Academic Counselling: A Positive Analysis for Investigating the Role of Teacher–Student Interaction at Business Schools

Ahmed F. Siddiqi

The study investigates the relationship between cognitive and affective outcomes of the quality of teacher–student interaction at different business schools in Pakistan. As early as 1936, Kurt Lewin recognized that the environment was a determinant of human behaviour and performance. Following Lewin's work, Murray proposed a Needs-Press model in which situational variables found in the environment account for a degree of behavioural variance. Attempts were also made to study situational variables found in the environment that affect the learning process, on the one hand, and students' professional performance, on the other. A multi-stage stratified random sampling plan was used to select a sample from business schools at Lahore, Islamabad, Multan and Karachi. Stratification was done first at the ownership level, where the two strata consist of public and private sector schools. At the second stage, three strata were made according to the students' background, where students coming from English-medium schools, semi-English-medium schools and vernacular-medium schools were placed in three strata. In the third stage, the stratification was done on a gender basis. In the final stage, students were selected using systematic sampling. Such a multi-stage stratification plan permitted us to do an in-depth analysis of the whole process of teacher–student interaction. The study identifies the types of interactions that are most likely to enhance students' progress in business administration courses. It also identifies the important factors inhibiting or encouraging, teacher–student interaction. Further, it provides suggestions to enhance this interaction process.

Introduction

The scientific analysis of educative processes has led to a more detailed examination of the process of teaching, which is intended to make the teacher more aware of all that is involved in a piece of instruction. Teaching is not supposed to be confined only within a classroom, but also involves non-classroom counselling. Broadly speaking, the function of teachers is to help students learn by imparting information and knowledge to them and

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by setting up such an atmosphere in which students can become successful professionals in their ensuing careers. Effective counselling plays a critical role in cultivating students' educational, vocational and psychological potentialities and effectively helps students achieve an optimal level of personal happiness and social usefulness. It also helps students to adjust themselves to campus life, to effectively pursue curricular as well as co-curricular activities, to develop their abilities for making wise choice and plans about their education and career, and most importantly, sketch a pragmatic picture of the practical world waiting for them in a few years time.

Very early on, Kurt Lewin (1936) recognized that the environment is a strong determinant of human behaviour and performance. Following Lewin's work, Murray (1938) proposed a Needs-Press Model in which situational variables found in the interactive environment accounted for a degree of behavioural variance. Many research programmes, focused on developing instruments that could be used to assess the interactive environment between a teacher and a student, were subsequently conducted. Herbert Walberg's teacher–student interaction Environment Inventory (see Anderson and Walberg 1968) and Rudolf Moos' Classroom Environment Scale (Moos and Houts 1968; Moos and Trickett) were among the first few instruments developed to assess students' perceptions of their interactive/learning environment. Primarily, these studies focused on the objectivity and quantitative assessment of different environmental factors on different facets of students' outcome. Since then, the influence of the teacher–student interaction environment on the education process has received a great deal of attention, and there has been much progress in the conceptualization and assessment of interactive environments (Fraser 1994, 1998). Whilst different approaches, both qualitative and quantitative, have been used in conducting research in the field of learning/interactive environments, the use of statistical surveys to assess students' perceptions has been the predominant method.

Past studies of interpersonal teacher behaviour have indicated that this important element of the interactive environment is strongly related to student outcomes. A study conducted among Australian science and mathematics teachers found that those teachers emphasizing leadership, friendly and understanding behaviours were more likely to promote student achievement. It also was found that those teachers who were perceived as less strict were more likely to promote positive attitudes, whilst those who were perceived as more strict were likely to promote better achievement (Wubbels 1993). The study of interpersonal teacher behaviour is important not only for facilitating students' outcomes, but also for improving competence of the teacher in classroom communication, and for helping to provide the social and emotional backup that s/he needs in reaching out to students.

