}=1.79$ we accept the null hypothesis and conclude that there is no significant different between the student daily feeding timing and their academic performance (CGP). Which determine that the model is good fit for the data. According to the p – value is this model is significant

Table 5: showing coefficient of regression

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	t
		B	Std. Error	Beta	
1	(Constant)	3.278	.363		9.038
	DFT	-.046	.131	-.060	-.349
<i>a. Dependent Variable: CGP</i>					

Interpretation: table 5 showing the regression fitting model value of student daily feeding timing and their academic performance (CGP)

Discussion

The study was carried out to investigate the economical factor affecting student academic performance. It was hypothesized to check the impact of the student daily feeding timing on their academic performance. Econometrics tools such as correlation and regression analysis were used to check the economic factor affecting student academic performance using daily feeding timing and their CGP as the independent and dependent variables respectively. Scatter plot was also used in checking if there is relationship between the student daily feeding timing.

Conclusion

From the result, the Pearson correlation is -.060, it indicates that the relationship is very weak or there is no correlation. In the same analysis, the two tailed significance value (.365) was found to be above 0.05, indicating that there is no significant relationship between the student daily feeding timing and their academic performance (CGP), that means the economic factor; student daily feeding timing has an effect on the academic performance of student since from all indications for correlation, regression analysis and scatter plot it shows that there is no relationship.

Recommendations

Based on the study findings and the conclusions, the following recommendations were drawn;

1. Since it was shown that economical factor has an effect on the student performance, government should draw a conclusion on her economic and find a lasting solution that will be of help to student.
2. Parent should also provide enough food stuff for their wards betterment academic performance.
3. Researchers can also employ other statistical tools to investigate on this issue of student academic performance for further studies.

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Appendix

DAILY FEEDING TIMING	CGP
1.00	1.25
2.00	2.25
3.00	3.50
3.00	3.50
2.00	3.38
3.00	3.00
5.00	2.52
6.00	3.20
3.00	3.00
3.00	2.05
3.00	2.98
3.00	3.25
3.00	2.00
3.00	2.85
2.00	2.81
2.00	3.40
2.00	3.82
2.00	3.87
2.00	3.69
2.00	3.21
3.00	2.95
2.00	3.68
2.00	2.65
3.00	4.04
3.00	2.48
3.00	3.63
2.00	2.65
3.00	3.20
2.00	3.00
3.00	3.00
3.00	3.64
2.00	4.44
2.00	3.25
2.00	3.80
2.00	4.84
2.00	2.93