"EFFECT OF ABSENTEEISM ON STUDENT PERFORMANCE – A CASE OF STUDENTS OF MBA (4 SEMESTERS PROGRAMME) OF A LEADING BUSINESS INSTITUTE OF KHYBER PAKHTUNKHWA, PAKISTAN"

FARID ULLAH KHAN
MPP, MBA, BBA (Hons)
Endeavour Fellow, Government of Australia
Australian National University (ANU)
Executive Assistant
Prime Minister's Office, BoI, GoP
fariduk.anu@gmail.com

ABSTRACT

Driven by interest while keeping key issue of Absenteeism on the table, that haunts the academic institutes up until now, this research was conducted with the purpose to identify the effect of absenteeism on student performance at a leading business institute of Khyber Pakhtunkhwa, Pakistan. The study conducted by Marburger at times remains a concern because many doubted that the policy was removed for the single seminar and it does not depict the real case under study i.e. effect of absenteeism on student performance. The peer groups were also changed from time to time leading to

different results and thus a lack in consistency. The credibility of uniformity is also a matter insignificant due to different rates of attendance; different attendance criteria for lower level and higher level exams. Resultantly such policies lead towards reduction in attendance rate.

In order to find the relationship between the absenteeism and student performance of students, an ex-post facto, which is a type of non-experimental design, was adopted to perform the research. The data was confined to three semesters for the year 2010-2012. Only secondary data was used which was collected with the permission of the research supervisor, coordinator, and controller examination. The rate of absenteeism was measured from 'attendance sheets' and the student performance was gauged from the 'Grade Point average (GPA)' that each student has scored in 1st, 2nd and 3rd semester. In this study, attendance was treated as an independent variable while student performance was taken as dependent variable. Certain moderating variables (dummy variables) like the previous college/institute of the student (Public, Private) and background of student (Rural, Urban) were taken in order to find that; Is there any effect of previous college/institute, private sector or public sector, on student performance? and Is there any effect of background of student, rural or urban, on student performance?

In the first two semesters there is a negative relationship between student performance and absenteeism i.e. with each unit increase in absenteeism there is decrease in GPA of the students. However, keeping all the other factors constant, a positive relationship is observed in the third semester. Particularly, while taking the third semester into account, the GPA of students increases by 0.148 when we move from urban to rural areas. On the other hand, the GPA of students decreases by 0.040 when we move from public to private sector institute.

KEYWORDS

student's performance & evaluation, education policy, business administration & management, absenteeism

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1. Introduction

A positive relationship between attendance and student achievement (performance) is generally accepted across all academic institutes. This relationship was equally supported by Grendron and Pieper (2005) in their study. The study revealed a negative relationship between absenteeism and assessment performance. The strong negative link though supported by the literature, however, a lack of consistency in the statistical significance was observed during analysis. (Grendon P., 2005)

Based on this study, skeptics of mandatory policies on attendance including Petress (1996) argued that this lack of significance is good enough to challenge the idea that such attendance policies offer academics institutes the 'golden bullet (rare opportunity)' that they will improve both their overall marks and their progression rates (referring to individual and organizational development simultaneously). (Petress, 1996)

Once these studies set the foundation for further in-depth analysis, Marburger (2006) came up with an empirical study on mandatory attendance policy. He went on to relax an American academic institute mandatory attendance policy for a 1st year undergraduate module. The aim of relaxing the policy was to identify that whether the lack of policy influenced attendance and in return whether attendance affected the student's grade (performance) on the module under observation. Marburger's contribution was vital to the literature supporting the significance of affect of absenteeism on student performance. (Marburger, 2006)

One related study by Romer's (1993) also suggested for an attempt to unravel and measure the "pure" link that exists between absenteeism and exam performance. (Romer, 1993)

Driven by interest while keeping this key issue on the table, that haunts the academic institutes up until now, this research was conducted with the purpose to identify the effect of absenteeism on student performance at a

leading academic institute. The study conducted by Marburger at times remains a concern because many doubted that the policy was removed for the single seminar and it does not depict the real case under study i.e. affect of absenteeism on student performance. The peer groups were also changed from time to time leading to different results and thus a lack in consistency. The credibility of uniformity is also a matter insignificant due to different rates of attendance; different attendance criteria for lower level and higher level exams. Resultantly such policies lead towards reduction in attendance rate. An empirical analysis at the end with recommendations will complement this report.