To measure students' and teachers' perceptions of the latter's interpersonal behaviour, Wubbels and his colleagues developed an objective questionnaire on teacher interaction (QTI) in the Netherlands (Wubbels et al. 1993). This instrument has also been used in Singapore by Fisher et al. (1997), Goh and Fraser (1998), in Korea by Kim et al. (2000), in Indonesia by Soerjaningsih et al. (2001) and in Australia by Fisher et al. (1997). In each

case it has been found that the quality of interaction between teachers and students is an important determinant of students' achievement and attitudes in their careers. This relatively new area in teacher–student interaction environment research involving the QTI has focused mainly on secondary science and mathematics classes in the Netherlands, the USA and Australia, while Soerjaningsih et al. (2001) in Indonesia experimented with QTI in tertiary education.

The present study has been conducted primarily to study situational variables found in the Pakistani educational environment that are affecting the learning process, on the one hand, and students' performance, on the other. For the sake of ease, I have focused on tertiary education at different business schools in Pakistan. A multi-stage stratified random sampling plan was used to select a sample from business schools at Lahore, Islamabad, Multan and Karachi. The following section explains different features of the survey, including its objectives, design and set of hypotheses to be tested, while the last section spells out the findings.

The Survey: Precincts and Methodology

The present survey has the potential to create a clearer picture of classroom contexts and patterns of teacher–student interaction that are needed at the post-graduate level, especially in business education, for students to attain good academic performance and positive attitudes. Such a study provides information that teachers can use to modify their interactions with students in order to cater more adequately to their needs. It also examines the nature and impact of two factors of learning productivity—interpersonal teacher behaviour and student aptitude—on the affective and cognitive outcomes of university students in Pakistan.

Objectives

Some of the salient objectives for conducting this survey include quantitative investigation into:

1. The effect of teacher–student interaction on the grades of the student.
2. The effect of teacher–student interaction on the career of the student.
3. The effect of students' background on their ability to interact with teachers.
4. The effect of the students' institution on their ability to interact with teachers.
5. The number of factors encouraging or inhibiting students in such an interaction and the veracity of each of them.

Definitions

The survey focuses on fresh offsprings of business schools in Pakistan. I am calling them *students* for convenience, instead of giving them some complex literal name. The other thing that needs to be explained is the term 'better student'. I am defining, in this survey, a better student as one who (*i*) bags at least B+ grades, (*ii*) manages to have an early job (less than six months on the road), or (*iii*) manages to have a job with a monthly salary of at least Rs 10,000. In some business schools, it is mandatory for students to visit, quite regularly, their batch or programme, advisers for one or other reason. The primary purpose of such a visit is usually some institutional or policy matter. Such a visit should

not be confused with academic or career counselling. In this survey, counselling means only academic or career counselling, unless otherwise mentioned. The rest of the terms and phrases are used in their common and widely accepted meanings.

Target Population

Fresh graduates from B-schools, in their first or second jobs or looking for their first job in public and private sectors at Lahore, Islamabad, Multan and Karachi have been considered in the study. So all students having graduated in or after 2000 constitute my target population. Questionnaires were filled on 23 and 24 May 2004. The reason for selecting the above-mentioned cities is the significant and active presence of the private sector business schools in those cities.

The selection of business schools is also very important. There are numerous business schools in the private sector of each of the selected cities. It is true that the graduates from some of the business schools are as good as those from internationally recognized universities. But it is also a fact that students graduating from some schools are not at par with others (see Kazmi 2001). To make the sample as representative as possible, it should also have a representation of these low profile schools. As far as the selection of business schools in the private sector is concerned, I have also taken help from Rukhsana and Murtaza (2004), who classified different business schools with respect to their offsprings' starting salaries. The sample business schools are listed in Table 1.

Sample Size

One of the most crucial questions is the selection of an apposite sample size for such a diverse population. The sample should be large enough to let us go deep into different corners of this population and analyse it tangibly. But it should not be too large to cover in terms of time and resources. Keeping in view the discussions by Adcock (1997) and DeSantis et al. (2004), and the results of a pilot study conducted in Lahore with the actual questionnaire, a sample size of 200 (approximately 10 per cent sampling) according to *Pakistan Education Statistics* 2001–02 (Ministry of Education 2003) students would be enough to accommodate and appraise variability in the data. Table 2 shows how this total sample is distributed to select different types of students.

