

Effects of Teaching Style on Student's Satisfaction through the Mediating Role of Teacher's Behavior and Qualification

Nadia Javed*

Ph. D. Scholar Superior University, Lahore, Pakistan

Nisar Ahmad Bazmi

Ph. D. Scholar Superior University, Lahore, Pakistan

Abstract

In today's modern era where research is the key to do anything new or to make improvements in the existing system or business so it is important for a researcher to write down articles about the various subject matters that would help people in understanding new things and adding value to the existing knowledge about the subject matter. Most of the teachers use different types of teaching styles with the intent of making learning more effective and increasing the satisfaction level of students. On the basis of the feedback provided by students, they assess the teaching style that is most effective and that satisfies the needs of the students. Recent studies have showed that student satisfaction is measured by looking at factors like the behavior of teachers, the environment of study and many other factors. So we have assessed the effect of teaching style on student satisfaction through the mediating role of teacher's behavior and qualification. This article focuses on the methods used by teachers, their behavior and delivery style. On the basis of the results and analysis it can be concluded that both teachers' qualification and their behavior has its direct impact on student satisfaction. The conclusion that was drawn from the results was that the mediating role teacher qualification and behavior mediates the relationship between independent and dependent variables.

Keywords: Satisfaction; Mediating role; Improvements; Teacher's behavior; Qualification.

1. Introduction

1.1. Research Background

Aligning the teaching style with student's satisfaction through the mediating role of teacher's behavior and qualification has become very important in academic institutions to understand. Academic institutions are increasingly hiring highly educated and experienced staffs that have *effective teaching style*¹ to boost up the *student's satisfaction*³. The underlying concept behind this framework is the teaching style which enhances the student satisfaction. Teacher's qualification is a factor along with teaching experience which has been widely studied as it highly affects the teaching style. As per the system design of Pakistan education till intermediate level it is based on bookish knowledge but at higher level understanding of concepts is more important.

1.2. Rationale of Research

In academic institutions the quality of the institutions is widely determined through teaching style and the level of student's satisfaction. This framework has been widely used across the globe. Therefore, the study on the effects of teaching style on student's satisfaction through the mediating role of teacher's behavior and qualification is very important to determine the academic institutions performance. Hence, this research is aimed to study those effects of teaching style on student satisfaction via the mediating role of teacher's behavior and qualification. The results of this study will contribute in the existing literature by providing the theoretical model that will explain how the way of delivering instructions and teaching methodologies effects student's satisfaction considering the role of teacher's behavior and qualification. Moreover, the results will also provide theoretical background to policy makers that how they can develop effective management strategies related to the way of delivering and teaching methodologies to enhance the student's satisfaction level.

1.3. Research Objectives

The objectives of our research are as follows:

The main objective of our study to analyze the effect of teaching style on student's satisfaction through the mediating role of teacher's behavior and qualification.

The sub objective of our study is to analyze the positive relationship between teaching style and student satisfaction through mediating role of teacher qualification and behaviors.

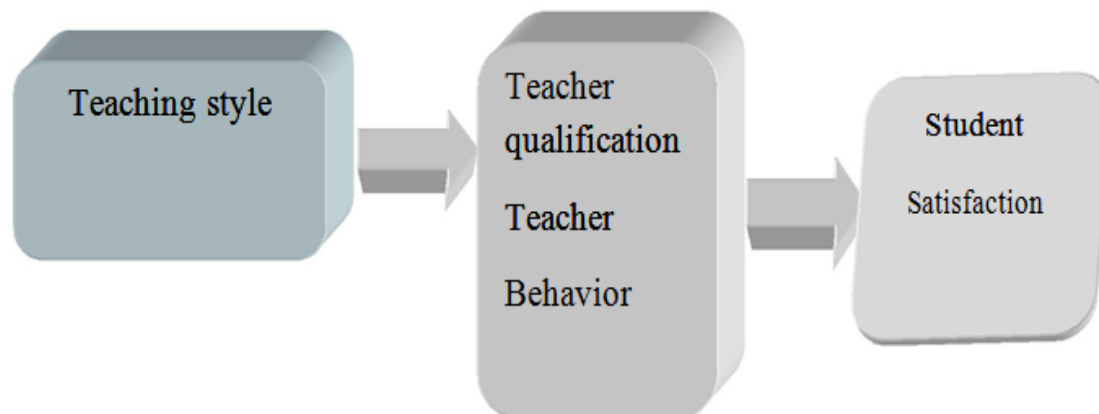
1.4. Problem Statement

In today's era of dynamic change, education plays a vital role. Effectiveness of teaching style is very important in any institution. In this study we want to analyze the effects of teaching style on student's satisfaction

*Corresponding Author

as for us the *output produced*⁴ by the students is not important. Moreover it enables the students to think in a wider prospective.

