Khulna University Studies Volume 20(2):347-357: 2023

ORIGINAL ARTICLE

SOCIAL SCIENCE

IMPACT OF PEDAGOGICAL PRACTICES ON ACADEMIC PERFORMANCE: PERCEPTIONS OF THE STUDENTS OF KHULNA UNIVERSITY

Deepty Sarder* and Mohammed Ziaul Haider

Economics Discipline, Khulna University, Khulna-9208, Bangladesh

KUS: 313: 17072023

Manuscript submitted: September 17, 2022 Accepted: July 17, 2023

Abstract

This paper investigated whether the teaching practices employed in the learning process had an impact on the academic performance of Khulna university students. A total of 180 samples were drawn from students of Khulna University, following the stratified random sampling method. Student assessment on the teaching activities of course instructors was conducted which offers a demonstrable and measurable means of determining the degree of pedagogical practices in the system of higher education. Using statistical techniques such as multiple regression methods, the study found a significant relationship between pedagogical practices and the course-level performance of university students. We constructed three indexes, namely the communication skill index, subject knowledge index, and teaching strategy index covering 12 teaching practices of teachers. The analysis showed that an increase of one decimal point in the value of each of these indexes led to an average increase in the course grade by 0.53, 0.58, and 0.62 units, respectively. The study also found that personal attributes of students, such as their interest in the course and total study hours, were significant determinants of academic performance. Therefore, the study suggested that enhancing teaching practices, including providing feedback, fostering in-class and out-of-class interaction, and bolstering teachers' subject knowledge, can serve as effective tools for improving the academic performance of Khulna University students.

Keywords: Pedagogy, Communication skill, Subject knowledge, Students' attributes, Academic performance

Introduction

In low-income countries, the education system often lacks the resources to support effective pedagogy, which refers to the art and practice of teaching and the interaction between teachers and students that leads to learning. However, the literature on teaching practices in the context of developing countries over-simplified the concept of pedagogy. In developed countries, a shift from formalistic to teaching-for-meaning approaches occurred in the 1960s, leading to active learning and constructivist approaches (Barrett, 2007). Meanwhile, developing countries still largely use teacher-centered or traditional approaches. Both traditional and progressive teaching activities exist worldwide, but appropriate teaching practices should be applied in consideration of students' cultural and socioeconomic backgrounds. It remains questionable whether progressive pedagogies are appropriate for under-resourced education systems.

A study by Bietenbeck (2014) found that traditional and modern teaching practices have different effects on students' cognitive skills. While traditional teaching is effective in increasing students' factual knowledge and competency in solving routine problems, modern teaching practices promote reasoning skills. Another study by Cordero and Gil-Izquierdo (2018) showed a positive association between traditional teaching methods and students' proficiency in mathematics, while innovative active learning strategies had a negative influence on academic attainment. However, the study by Ganyaupfu (2013) found that the teacher-centered method is the least effective teaching method. Therefore, a combination of traditional and modern teaching approaches may be better for the education system of any country. This article presents a list of pedagogical practices for higher education in

*Corresponding author: <deeptysarder81@gmail.com >

DOI: https://doi.org/10.53808/KUS.2023.20.02.313-ss

Bangladesh, considering its socioeconomic characteristics. The study focuses on a larger number of explanatory variables to understand how teachers' classroom instructions influence the outcome of courses. While constructivist practice has been found to have a positive association with student achievement (Newmann et al., 1996), this study did not focus on any specific approach and allowed different teaching styles to be part of the study. To design pedagogical practices, the study looked at the daily instruction and interaction techniques of teachers. The study included a range of courses taught in the last semester during the reference year, and while some instructors may not have followed standard pedagogical practices, the design allowed for different teaching styles to be included. The impact of pedagogical practices on students' academic achievement was identified, and individual factors such as age, gender, and socioeconomic status were also considered.