Table 1
Selected B-schools in Sample Cities

Cities	*Institutes*
Lahore	1. Institute of Business Administration, University of Punjab, Lahore.
	2. Lahore University of Management Sciences, Lahore.
	3. University of Management & Technology, Lahore.
Islamabad	4. Quaid-i-Azam University, Islamabad.
	5. Bahria Institute of Management & Computer Science, Islamabad.
	6. Muhammad Ali Jinnah University, Islamabad.
	7. National University of Science & Technology, Islamabad.
Multan	8. Baha-ud-din Zakriya University, Multan.
Karachi	9. Hamdard Institute of Management Sciences, Karachi.
	10. Institute of Business Administration, University of Karachi, Karachi.

Sample Design

Recognizing the heteroscedastic nature of the population, I have used a multistage stratified random sampling plan. At the first stage, stratification was done with respect to locale of the business schools. Using an equal allocation scheme (as discussed by Cochran [1977: 90]), one-tenth of the sample was selected from each of these schools. Then, at the second stage, a split was introduced according to ownership of the business schools by categorizing them into public sector, private sector, or foreign schools. At the third stage, in each of these strata, segmentation was done with respect to the medium of education. At the fourth stage, the sample was stratified according to gender. At the final stage, systematic random sampling was used to select students by arranging them into convenient groups. The reason for a systematic sample was the assumption that variability within such a convenient group is lesser than overall variability (see Cochran 1977: 208). Table 2 shows the details of such a sampling plan, giving the number of students selected at each stage.

The data was collected by making use of the alumni record of these selected institutions. Then enumerators were arranged to approach selected students in different cities. All the enumerators were MBA students at the University of Management & Technology, Lahore, who were requested to get the questionnaires filled in.

Hypotheses

Translating the objectives mentioned earlier into specific statistical hypotheses enables their testing through exclusive statistical procedures. Here is the set of hypotheses for this survey.

> **Hypothesis 1:** The teacher–student interaction is positively conducive for a better student.

As a matter of fact, 'better student' is a very general term and its measurement is indirect and purely subjective. Here we need to keep in view the definition of a good student as one who has good grades on her/his transcript, one who manages to get an early job, or one who manages to have a good starting salary. In terms of statistical hypotheses, these traits may be translated as:

> H.1.1 *Teacher–student interaction is positively conducive to better grades.*
> H.1.2 *Teacher–student interaction is positively conducive to an early job.*

Table 2
Selected Students

Selected Students		*Medium of High School Education*				
Graduated from	*Gender*	*English*	*Semi-english*	*Vernacular*	*Sub-total*	*Total*
Public Sector	Females	10	4	12	26	
	Males	23	11	26	60	86
Private Sector	Females	11	8	6	25	
	Males	27	12	31	70	95
Foreign Universities	Females	7	1		8	
	Males	4	2	5	11	19
Total		82	38	80		200

H.1.3 *Teacher–student interaction is positively conducive to a good starting salary.*

Hypothesis 2: The pattern of teacher–student interaction is different between public and private sector business schools.
Hypothesis 3: The pattern of teacher–student interaction is different between males and females.
Hypothesis 4: The pattern of teacher–student interaction is different between students coming from English-, semi-English-, and vernacular-medium high schools.
Hypothesis 5: Above all, students look for a friendly attitude in their counsellors.

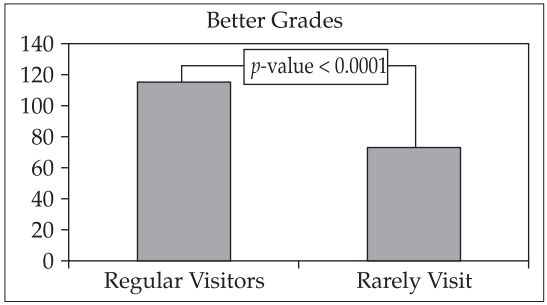
Survey Results

Let us apply exclusive statistical techniques to reach at some decision regarding the hypotheses. I have used SAS for statistical analyses of the survey's data, while MS Excel was used for graphical analyses. The following sections detail the findings for the individual hypotheses.