In order to find the relationship between the absenteeism and student performance of students, an ex-post facto, which is a type of non-experimental design, was adopted to perform the research. The data was confined to three semesters for the year 2010-2012 for MBA (4 Semesters Programme). Only secondary data was used which was collected with the permission of the research supervisor, coordinator, and controller examination. The rate of absenteeism was measured from 'attendance sheets' and the student performance was gauged from the 'Grade Point average (GPA)' that each student has scored in 1st, 2nd and 3rd semester. In this study, attendance was treated as an independent variable while student performance was taken as dependent variable. The absenteeism was measured from the 'attendance sheets' while student performance was gauged from the 'Grade Point average (GPA)' that each student have achieved in 1st, 2nd and 3rd semester. Certain moderating variables (dummy variables) like the previous college/institute of the student (Public, Private) and background of student (Rural, Urban) were taken in order to find that; Is there any effect of previous college/institute, private sector or public sector, on student performance? and Is there any effect of background of student, rural or urban, on student performance?

2. Literature Review

Undergraduate economics classes were studied by Romer (1993) in order to find the relation between attendance and student performance. During the study, a survey was conducted to note-down the attendance at three academic institutes of all undergraduate economics classes. A sample of classes was taken into account for a week time period. The three academic institutes were consisting of; one medium-sized private university, one large public institution, and the third was a small liberal arts college. The Barron's Profiles of American Colleges classified the level of academic performance of the institute as highly competitive. It was learnt that $1/3^{rd}$ of the students do not show up in the class during a typical class meeting. The large public sector university came up with highest rate of Absenteeism. On the other hand, absenteeism tended to be the lowest at the small liberal arts college. Students opted to attend those courses regularly which were containing significant mathematical/statistical work. The rate of absenteeism was also low for the core courses. Finally, it was revealed in the study that greater perceived quality of instruction leads to higher attendance rate.

Another aspect of Romer study was that that he investigated the link between student attendance and over-all course performance. While investigating the matter, he himself attended classes of an intermediate macroeconomics course for six days. During the investigation time frame, set of Independent variables i.e. Student record of attendance; was regressed against overall performance in order to find the relationship. Only those students were considered in the sample that has completed full semester in order to avoid cause-and-effect problem of attendance versus motivation. The GPA of the students was taken as an explanatory variable. The findings of the study revealed that there is a positive correlation between attendance and course performance. (Romer, 1993)

A study was also conducted in order to link the resources available on student performance. Some policy implications were having considerable impact on the outcome of the student. The research being controversial was

based on meta-analysis consisting of around 400 studies. The study revealed the there is a lack of consistency between the resources provided by the institution and student performance. However, the result differ when we take into consideration the input provided by the family to support student's studies. The research is further linked with the labor market outcomes. With little variation in the results, it is obvious that little policy changes in terms of the resources will not bring significant change in the performance of the students. (Hanushek, 1997)

A comparative analysis was performed in order to study the impact teacher's social structure and student's performance. A theory that defines 'social deficit' is always challenging for the society. The lack of social fabric at the end of the teachers, equally affects the student performance. Though, the study sounds controversial, however; still, it illuminates the missing link between student performance the social structure of the teachers. The study is based on the Coleman report of 1966 and is based on the research performed over the past 20 years (1963-1983) on the student performance. The report reveals that the performance in the American schools in not based on the social structure of teachers and students. But rather it is embedded in the fundamental cultural, political, economic and social values of the society. A study similar to the scenario performed by Lavin in 1965 also examined the lack of relationship between student performance and strength of social structure. In short, the results can be summed-up that 'schools make no difference'. The low-performing students do not mean that they have weak relationship with teachers. (Saha, 1983)

In a single instructor's money & banking course, Park and Kerr (1990) measured the determinants of student performance over a period of four-years. In order to measure the probability of receiving a specific letter grade, in presence of several independent variables, Park and Kerr used numerous log-it equations for their estimation. The students' overall semester attendance was included as an explanatory variable. An inverse relationship was observed between the students' course grades and their attendance. The students' self-

reported hours of study (the time students devote to studies by them self) was controlled in order to measure performance of the students. (Park & Kerr, 1990)

A link between student's attendance and their performance which they exhibit during exams was also investigated by Durden and Ellis (1985). For their study, they observed economics courses spanning over a period of three semesters. Students overall grade averages were listed as dependent variable. The attendance of each student was measured through a self reported questionnaire administered at the end of each semester. The results revealed that low level of absenteeism have no prominent impact of student performance; however, excessive absenteeism significantly affects course performance. (G.C. & L.V., 1985)