1.4.1. Theoretical Model



1.5. Research Variables

In this research we have selected three variables which we will use to conduct our research.

1.5.1. Independent Variable

It is a variable that is varied or manipulated by the researcher. In this study our independent variable is teaching style as we will see that how different teaching styles result in different levels of student satisfaction. To study this variable we will consider the teaching methodologies and way of delivering instructions.

1.5.2. Dependent Variable

It is a variable that is to be measured in the study and is affected by the independent variable.

Our dependent variable is student's satisfaction level. We will analyze student satisfaction level by looking the feedback of students.

1.5.3. Mediating Variable

It is a variable that is kept constant and is unchanged throughout the study. Our mediating variable is teacher's qualification and behavior. As we are targeting the student satisfaction level of university students so the qualification of the teachers is decided by Higher Education commission of Pakistan. The criterion of the appointment of teachers for university is given on the HEC website (Higher Education Commission)

2. Literature Review

This study is designed to identify and analyze the effect of teaching style on student's satisfaction through teacher's qualification and behaviors. An effective and positive behavior of a teacher is the most important element in students satisfaction. Iqbal (1996) describes that there is a gap between students and teachers of understanding and learning. Teacher plays a dynamic role in the education sector .The overall educational sector of developing countries like Pakistan has been affected by poor education system. Darling-Hammond and Youngs (2002) say "teacher are considered primary custodians of performance and quality in the education sector and effective learning depends on quality of teaching which requires individuals who are academically able and who care about the wellbeing of children and youth. Therefore, teacher as a key source can help educational institutions to achieve sustainable success. In the education sector teaching effectiveness is an essential part to improve the quality of higher education. However, teaching effectiveness comes from the personal motivation, perception, and satisfaction in the teachers' job. The merit incentive compensation system is directly linked to teachers' motivation and perception, which also directly or indirectly results in satisfaction of students .In this study we will discuss the effects of teaching style on student satisfaction through mediating role which involve, 1) that how different teaching styles result in different levels of student satisfaction. To study this variable we will consider the teaching methodologies and way of delivering instructions. 2) dependent variable is student's satisfaction level. We will analyze student satisfaction level by looking the feedback of students. The control variable is teacher's qualification and teacher behaviors and style like their teaching style, qualification may directly affect the students' learning behavior. Effective teaching plays a vital role to gain student satisfaction. In order to improve students' learning behavior and satisfaction regarding their courses, effective teaching has direct effect on increasing students' quantitative academic outcomes (Darling-Hammond *et al.*, 2001). In order to increase student's satisfaction, teaching quality can be used as a tool (Rockoff, 2004) where teaching methodologies and qualification mediate the impact of teaching quality on students' satisfaction.

Firstly we will discuss the performance of teachers as a good teacher who has a responsibility to fulfill all desirable traits and uphold the standards and norms of the profession. And also includes characteristics like honesty, hardworking, competence, commitment, and motivation. But quality teachers are also considered to be those who bring about "student learning." These teachers are called "effective" (Berliner, 1987;2005) or "successful"

(Fenstermacher and Richardson, 2005). Distinguish between good teaching and successful teaching is as follows: By “good teaching” we mean that the content taught accords with disciplinary standards of adequacy and completeness and. By “successful teaching” we mean that the learner actually acquires some reasonable and acceptable level of proficiency from what the teacher is engaged in teaching. In many countries, teacher qualifications that are considered to be related to student learning have become targets of education reform. However, the nature of this reform is under debate. Effective teachers performance can easily get effective student learning behavior .because effecting teaching knows all the determinant that help students to develop a deep approach to study conceptual manner this helps teacher to modify better teaching methodology and styles. It also helps them to improve the improper methods of teaching through policy makers and implement strategy to increase learning efficiency of education .To increase individual productivity and better academic achievements students followed this approach to improve learning behavior and satisfaction. Earlier studies focused on improving teacher quality .Teacher quality has a strong impact on increasing the students ability ,apitude to improve family background, student work ethics, and develop better environment .this increases overall economic growth in developing countries like Pakistan.