The Teacher–Student Interaction is Positively Conducive for Better Grades

Figure 1 shows corresponding statistical testing (using independent sample t statistics) with corresponding p-value. There should be no confusion in accepting the positive role of teacher–student interaction. Such a tiny p-value (< 0.0001) reveals that there exists strong positive association between better grades and larger frequency of visiting teachers. So Hypothesis 1.1 is true, and there exists a positive association between the number of times a student visits a teacher for counselling and her/his grades.

Figure 1
Testing Overall Association between Better Grades and Academic Counselling



Apart from this overall association, this relationship may be studied according to different types of students selected in this sample. Such a categorized study enables us to identify different patterns of teacher–student interaction. Table 3 statistically tests such a categorized association according to gender, ownership of schools and the type of high schools selected.

The results are quite revealing. The association is highest among students coming from English-medium high schools. There is no such association at all among students from semi-English medium high schools, and the association is significant among the offsprings of vernacular-medium schools, but it is not as high as among the students coming from English-medium high schools. In other words, Hypothesis 4 does not hold true, at least not in case of good grades. The pattern of significance is not different between public and private sector business schools. So Hypothesis 2 is also not true for good grades. The pattern of significance is not different between the genders. So Hypothesis 3 again is not true for good grades.

Table 3
Measure of Association between Better Grades and Teacher–Student Interaction

High School Education from	*Graduated from*	*Gender*	χ^2	*p-value*
	Public Inst.	Female	20.40	0.016***
		Male	34.04	0.000***
English Medium	Private Inst.	Female	16.622	0.055**
		Male	29.036	0.001***
	Foreign Inst.	Female	14.00	0.030**
		Male	4.00	0.046*
	Public Inst.	Female	4.00	0.261
		Male	11.00	0.088
Semi-English Medium	Private Inst.	Female	8.5	0.075
		Male	15.00	0.091
	Foreign Inst.	Female	—	—
		Male	—	—
	Public Inst.	Female	13.20	0.040*
		Male	24.941	0.003***
Vernacular Medium	Private Inst.	Female	7.50	0.112
		Male	31.034	0.000***
	Foreign Inst.	Female	—	—
		Male	5.00	0.082

Notes: 1. The asterisks show statistical significance for corresponding association. One asterisk shows a smaller significance, while three asterisks mark the highest.
2. The last two columns provide the details of statistical testing for these categorized associations. A small *p*-value in the last column shows a positive association in the corresponding category.

Table 4 uses a different approach to study the visiting patterns of different types of students. The last two columns provide correlation coefficients for different categories of students. Interestingly, the coefficients in the last column are all positive and quite strong in magnitude, especially as compared to the coefficients in the penultimate column, where these are negative and small in magnitude. Making use of the statistical definition of the correlation coefficients, the table shows a positive association between the grades and the number of visits to the teacher/counsellor.

Table 4
Correlation between Final GPA and Frequency of Visit

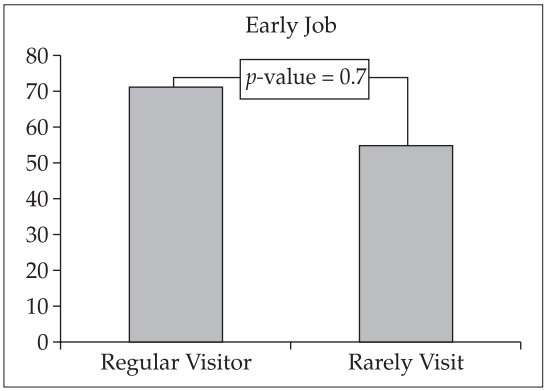
Graduated from	*Gender*	*Correlation for Advisers (Batch and Programme)*	*Correlation for Counsellors or Teachers*
Public Inst.	Female	–0.094	0.873
Private Inst.	Male	0.084	0.758
	Female	0.018	0.864
Foreign Inst.	Male	–0.268	0.739
	Female	0.593	0.836