The factors influencing the students performance and absenteeism was also observed. For them absenteeism creates a major "dead space" that hinders the activity of the mind. The quantified the student behavior, teacher attributes, course contents and rate of absenteeism. The study was spread over the students of four American universities i.e. University of Idaho, Washington State University, Purdue University and Ohio State University. Performing empirical test and seminal equations used by Becker for his study of Human capital, a strong relationship was found between the class attendance and student performance as per this study. (Devadoss & Foltz, 1996)

Another study was performed in order to find the impact of skipping lectures on first year students. For his study Gary in 1989 mailed his questionnaire to 170 randomly selected first year students of a public sector university. The university that Gary chose for his study deals in around 6,000 students. The registration office returned with 110 completed questionnaires. During analysis nine variables were taken into consideration. The results showed a positive relationship between absenteeism and disliking that class. Furthermore, it confirmed that there is a negative relationship between

absenteeism and studying hours. It means from that students liked that class more. A positive relationship was observed between alcohol consumption and absenteeism from disliked classes. However, it had no effect on liked classes. Interestingly, females showed a positive relationship with absenteeism from both liked as well as disliked classes. Finally, the previous semester's GPA showed a negative relationship with absenteeism from classes that students disliked as compared to those classes that student liked. (Wyatt, 1992)

Finally, Schmidt (1983) keenly studied a link between student performance and the time which they allocate for their study. For performing this research, Schmidt relied on data gathered by Allen C. Kelley when he was evaluating teacher's performance through Teaching Information Processing System (TIPS). A weekly multiple-choice response was developed for TIPS; that were optional and were not related to student's grades. An estimated production function consisting of students final exam scores as dependent variable was related to the TIPS experiment. Student's self-reported study hours were taken as independent variable during the study. A positive correlation between times spent in lectures, discussion sessions and exam performance positively proved the significance of the relationship. (Schmidt, 1983)

3. Conceptual Framework

a. Problem Statement

Is there any relationship between the absenteeism and student performance?

b. Research Design and Method

An Ex-Post Facto, which is a type of non-experimental design, was adopted to perform the research. The data was confined to three semesters for the year 2010-2012 of an MBA (4 Semesters Programme).

"An Ex Post Facto (also called Causal Comparative Research Design) design is useful whenever:

• We have two groups which differ on an independent variable and we want to test hypotheses about differences on one or more dependent variables or

• We have two groups which already differ on a dependent variable and we want to test hypotheses about differences on one or more independent variables" (Wikianswers, 2005)

c. Data Collection

Only secondary data was used which was collected with the permission of the research supervisor, coordinator (MBA – 4 Semesters Programme) and controller examination.

The rate of absenteeism was measured from 'attendance sheets' and the student performance was gauged from the 'Grade Point average (GPA)' that each student has scored in 1st, 2nd and 3rd semester.
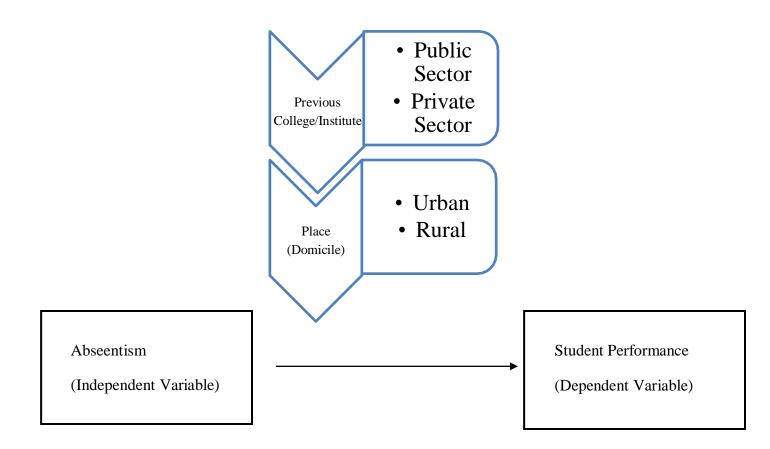
d. Variables under study

In this study, attendance was treated as an independent variable while student performance was taken as dependent variable. The absenteeism was measured from the 'attendance sheets' while student performance was gauged from the 'Grade Point average (GPA)' that each student have achieved in 1st, 2nd and 3rd semester.

Certain moderating variables (dummy variables) like the previous college/institute of the student (Public, Private) and background of student (Rural, Urban) were taken in order to find that;

- Is there any effect of previous college/institute, private sector or public sector, on student performance?
- Is there any effect of background of student, rural or urban, on student performance?