This paper adopted a linear modeling approach and, thus estimated the coefficients of pedagogical variables as well as personal attributes of students using individual-level cross-sectional data. We specifically focused on explanatory variables, i.e., teaching strategy, communication skill, teachers' knowledge of the subject, and the teaching method that teacher followed while conducting the course from students' perspective. A questionnaire survey was conducted among the randomly selected students from each batch of all of the Disciplines at Khulna University. Analyses revealed the association of different pedagogical practices of teachers with the course-level attainment of students. Finally, the study brought a set of recommendations to improve the pedagogical practices of teachers for the better performance of university students. The rest of the paper is organized as follows. Section 2 critically reviewed previous literature. Section 3 unfolded the methodology of the study. Section 4 discussed descriptive statistics, and the results of regression analysis. Finally, section 5 concluded with policy implications.

Literature Review

Pedagogy is a highly complex blend of theoretical understanding and practical skill (Lovat & Mackenzie, 2003). What constitutes pedagogy is complex and the definition remains somewhat vague to others (Cogill, 2008). Watkins and Mortimer (1999) define it as 'any conscious activity by one person designed to enhance the learning of another' (p, 3). Westbrook (2013) outlines that it comprises teachers' ideas, beliefs, attitudes, knowledge, and understanding about the curriculum, the teaching and learning process, and students. Alexander's definition is considerably simple as he defines teaching as an act while pedagogy is both an act and discourse. Largely, pedagogy is an interactive process between a teacher and learner (Siraj-Blatchford et al., 2002). van Manen (2007) as cited in Rahim (2013) asserts that 'the pedagogical understanding involves seeing the student as a person and involves opening oneself as an instructor to a student so that the student can see the instructor not as an authoritarian figure in the class, but as a person to assist them in learning' (p. 77). Bernstein's (1990) explanation of pedagogy is in between the performance model and the competence model. While the performance model is all about visible pedagogies where the teacher formally provides a guideline to the students how they should learn, the competence model is invisible pedagogies with an informal approach where learning outcomes remain unfocused (Bernstein, 1990; Westbrook, 2013).

'Effective pedagogy' and 'authentic pedagogy' are some terminologies often overheard with the term 'pedagogy'. Effective pedagogy implies those teaching and learning activities that make some observable and measurable change in students learning (Westbrook, 2013). The study of Newmann et al. (1996) introduced the term 'authentic pedagogy' where they presented specific standard practices of pedagogy that are consistent with constructivist or active learning approaches. They regarded higher-order thinking, substantive conversation, deep knowledge, and connections to the world beyond the classroom as the standard authentic pedagogy for classroom instruction. Lingard et al. (2003) redeveloped Newmann's categories for classroom practices and included a broader range of practices. They identified that an individual teacher's practices contribute more to student outcomes than that of the whole institution, holding student background constant.

Many researchers focused on pedagogical content knowledge or content knowledge of the teacher (Gess-Newsome et al., 2019). Studies find that both better content knowledge and pedagogical content knowledge lead to higher student achievement (Hills et al., 2005; Kleickmann et al., 2013). Some studies found subject knowledge of teachers exerts a statistically significant impact on student achievement holding student's characteristics constant (Kukla-Acevedo, 2009; Metzler & Woessmann, 2012). Some studies argued that pedagogical content knowledge of teachers has more impact on student achievement than those who have only content knowledge (Hills et al., 2005; Voss et al., 2011).

Along with the subject knowledge of the teacher, teaching strategy and teachers' effect were the concern of many researchers and educators. Teaching strategies are techniques of approaching students through appropriate methods and materials. The study of Weston and Cranton (1986) defined it as an instrumental strategy. The more teachers perceive themselves as capable of performing effective teaching practices, the more their students experience positive learning outcomes (Edwards et al., 2007; Costa et al., 2015). Furthermore, the study of Giridharan and Raju (2016) confirmed that teaching strategy and teacher effect resulted in highly significant gains in engineering students' academic achievement. In a nutshell, a general conclusion is drawn from preceding studies that pedagogy improves student performance (Brooks & Solheim, 2014).