There are different rationales for such a categorized association, and these demand an independent survey. The table shows the trend towards a not-so-good quality of education imparted in semi-English-medium schools. Varied types of semi-English-medium schools have sprouted in lower- and lower-middle-class localities. They have not adopted the culture and atmosphere of purely English-medium schools and haven't been able to out grow the legacies of Urdu as a medium of education. The positive association among students of vernacular-medium schools is quite interesting.

Teacher–Student Interaction is Positively Conducive for an Early Job

Here, the situation is entirely different. A statistical test of association between an early job and teacher–student interaction, shown in Figure 2, results in no association at all. The corresponding *p*-value is quite large which results in poor, or no association. So Hypothesis 1.2 is not true.

Figure 2
Testing Overall Association between an Early Job and Academic Counselling



Many reasons having their roots in the socio-politico-economic conditions prevailing in Pakistan are responsible for this non-association. Despite tall claims by the government, even the *Economic Survey 2003–4* (Government of Pakistan 2004) has shown that unemployment is on the rise, small and medium-sized industries are not showing their potential, GDP to investment ratio is not increasing at a significant rate, etc. All these lead to this non-association.

Table 5 attempts to find out a positive association by splitting the overall sample into different categories. Positive association exists only for male students graduated from private sector business school with an English-medium high school education. Actually, these students represent the elite, or upper class of Pakistani society. So an early job is quite understandable. Further, this significant association is biased for the same reason. In fact, there does not exist a significant association between the number of times a student visits her/his counsellor and an early job. Using Table 5, one can state that the pattern of significance is not different between public and private sector business schools. So Hypothesis 2 is not true, at least not in case of an early job. Similarly, it is not different between the genders. So Hypothesis 3 is also not true for an early job. Again, the pattern of significance is not different between students with high school education from English-, semi-English-, or vernacular-medium schools. So, Hypothesis 4 is not true, at least not in case of an early job.

Table 5
Measure of Association between an Early Job and Academic Counselling

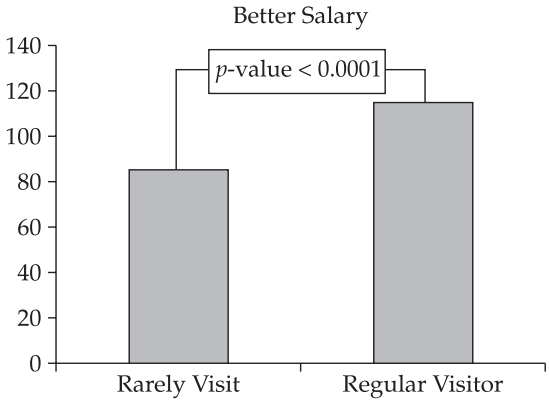
High School Education from	*Graduated from*	*Gender*	χ^2	*p-value*
	Public Inst.	Female	1.2	0.753
		Male	23.460	0.003
English Medium	Private Inst.	Female	13.982	0.123
		Male	34.088	0.001***
	Foreign Inst.	Female	7.194	0.303
		Male	4.00	0.261
	Public Inst.	Female	4.00	0.261
		Male	5.704	0.457
Semi-English Medium	Private Inst.	Female	9.00	0.061
		Male	3.00	0.392
	Foreign Inst.	Female	—	—
		Male	—	—
	Public Inst.	Female	5.025	0.170
		Male	4.587	0.598
Vernacular Medium	Private Inst.	Female	4.667	0.587
		Male	9.182	0.164
	Foreign Inst.	Female	2.22	0.136
		Male	—	—

Notes: 1. The asterisks show statistical significance for corresponding association. One asterisk shows a smaller significance, while three show the highest.
2. The last two columns provide details of the statistical test for these categorized associations. A smaller *p*-value in the last column shows a positive association in the corresponding category.