(Moderating Variables)

Previous College/Institute

- Public Sector
- Private Sector

Place (Domicile)

- Urban
- Rural

Abseentism

(Independent Variable)

Student Performance

(Dependent Variable)

e. Population and Sample Size

The population for this study was confined to the students who are/were enrolled in MBA (4 Semesters Program) of leading business institute of Khyber Pakhtunkhwa. A sample size was taken as 225; however, the response rate remained 208 due to number of reasons. The data was collected section-wise (group wise); comprising of section A, B, C, D and E. Only those students were considered in the sample that has completed full semester in order to avoid cause-and-effect problem of attendance versus motivation as adopted by Romer in his study.

f. Limitations

The study is limited to MBA (4 Semesters Programme) students only. However, the result may vary if the study is spread to other programs. A student may encounter higher rate of absenteeism due to unforeseen events in his personal life that may affect his academic performance. The undue favor granted by lecturers/professors to push the attendance markup can likely affect the results.

g. Data Analysis

The data was analyzed through a statistical tool 'SPSS' on running the 'regression' function.

4. Analysis

a. 1st Semester

1. Model Equation

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where

Y = the dependent variable i.e. GPA

β_0 = the constant i.e. 3.373 GPA for the first semester

$\beta_1 X_1$ = Where X_1 is the independent variable i.e. Absenteeism and β_1 is the change brought by X_1 in β_0

$\beta_2 X_2$ = Where X_2 is the independent variable i.e. Origin of Students and β_2 is the change brought by X_2 in β_0

ϵ = Universal Constant

GPA = Constant + Absenteeism + Origin of Student (Urban, Rural) + Type of Institute (Public, Private) + ϵ

2. Values

GPA = 3.373 - 0.018 + 0.074 + 0.014

3. Interpretation of Equation

The value of GPA remains 3.373 on the average for the first semester. However, keeping all the other factors constant the GPA decreases by 0.018 with each unit increase in absenteeism. The GPA of students increases by 0.074 when we move from urban to rural areas. On the other hand, the GPA of students increases by 0.014 when we move from public to private sector institutes.

Table 1: Effect of Absenteeism on Student Performance - Analysis for first semester

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.373	.064		53.057	.000
	Absenteeism in 1st Semester	-.018	.006	-.201	-2.905	.004
	Origin of Students	.074	.055	.095	1.353	.178
	Type of Institute	.014	.056	.017	.248	.804
Dependent Variable: GPA obtained in 1st S						

4. Significance of Model

The model for first semester is significant because in the ANOVA Table

the value of $P < 0.5$ – that is 0.011

Table 2: Significance of Model - First Semester

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.646	3	.549	3.814	.011[a]
	Residual	29.194	203	.144		
	Total	30.839	206			
Predictors: (Constant), Type of Institute, Absenteeism in 1st S, Origin of Students						
Dependent Variable: GPA obtained in 1st Semester						

b. 2nd Semester

1. **Model Equation**

$Y = \beta o + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + \epsilon$

Where

Y = the dependent variable i.e. GPA

βo = the constant i.e. 3.416 GPA for the second semester

$\beta 1 X1$ = Where $X1$ is the independent variable i.e. Absenteeism and $\beta 1$ is the change brought by $X1$ in βo

$\beta 2 X2$ = Where $X2$ is the independent variable i.e. Origin of Students and $\beta 2$ is the change brought by $X2$ in βo

ϵ = Universal Constant

GPA = Constant + Absenteeism + Origin of Student (Urban, Rural) + Type of Institute (Public, Private) + ϵ

2. **Values**

GPA = 3.416 - 0.033 + 0.250 + 0.033

3. Interpretation of Equation

The value of GPA remains 3.416 on the average for the second semester. However, keeping all the other factors constant the GPA decreases by 0.033 with each unit increase in absenteeism. The GPA of students increases by 0.250 when we move from urban to rural areas. On the other hand, the GPA of students increases by 0.033 when we move from public to private sector institutes.