2.1. Teaching Styles

There are many elements that deeply effects teaching styles to gain student satisfaction such as,

- Teaching environment
- Proper attention
- Qualification and experience of teacher

A traditional teaching style is the most important thing to discuss. However if we match it with new teaching styles through improving new type of course are predictable. These courses include “information technology computer programming, such as library practice lessons. Felder and Henriques (1995) evaluates teaching style and learning process in foreign where Langlois and Thach (2001) in the theoretical background. Yaliz *et al.* (2009) evaluates learning styles ofteaching on student satisfaction and also discusses the advantages and disadvantages. “Advantages are identified as the reduction of stress and anxiety, stimulating interaction, reducing repetitive lessons, promoting teamwork, creating a conducive environment for increased learning and retention of knowledge, enhancing motivation, promoting a relaxed in the learning environment, and adding entertainment”. On the other hand, “there are some disadvantages that may create stress and embarrassment when incorrect answers are given, can become a hindrance in learning and competition can be seen as a threatening, cost that increases the difficulty in assessing individual competencies when teams are involved, require special preparation which can be time consuming, and may require instruction and background to provide a successful technique. Different researchers have described different teaching styles to gain student satisfaction. Gregorc (1979) indicated that a “teaching style consists of a teacher’s personal behaviors” when teacher behaves with students in friendly environment of a class room to gain students attention.

2.3. Students’ Perceptions of Teaching Styles

Since student satisfaction is achieved by the influence of teacher’s action. So it is important to understand the perception of students and relate it to the teacher’s qualification. To make learning more effective teachers try new and improved techniques. In a study that was recently conducted the writer attempted to study and predict performance by making improvements in the resources available and the methods of instruction. For measuring the effectiveness they used the GPA of the students to predict their performance in the course and then evaluated it by comparing actual grades in the course to the predicted grades. They concluded with some certainty that the amount of effect their change made in academic performance of students. This paper mainly focused on the method of assessment and measurement rather than the level of satisfaction of students after bringing changes in the methods.

In another study it was explored how the effects of different methods on the social interaction reported by the university students. They operationalized the effect of alternative methods on social interaction between students. This study highlighted the importance of teaching methods on how student network ties are an important factor in student outcomes. They examined the way techniques and class structure can influence student networks.

Relationship between service quality variables and student satisfaction was studied recently in a It also studied the factor that whether there is a difference in the satisfaction level of students who pay their tuition fee by themselves and those who have it paid by their parents or anyone else. The responses of students were measured via questionnaires that used a five point likert scale. A study was conducted to see whether it is more effective if the students are tasked to perform with remembering information rather than just remembering information. For this study a learning environment including application of knowledge was included to assess the effectiveness. The results showed that students build a better understanding of the main concepts more effectively when they actually get the opportunity to apply their knowledge.

3. Research Methodology

3.1. Research Philosophy and Approach

Research is a systematic way of finding and establishing the facts and figures based on the certain stages/processes. Therefore, it is important for the researchers to follow the guidelines. The role of researcher cannot be unbiased in interpreting the data collected. It is clear that researcher wants to test the existing theory in a different setting that teaching style has its effect on student satisfaction.

Three research approaches can be used and these include quantitative, qualitative and mixed methods. In quantitative research approach the researchers tests the existing theories objectively to determine the relationship between different variables through quantitative means of enquiry and data collection. However, in quantitative research approach, the researcher usually explores the understandings of individuals or groups about a particular social phenomenon. Since, the researcher wants to analyze the underlying relationship between teaching style and student satisfaction therefore quantitative research approach has been used.

3.2. Research Design

Research design provides a systematic order of research procedures and planned steps. Since, the researcher follows the quantitative research approach and wants to explore the relationship between different constructs therefore survey research design has been used in this study. Research design enables researchers to analyze the options, behaviors and attitudes if respondents through quantitative modes of enquiry and data collection.