Teacher–Student Interaction is Positively Conducive for Better Starting Salary

The situation here is not very different from what we have seen in case of better grades. To the most extent, the reasons for such an association are also the same. Figure 3 shows the statistical test for an overall association between better starting salary and teacher–student interaction, with a very small *p*-value.

Figure 3
Testing Overall Association between Early Job and Academic Counselling



So Hypothesis 1.3 does hold true. Table 6 categorizes this association for different types of students. Last column of Table 5, together with the number of asterisks, is showing how strong, or weak, this association is in different classes of the surveyed population. A smaller *p*-value (given in the very last column) shows a positive association in the corresponding category. The asterisks are showing statistical significance for corresponding association. One asterisk shows a smaller significance, while three shows the highest. Comparing it with Table 3 reveals a slightly weaker association between teacher–student interaction and a better starting salary, but still it is significant.

Table 6
Measure of Association between Better Salary and Academic Counselling

High School Education from	*Graduated from*	*Gender*	χ^2	*p-value*
	Public Inst.	Female	21.00	0.050*
		Male	23.400	0.003**
English Medium	Private Inst.	Female	13.982	0.123
		Male	34.088	0.001***
	Foreign Inst.	Female	7.194	0.303
		Male	4.00	0.261
	Public Inst.	Female	4.00	0.135
		Male	11.00	0.202
Semi-English Medium	Private Inst.	Female	16.00	0.014**
		Male	24.30	0.019**
	Foreign Inst.	Female	—	—
		Male	—	—
	Public Inst.	Female	9.00	0.342
		Male	27.46	0.007
Vernacular Medium	Private Inst.	Female	12.00	0.151**
		Male	31.00	0.000
	Foreign Inst.	Female	10.00	0.125***
		Male	—	—

Notes: 1. The asterisks show statistical significance for corresponding association. One asterisk shows a smaller significance, while three show the highest significance.
2. The last column shows the strength/weakness of association. A smaller *p*-value shows positive association in the corresponding category.

Using Table 6, one can also vindicate that:

1. The pattern of significance is not different between public and private sector business schools. So Hypothesis 2 is not true, at least not in case of a better starting salary.
2. The pattern of significance is not different between the genders. So Hypothesis 3

is not true, at least not in case of a better starting salary.

3. The pattern of significance is not different among students with high school education from English-, semi-English- or vernacular-medium schools. So Hypothesis 4 is not true, at least not in case of a better starting salary.

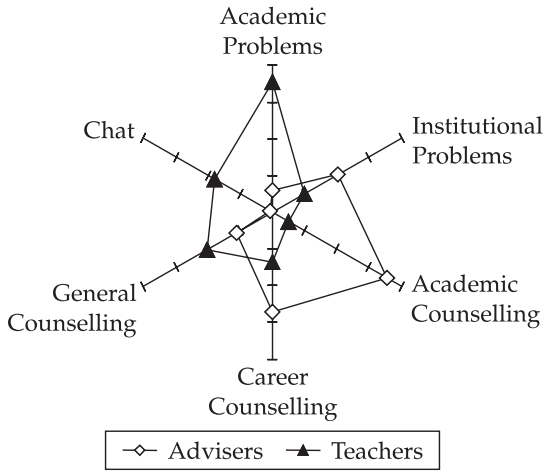
It is quite interesting to observe a highly significant correlation (of the value 0.771***) between good grades and better starting salary. This becomes more conspicuous when there is no significant relationship either between good grades and an early job, or between better starting salaries and early job.

Important Reasons for Visiting Teachers and Advisers

The second objective of the survey is to identify important reason(s) for students, at business schools, to visit their batch/programme advisers or teachers/counsellors. Figure 4 shows a multidimensional graph showing the percentage-wise breakup of students visiting their batch/programme advisers or teachers/counsellors.