Table 3: Effect of Absenteeism on Student Performance - Analysis for Second Semester

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
2 (Constant)	3.416	.084		40.520	.000
Origin of Students	.250	.064	.252	3.895	.000
Type of Institute	.033	.066	.033	.508	.612
Absenteeism in 2nd S	-.033	.006	-.381	-6.013	.000
Dependent Variable: GPA obtained in 2nd S					

4. Significance of Model

The model for second semester is significant because in the ANOVA

Table the value of $P < 0.5$ – that is 0.000

Table 4: Significance of Model - Second Semester

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	9.360	3	3.120	15.878	.000[a]
	Residual	39.888	203	.196		
	Total	49.249	206			
Predictors: (Constant), Absenteeism in 2nd S, Type of Institute, Origin of Students						
Dependent Variable: GPA obtained in 2nd S						

c. 3rd Semester

1. **Model Equation**

$Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$

Where

Y = the dependent variable i.e. GPA

β_o = the constant i.e. 3.581 GPA for the third semester

$\beta_1 X_1$ = Where X_1 is the independent variable i.e. Absenteeism and β_1 is the change brought by X_1 in β_o

$\beta_2 X_2$ = Where X_2 is the independent variable i.e. Origin of Students and β_2 is the change brought by X_2 in β_o

ϵ = Universal Constant

GPA = Constant + Absenteeism + Origin of Student (Urban, Rural) + Type of Institute (Public, Private) + ϵ

2. **Values**

GPA = 3.581 - 0.046 + 0.148 - 0.040

3. Interpretation of Equation

The value of GPA remains 3.581 on the average for the third semester. However, keeping all the other factors constant the GPA decreases by 0.046 with each unit increase in absenteeism. The GPA of students increases by 0.148 when we move from urban to rural areas. On the other hand, the GPA of students decreases by 0.040 when we move from public to private sector institutes. It is observed that the decrease in students GPA in third semester is due to the ease in absenteeism policy adopted by public sector institutes in wrap-up semesters. It is also noticed that during a three semester time period, a goodwill and understanding with the teacher leads to relaxation of the students and less interest in the class. Also, on the end of the teaching faculty, the lecturers try to push the ending lessons and wrap-up the course taking leaps which students considers as deem unimportant – thus leading to higher rate of absenteeism and scoring less GPA in public sector institutes. However, interestingly the average GPA keeps on increasing from 1st Semester, 2nd Semester and 3rd Semester respectively i.e. 3.373, 3.416, and 3.581. Furthermore, it is observed that the students pay more attention individually while carrying out their studies at home, thus the scoring high GPA in 3rd on the average. The wrap-up leaps at the ending lessons from the lecturers provide students with the opportunity to get-hold of comparatively small-size course in which they are tested during 3rd semester exams.

Table 5: Effect of Absenteeism on Student Performance - Analysis for Third Semester

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
3 (Constant)	3.581	.074		48.250	.000
Origin of Students	.148	.059	.143	2.497	.013
Type of Institute	-.040	.061	-.037	-.655	.513
Absenteeism in 3rd S	-.046	.004	-.599	-10.675	.000
Dependent Variable: GPA obtained in 3rd S					

4. Significance of Model

The model for second semester is significant because in the ANOVA Table

the value of $P < 0.5$ – that is 0.000

Table 6: Significance of Model - Third Semester

	Model	Sum of Squares	Df	Mean Square	F	Sig.
ANOVA						
3	Regression	19.731	3	6.577	39.009	.000[a]
	Residual	34.226	203	.169		
	Total	53.957	206			
Predictors: (Constant), Absenteeism in 3rd S, Type of Institute, Origin of Student						
Dependent Variable: GPA obtained in 3rd S						

5. Conclusion and Recommendations

In the first two semesters there is a negative relationship between student performance and absenteeism i.e. with each unit increase in absenteeism there is decrease in GPA of the students. However, keeping all the other factors constant, a positive relationship is observed in the third semester.

Particularly, while taking the third semester into account, the GPA of students increases by 0.148 when we move from urban to rural areas. On the other hand, the GPA of students decreases by 0.040 when we move from public to private sector institutes.

Based on self-observation it can be stated that the decrease in students GPA in third semester is due to the ease in attendance strictness pertained by the lecturers of public sector institutes in wrap-up semesters. It is also noticed that during a three semester time period, a goodwill and understanding with the teacher leads to relaxation of the students and less interest in the class. Also, on the end of the teaching faculty, the lecturers try to push the ending lessons and wrap-up the course taking leaps which students considers as deem unimportant – thus leading to higher rate of absenteeism and scoring less GPA in public sector institutes. However, interestingly the average GPA keeps on increasing from 1st Semester, 2nd Semester and 3rd Semester respectively i.e. 3.373, 3.416, and 3.581.