Although behaviorism was widely practiced in the educational landscape 20 years ago, recently the most practiced learning theory is constructivism (Boghossian, 2006). Behaviorist pedagogy is an approach that supports the idea that a teacher is the sole authority figure and students learn through reinforcement and constant feedback. Thus, behaviorism supports teacher-controlled or centered approaches. It may result in practices such as lecturing, demonstration, routine learning, memorization, imitation/copying, or 'masterclasses' (Westbrook, 2013). Recently policymakers and researchers are moving away from 'teacher-centered' pedagogic approaches to more 'student-center', or 'teacher-student' center or 'active' learning approaches (Husbands & Pearce, 2012). Li et al. (2022) found that there is a positive correlation between strong teacher-student connections and elevated student motivation and academic achievement.

Constructivism is generally contrasted with behaviorism (Hassad, 2011). It supports multiple teaching approaches and strategies. There are many types of constructivism such as, cognitive, critical, radical, and social but the most recognized two forms of constructivism are cognitive or Piagetian constructivism, and social constructivism (Boghossian, 2006; Hassad, 2011). However, the core notion remained same to them that learners construct their knowledge. Broadly speaking, students can be active participants in the learning process by exploring their environment and seeking to find the implication of their experiences (Boghossian, 2006).

The theoretical underpinnings of prevailing empirical literature presented us to a path where we found the scope of conducting a study in the context of Bangladesh focusing on the impact of pedagogical practices on the academic attainment of university students while taking along students' attributes. To overcome the constraints of prior research, this article aims to explore the following research questions that align with its main objective:

i. How do teaching methods impact the results of a course?
ii. How do teachers' pedagogical practices impact the academic performance of Khulna University students?

Materials and Method

Participants

The study included only under-graduate students as survey participants. In 2018, information obtained from the website of Khulna University stated that there was a total of 5,616 students enrolled in six different schools, as well as various certificate and diploma programs. A school is equivalent to a faculty in the Khulna University. Among the then on-going students, about 80 percent of students were enrolled in the undergraduate program. So, the population was 4,493. The sample size was limited to 180 due to convenience. Information was collected through a questionnaire survey instead of a one-to-one interview. Respondents had filled up the questionnaire by themselves. Considering the qualification of respondents (educated), this strategy was applied in this study. The questionnaire covers relevant issues of the topic, i.e., teaching practices by teachers, responsiveness, learning practices, and student's performance on course.

Data Collection

A questionnaire was created to gather feedback from students about their experience in a specific course taught by a specific teacher. The questionnaire consisted of questions that asked students to rate various aspects of the course instructor on a 5-point scale, ranging from strongly disagree (1) to strongly agree (5). The survey was conducted using a disproportional stratified random sampling method, and data was collected voluntarily from respondents in the middle of 2018. The survey included students from 24 different disciplines at Khulna University, and the data collected is cross-sectional in nature. The questions asked about various aspects of the course, such as the teacher's

communication with students, whether feedback was given regularly, whether the lesson plan addressed the course's aims and objectives, and whether in-class discussions were encouraged.

Data Analysis

The measurement of student's academic performance has received considerable attention in the literature. Academic performance was measured in several ways- for instance, Cumulative Grade Points Average (CGPA), Grade Points Average (GPA), and test result. Most of the preceding researchers used the GPA to measure the student's academic performance (Broh, 2002; Darling et al., 2005; Mushtaq & Khan, 2012). They used GPA to measure students' performance in a particular semester. Some other researchers measured students' performance through the result of a particular subject or the previous year's result (Hake, 1998; Hijazi & Naqvi, 2006; Mushtaq & Khan, 2012). In this study, we decided to measure student performance by looking at the grades they received in a randomly selected course from the previous semester or term. We used a variety of explanatory variables, including dummy variables, Likert scales, continuous variables, discrete variables, and categorical variables, depending on the type of data being analyzed. We used quantitative analysis methods, and the multiple regression method was deemed appropriate for this cross-sectional study with a continuous dependent variable. Other statistical tests such as the Cronbach's alpha test, Variance Inflation Factor (VIF) test, and descriptive statistics tools were also applied to investigate the impact of pedagogical practices on students' achievement. To analyze our data, we used Stata 14, which helped to make the analysis of our key research questions more efficient.