Figure 4 shows that students visit batch/programme advisers for some specific problems or counselling, mainly academic or career counselling. Next, students visit teachers/counsellors more for all sorts of counselling. Using a factor analysis, employing principal component method and a correlation matrix for factor extraction, we see that specific counselling is the most important reason for visiting batch/programme advisers, leaving academic problems out of analysis. The factor analysis also reveals that this single factor explains 86 per cent of the total variability present in the data. In case of visiting teachers/counsellors, general counselling, career counselling and chat turn out to be the most important factors (leaving academic problems out of analysis), explaining 87 per cent of the total variability present in the data.

Figure 4
Different Reasons for Visiting Teachers and Advisers

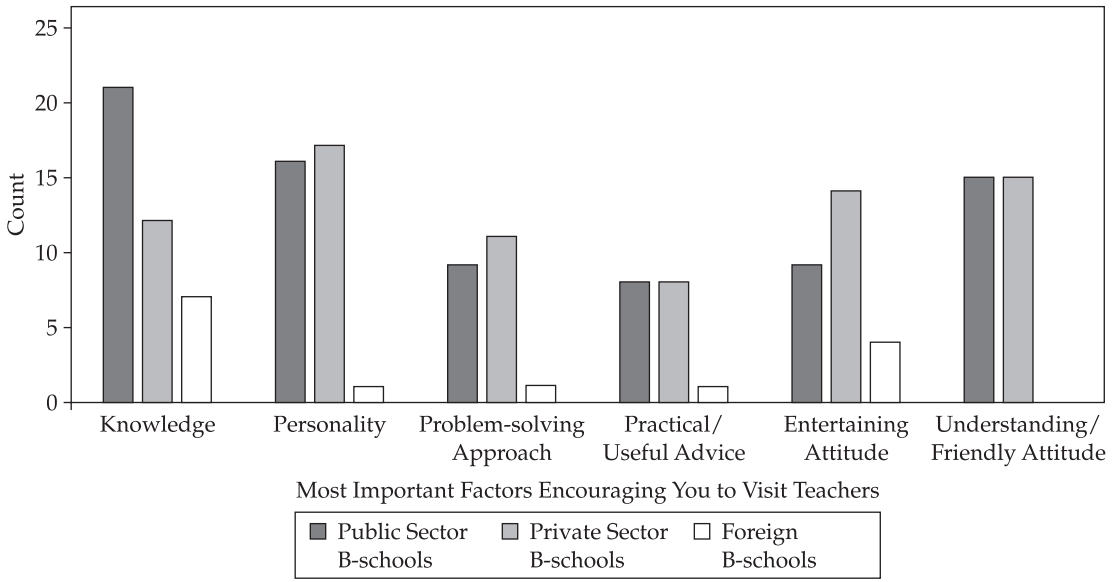


Factors Encouraging and Discouraging Students to Visit Counsellors

Another important objective of the survey is to rummage for a factor, or a set of factors, encouraging and discouraging students to visit their counsellors. Figure 5 clusters (with respect to type of business school) the personality traits of teachers/counsellors which are most admired.

The figure shows the most desirable traits among a list of 10 factors, including knowledge, personality, problem-solving approach, practical/useful advice, entertaining attitude, understanding/friendly attitude, big-brother attitude, administrative attitude, admonishing attitude and similarity of mother-tongues. It reveals that offsprings of public

Figure 5
Important Factors Encouraging Students



sector business schools say that knowledge is the supreme quality that attracts them toward their teacher/counsellors. Personality, understanding/friendly attitude and entertaining approach are among the other important factors. Students of private sector business schools say that the personality is the supreme quality that attracts them toward their counsellors. Understanding/friendly attitude, entertaining attitude and big-brother approach are among the other important factors. As far as Hypotheses 2, 3 and 4 are concerned, these are true, at least in this case.