This research findings and previous studies confirm that there is a significant relationship between absenteeism and class performance. As the link does exist so one can categorically assume that there might be evidence that the perspectives of Grendron and Pieper (2005), Petress (1996) and Marburger (2006) could all be acceptable in different circumstances. However, one of the challenges for the policy-makers and educators is to recognize and implement strategies that will increase class attendance. Based on research findings, the administrators, instructors and department heads may follow the listed suggestions to combat absenteeism and enhance student performance in the academic institutes:

1. The student should be informed at the beginning of the semesters of the attendance policy and the relationship that exist between class attendance and student performance. The attendance policy and the relationship should be repeated after every monthly exam (particularly in case of IMSciences) as a reminder.

2. Monthly record of the attendance and student performance should be mailed/emailed to the parents.

3. The parents of "low-graders" should be called-upon for the meeting to the institute and should be addressed of the bad performance right at the end of the semester so that the student may improve their performance in coming semesters.

4. Online monthly reports should be email to the students for self-improvement. One-to-one meetings/sessions between faculty and students can be a fruitful addition in this case.

5. The students should be informed that they are not only skipping the classes but instead are contributing to economic loss of the household because they are being treated as 'customer' in the profit cycle of the institute for the tuition fee that they pay in each semester. The loss is in fact many folds for the students of rural background as earning is far difficult for parents belonging to those areas as compared to urban population.

6. Students must be informed about the scholarships offered by the institute to good performers. Motivation for good performance will in itself decrease rate of absenteeism. On the other hand, the institute should devise policy to increase the number of talent scholarship offered per semester per programme from the single award to "top-three" award holders to enhance attendance.

7. Faculty evaluation should be performed at the end of semesters and based on that evaluation those faculty members which are less-liked by the students should immediately be removed in order to decrease the rate of absenteeism of "less-liked" classes and enhance student performance.

8. End-of-semester meetings should be scheduled between the faculty members and head/director of the institute. The faculty members should be alarmed of giving undue favor to the students that ultimately affects their performance. It

can be mentioned in the contract renewal letter, minutes of the meetings, and on the notice boards.

Future Research

In future, research can be performed to assess the results by including the fourth semester as well. The data-pool can be expanded to further programmes offered in IMSciences to further validate the relationship between absenteeism and student performance.

Also, related research can be performed to explore the relationship between drugs usage and students performance, behavior of students and their performance, school infrastructure and student performance and/or the percentage of family support and student performance.

REFERENCES

Devadoss, S., & Foltz, J. (1996). Evaluation of Factors Influencing Student Class Attendance and Performance. *American Journal of Agricultural Economics, Vol. 78, No. 3* , 499-507.

G.C., D., & L.V., E. (1985). The effect of attendence on student learning in principles of economics. *American Economic Review Papers and Proceedings* , 343-346.

Grendon P., P. P. (2005). *"Does Attendance Matter? Evidence from an Ontario ITAL",* . Retrieved September 3, 2012, from Discussion Paper, The Business School, Humber institute of Technology and Advanced: http://economics.ca/2005/papers/0483.pdf

Hanushek, E. A. (1997). Assesing the Effects of School Resources on Student Performance: An Update. *Educational Evaluation and Policy Analysis, Vol. 19, No. 2* , 141-164.

Marburger, D. (2006). Absenteeism and Undergrad Exam Performance. *Journal of Economic Education, Vol. 32, No. 2* , 99-109.

Park, K., & Kerr, P. (1990). Determinants of Academic Performance: A multinominal logit Approach. *Journal of Economic Education 21* , 101-111.

Petress, K. (1996). "The Dilemma of University Undergraduate Student Attendance Policies". *College Student Journal, Vol. 30, No. 3* , 387-389.

Romer, D. (1993). Do Students Go to Class? Should They? *Journal of Economic Perspectives 7* , 167-174.

Saha, L. J. (1983, Febraury). Social Structure and Teacher Effects of Academic Achievement: A Comparative Analysis. *Comparative Education Review, Vol. 27, No. 1* , pp. 69-88.

Schmidt, R. (1983). Who Maximizes What? A Study in the Student Time Allocation. *American Economic Review Papers and Proceedings 73* , 23-28.

Wikianswers. (2005). *Wikipedia, Research Material for Business Professionals*. Retrieved July 17, 2012, from Wikipedia: http://www.wikipedia.org/wikianswers/expost facto research design

Wyatt, G. (1992). Skipping Class: An Analysis of Absenteeism among First Year College Students. *Teaching Sociology, Vol. 20, No. 3* , 201-207.