Results

Descriptive Result

Table 1 provides an overview of the variables analyzed. The majority of the participants were male, accounting for two-thirds of the total, while one-third were female. The age group with the highest representation was 20-22 years, comprising 60 percent of the respondents. The age groups of 23-25 years and 17-19 years accounted for 37 percent and 3 percent of the sample, respectively. The study included participants from six schools at Khulna University, with the highest number of respondents from the Science Engineering and Technology School, accounting for 36 percent, followed by the Life Science School, which represented approximately 32 percent of the total sample.

Regarding their expenditure, most respondents reported spending less than $83 per month, with 31 percent spending between $83-$130, 9 percent spending between $131-$178, 2 percent spending between $179-$226, and 3 percent spending more than $226 per month. The majority of students' expenses were covered by their parents, with 26 percent of students managing their expenses on their own. In terms of monthly family income, the largest proportion of respondents (26 percent) reported an income between $236-$353, followed by 24 percent of respondents reporting an income between $118-$235.

The results showed that a teacher-oriented teaching method was used in 35% of courses, while a student-oriented method was only used in 7% of courses. A combination of both methods was used in 58% of courses. Participants reported experiencing various teaching practices such as instructional lecture delivery, communication skills, showing interest in students, understanding of the subject, use of modern teaching instruments, feedback, encouraging questions, following the syllabus, in-class discussion, delivery of lecture materials, providing additional care, and in-class and out-of-class interaction. The reported percentage of these practices ranged from 59% to 87%, with an average of approximately 77%.

Table 1. Descriptive Statistics at Baseline

Baseline Characteristics	Frequency (N)	Percentage (%)
Gender		
Female	59	32.78
Male	121	67.22
Age Group		
17-19 Years	6	3.33
20-22 Years	108	60.0
23-25 Years	66	36.67
School		
Arts and Humanities	16	8.89
Fine Arts	10	5.56
Life Science	58	32.22
Management and Business Administration	8	4.44
Science Engineering and Technology	64	35.56
Social Science	24	13.33
Respondent's Individual Expenditure (US$/Month)		
Less than $83	96	53.33
$83-$130	56	31.11
$131-$178	17	9.44
$179-$226	4	2.22
More than $226	7	3.89
Source of Education Expenditure		
Parents	123	68.33
Relatives	2	1.11
Tuition	47	26.11
Loan	1	0.56
Others	7	3.89
Family Income (US$/Month)		
Less than $118	16	8.89
$118-$235	44	24.44
$236-$353	46	25.56
$354-$471	26	14.44
$472-$589	18	10.00
More than $589	30	16.67
Teaching Method *		
Teacher-oriented Method	64	35.56
Student-oriented Method	12	6.67
Teacher-student Oriented Method	105	57.78
Teaching Practices *		
Instructional Lecture Delivery	145	80.56
Communication Skill	156	86.67
Takes Interest in Students	129	71.67
Understanding of Subject	154	85.56
Use of Modern Teaching Instrument	138	76.67
Feedback	123	68.33
Encouraging for Questions	147	81.67
Following Syllabus	157	87.22
In-class Discussion	139	77.22
Delivery of Lecture Materials	130	72.22
Providing Additional Care	106	58.89
In-Class and Out-class Interaction	123	68.33

[a]*Note: Number of participants is 180. Participants were on average 22 years old (SD = 1.32),*
[b] ** Reflects the number and percentage of participants answering "yes" to this question.*

Summary of Regression Analysis

The results from multiple regression models presented in Table 2 demonstrate a positive impact of pedagogical practices on students' grades. Prior to conducting the analysis, the study utilized the VIF test to identify variables that were appropriate for inclusion in the regression models. The test results revealed no significant issue with multicollinearity, as the mean VIF ranged from 4.41 to 5.25, as shown in Annex Table A.3, Annex Table A.4, and Annex Table A.5.