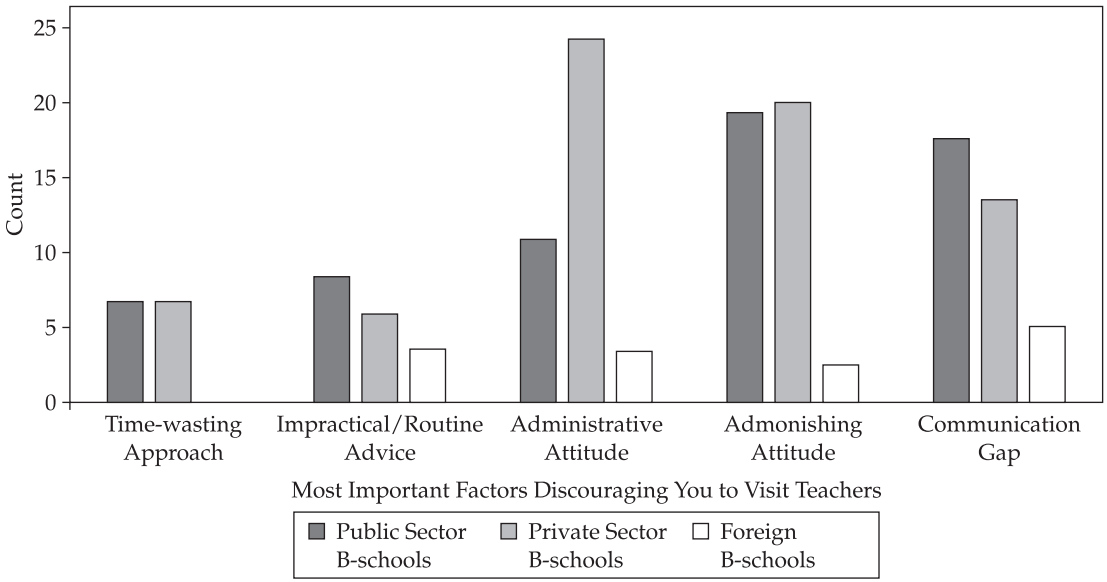
Figure 6 depicts the least liked traits of teachers/counsellors among a list of seven factors, including obsolete knowledge, communication gap, time-wasting approach, impractical/routine advice, administrative attitude, admonishing attitude and dissimilarity of mother-tongues.

The figure reveals that offsprings of public sector business schools dislike an admonishing attitude the most in teacher/counsellors. Communication gap and administrative attitude are among the other important factors that are not liked by students. Those from private sector business schools say that administrative attitude is the worst thing in teacher/counsellors. Then follow admonishing attitude, and communication gap as other important inhibiting factors. As far as Hypotheses 2, 3 and 4 are concerned, these are true, at least in this case.

Concluding Remarks

The present study was undertaken primarily to examine teacher–student interpersonal behaviour and its impact on the achievement and attitudes of students at the university

Figure 6
Important Factors Discouraging Students



level in Pakistan. The study also investigated whether there were differences between the public and private sector, between males and females, and among English-medium, semi-English-medium and vernacular-medium high schools in terms of teacher–student interpersonal behaviour. It provided valuable information to universities in which the data was gathered for guiding the development of strategies for improving classroom practices, management and administration policies for business-related courses.

Hypotheses regarding the positive bearing of frequent counselling on grades (Hypothesis 1.1) and better starting salaries (Hypothesis 1.3) have been statistically rendered true. While there does not exist any statistical evidence that frequent counselling has any affect, positive or negative, on early job prospects (Hypothesis 1.2), as far as the hypotheses (Hypotheses 2, 3 and 4) regarding a different pattern of association are concerned, there does exist a varied pattern in cherished or hated qualities that encourage or discourage students in approaching their teacher/counsellors.

Overall, the findings of the present study make several distinctive contributions to the field of counselling environments. It was one of the few teacher–student interaction environment studies to be carried out in Pakistan and one of only a handful of teacher–student interaction environment studies carried out at the university level worldwide. The study provides comprehensive validation information for questionnaires used to measure teacher–student interaction and student attitude towards business-related studies.

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