In order to further explore this impact on educational attainment, six models were constructed. Model 1 used a dummy variable to represent whether a teacher employs pedagogical practices, and the results suggest that students achieve higher grades when their instructors follow such practices. Specifically, students in courses with pedagogical practices had, on average, a 0.278 unit increase in grades ($p<0.01$) compared to those in courses without such practices, controlling for other factors. This finding is consistent with prior research by Brooks and Solheim (2014) and Westbrook et al. (2013).

Model 2 used a 5-point Likert scale to measure the level of pedagogical practices, with a higher score indicating better practices. The results showed that a shift from a lower to an immediate upper level of practices led to a 0.581 unit increase in average grades ($p<0.01$), with an R-squared value of 0.41 indicating that the considered explanatory variables explained around 41 percent of the variation in grades.

This study utilized Yes/No responses for Model 3 and 5-point Likert scale responses for Model 4 to construct indexes, which were analyzed for reliability using Cronbach's alpha test (Annex Table A.2). All pedagogical variables displayed good reliability and can be used for further analyses such as index formation and regression analysis.

Model 3 suggests that an increase in teacher's communication skill index by one decimal point results in a 0.25 unit increase in grades ($p<0.05$), whereas an increase in teacher's subject knowledge index by one decimal point leads to a 0.14 unit increase in grades on average ($p<0.05$). Similarly, a one decimal point increase in the teacher's teaching strategy index value results in a 0.35 unit increase in grades on average ($p<0.01$). The R-squared value of 0.36 indicates that the explanatory variables of Model 3 explain roughly 36 percent of the variation in grades. On the other hand, Model 4 suggests that a one decimal point increase in the teacher's communication skill index, teacher's subject knowledge index, and teacher's teaching strategy index lead to an average increase of 0.53, 0.58, and 0.62 units in grades respectively ($p<0.01$). The R-squared value of 0.39 indicates that the explanatory variables of Model 4 explain approximately 39 percent of the variation in grades.

In Model 5, various teaching factors were expressed using dummy variables. The analysis shows that although there is a positive impact of in-class and out-of-class interaction on grades, it is not statistically significant. The study found that teachers' proper subject knowledge is associated with better grades. On average, students' grades are 0.209 units higher ($p<0.05$) when taught by a teacher with proper subject knowledge compared to one who lacks it. Moreover, teachers who provide feedback regularly have a positive impact on students' grades. On average, the students' grades are 0.173 units higher ($p<0.05$) when taught by a teacher who maintains a feedback practice compared to one who does not, while holding other factors constant. Model 5 has an R-squared value of 0.36, indicating that the explanatory variables in the model account for roughly 36 percent of the variation in grades. This information highlights the importance of subject knowledge and feedback practices in improving student performance in academic settings.

In Model 6, we measured pedagogical variables using a 5-point Likert scale. The study found that even small improvements in in-class and out-of-class interactions, teacher subject knowledge, and feedback-taking can lead to significant increases in student grades, with increases of 0.338, 0.532, and 0.308 units, respectively ($p<0.01$). Similarly, improvements in teacher-student oriented teaching methods also resulted in higher student grades. Our model had an R-squared value of 0.41, indicating that the variables we considered explained approximately 41 percent of the variation in student grades.

Table 2. Impact of Different Pedagogical Practices on Obtained Grade

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pedagogical practices [Yes=1, No=0]	0.278***	0.581***	-	-	-	-
Communication Skill Index	-	-	0.254**	0.526***	-	-
Subject Knowledge Index	-	-	0.141**	0.581***	-	-
Teaching Strategy Index	-	-	0.346***	0.616***	-	-
In-class and out-class interaction	-	-	-	-	0.035	0.338***
Subject knowledge of teacher	-	-	-	-	0.209**	0.532***
Feedback taking	-	-	-	-	0.173**	0.308***
Teacher-student oriented method	-	-	-	-	0.041	0.087
Course taken by departmental teachers	0.039**	0.036**	0.041*	0.039**	0.041**	0.035**
Total Study Hour	0.039***	0.035***	0.039***	0.04***	0.039***	0.042***
Source of expenditure of education [Tuition=1; Other=0]	-0.133**	-0.144***	-0.128**	-0.131**	-0.12**	-0.111**
Sex [Female=1; Male=0]	-0.051	-0.018	-0.08	-0.085	-0.081	-0.073
Interest in course	0.099***	0.079***	0.095***	0.081***	0.096***	0.072**
Level of course [Base Year=1st Year]						
2nd Year	-0.162	-0.135	-0.134	-0.154	-0.108	-0.177
3rd Year	-0.027	-0.011	0.022	0.008	0.048	-0.013
4th Year	-0.144	-0.162	-0.12	-0.166	-0.112	-0.189
Number of class taken	0.001	0.0004	0.001	0.001	0.0003	0.0005
Constant	2.782***	2.736***	2.692***	2.645***	2.664	2.733
R-squared	0.37	0.41	0.36	0.39	0.36	0.41

Note: Number of Observation:180, Model 1: Yes/No Question on Over-all Pedagogical Practice; Model 2: Likert Question on Over-all Pedagogical Practice; Model 3: Index of Yes/No Questions on Pedagogical Practices; Model 4: Index of Likert Questions on Pedagogical Practice; Model 5: Yes/No Question about Individual Pedagogical Practices; Model 6: Likert Question about Individual Pedagogical Practices. *** p<0.01, ** p<0.05, * p<0.1.

According to this study, there are several factors that have a significant impact on a student's performance in a course. Apart from teaching methods and practices, personal attributes such as study hours and interest in the course have a positive influence on grades. Additionally, the source of education expenditure is also found to be a significant factor affecting grades, with students who manage their expenses through tuition having lower grades compared to those who receive support from parents, relatives or loans. It was also observed that taking a course with a teacher from one's own department leads to higher grades on average. However, gender, level of course, and the number of classes taken did not show any significant influence on grades, despite being expected to do so.

Conclusion & Policy Implications

This study demonstrates that the use of effective pedagogical practices, such as good communication skills, subject knowledge, and teaching strategies, has a significant impact on students' grades. The study also highlights the importance of providing regular feedback to students and fostering in-class and out-of-class interactions. However, gender, level of course, and the number of classes taken did not show any significant influence on grades. The article suggests that the findings also have important implications for various stakeholders, including course instructors, universities, and others. The study indicates that effective pedagogical practices, such as using lesson plans, encouraging in-class discussion, and incorporating modern teaching instruments, can enhance students' grades. Moreover, the study highlights the significance of generating interest in students by creating an inner quest and implementing a self-generated or institutional training guided teaching philosophy.

The findings suggest that policymakers should prioritize the training and development of teachers in these areas to improve the quality of education. Additionally, policymakers should consider providing financial support to students to alleviate the burden of educational expenses and ensure that they have access to resources that enhance their learning experience. In conclusion, this study's results suggest that investing in effective teaching practices and supporting students' educational needs can lead to better academic outcomes.

Acknowledgement

We express sincere gratitude to our participants and our families for their unwavering support and invaluable contributions to this work. Thank you all.

Conflict of Interest

The authors declare no conflict of interest.

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Appendix

Table A.1. Construction of Indexes

Indexes	Items
Communication Skill Index (CSI)	i) Communication while delivering lecture, ii) In-class and out-class interaction, iii) Interactive teaching learning approach.
Subject Knowledge Index (SKI)	i) Understanding of subject, ii) Delivery of required knowledge, iii) Delivery of real life examples.
Teacher's Teaching Strategy Index (TSI)	i) Feedback taking, ii) Use of lesson plan, iii) Following course curriculum, iv) Provided additional care, v) Take suggestion of students about assessment practices

Table A.2. Summary of Cronbach's Alpha Test

Variables	Number of Items	Mean	Standard Deviation	Cronbach's Alpha Test
Communication Skill of Teacher	7	3.54	1.34	0.78
Subject Knowledge of Teacher	3	3.49	1.33	0.70
Teaching Strategy of Teacher	8	3.32	1.38	0.71

Table A.3. VIF Test for Regression Model 1 and Model 2

Variables	Model 1		Model 2	
	VIF	1/VIF	VIF	1/VIF
Pedagogical Practices of Teacher	1.11	0.903	1.20	0.830
Course Taken by Departmental Teachers	1.11	0.905	1.10	0.907
Total Study Hour	1.07	0.935	1.08	0.927
Source of Expenditure of Education	1.17	0.857	1.17	0.855
Sex	1.13	0.882	1.14	0.876
Interest in Course	1.21	0.825	1.26	0.797
Level of Course [Base Year=1st Year]				
2nd Year	14.35	0.069	14.35	0.069
3rd Year	16.96	0.059	16.93	0.059
4th Year	12.98	0.077	12.99	0.077
Number of Class Taken	1.06	0.942	1.07	0.935
Mean VIF	5.21		5.23	

Table A.4. VIF Test for Regression Model 3 and Model 4

Variables	Model 3		Model 4	
	VIF	1/VIF	VIF	1/VIF
Teacher's Communication Skill Index	1.56	0.639	2.24	0.446
Teacher's Subject Knowledge Index	1.51	0.664	2.13	0.469
Teacher's Teaching Strategy Index	1.59	0.628	1.93	0.517
Course Taken by Departmental Teachers	1.13	0.882	1.12	0.892
Total Study Hour	1.08	0.927	1.12	0.893
Source of Expenditure of Education	1.18	0.845	1.20	0.832
Sex	1.18	0.851	1.16	0.863
Interest in Course	1.24	0.805	1.32	0.758
Level of Course [Base Year=1st Year]				
2nd Year	14.70	0.068	14.84	0.067
3rd Year	17.31	0.058	17.51	0.057
4th Year	13.19	0.076	13.35	0.075
Number of Class Taken	1.08	0.926	1.08	0.929
Mean VIF	4.73		4.92	

Table A.5. VIF Test for Regression Model 5 and Model 6

Variables	Model 5		Model 6	
	VIF	1/VIF	VIF	1/VIF
In-class and Out-class Interaction	1.16	0.865	1.69	0.592
Subject Knowledge of Teacher	1.08	0.927	1.62	0.616
Feedback Taking	1.35	0.742	1.48	0.676
Practice of Teacher-Student Oriented Method	1.24	0.805	1.20	0.834
Course Taken by Departmental Teachers	1.16	0.866	1.17	0.856
Total Study Hour	1.09	0.917	1.13	0.882
Source of Expenditure of Education	1.19	0.838	1.19	0.837
Sex	1.18	0.845	1.18	0.851
Interest in Course	1.25	0.799	1.34	0.744
Level of Course [Base Year=1st Year]				
2nd Year	14.66	0.068	14.78	0.067
3rd Year	17.45	0.057	17.68	0.057
4th Year	13.43	0.074	13.50	0.074
Number of Class Taken	1.13	0.887	1.08	0.925
Mean VIF	4.41		4.54	