3.3. Sampling

Studying the whole population is quite difficult and time taking in research. Therefore researchers use a representative sample to collect and analyze the data. Sample is a small representative proportion of a large population which possesses all unique characteristics of population. Our population was the total students that are in all universities and colleges of Lahore. Participants in this study consisted of students of five different colleges and universities of Lahore. They are as follows:

- 1) University of Central Punjab
- 2) University of Management and Technology
- 3) Forman Christian College
- 4) Kinnaird College
- 5) GC University

They were students of different backgrounds and fields. These were students of Bsc, Msc and M.phil. We used convenient sampling for our study as our study required a lot of Accommodation by the respondent so that we could find enough respondent who were willing to undergo the survey. Questionnaires have been floated in the above mentioned colleges and universities and data of 100 respondents has been collected.

We by ourselves went to the above mentioned colleges and universities and contacted the teachers to explain the purpose of the study. The questionnaires were delivered in person.

3.4. Instrument Design

In this study the researcher used survey technique for data collection. We used manual questionnaires to evaluate the effects of teaching style on student satisfaction. Questionnaire is a predesigned set of questions explaining the research problem in wider context so the respondents can answer each question within the defined criteria. A structured questionnaire consists of closed ended questions and our questionnaire consists of 22 closed ended questions. Closed ended questions restrict the respondents to answer the questions within the context and can be used for behavioral studies. Items in majority of the questions were rated using a five point likert.

4. Data Analysis and Results

We have used SPSS 20 for data editing and analysis and have employed descriptive statistics and inferential statistics to analyze the data. Frequency distribution has been used to find the data trends and dispersions in data set.

4.1. Discussing Each Question in the Questionnaire Individually

4.1.1. Question Number 1

Percentage Table. How satisfied are you when the learning objectives of the study are explained to you

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Satisfied	30	29.4	30.0	30.0
	Satisfied	49	48.0	49.0	79.0
	Neutral	17	16.7	17.0	96.0
Valid	Dissatisfied	1	1.0	1.0	97.0
	Strongly Dissatisfied	3	2.9	3.0	100.0
	Total	100	98.0	100.0	
Missing	System	2	2.0		
Total		102	100.0		

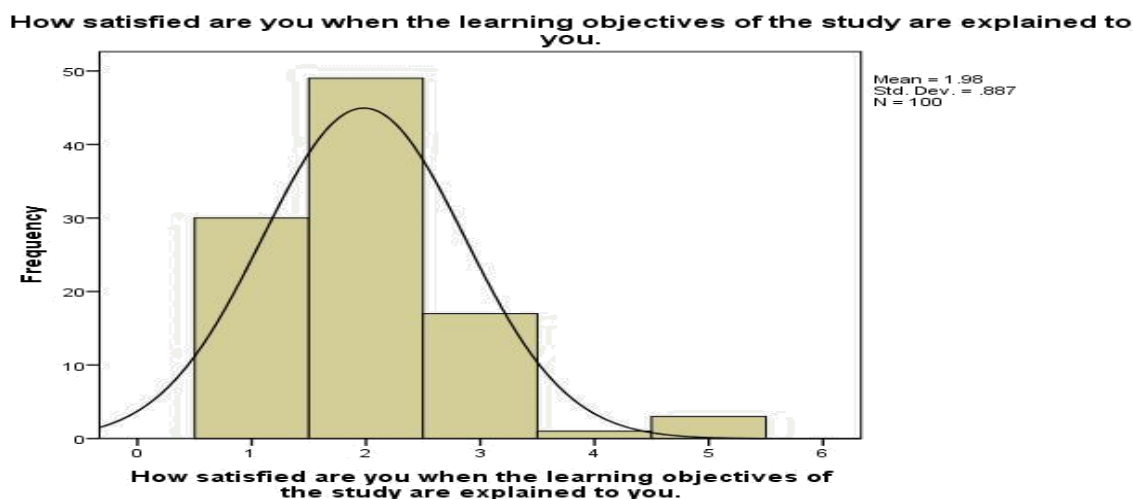
Crosstab

		How satisfied are you when the learning objectives of the study are explained to you					Total	
		Strongly Satisfied	Satisfied	Neutral	Dissatisfied	Strongly Dissatisfied		
Male		11	25	10		1	0	47
Gender								
Female		19	24	7		0	3	53
Total		30	49	17		1	3	100

As it can be seen in the first table that 30% students are strongly satisfied and 49% are satisfied. This shows that majority thinks that if the learning objectives are explained by the teacher to the students they tend to be more satisfied. As it can be seen in the cross tab table that among the 30% students who answered strongly satisfied consists of 11% males and 19% females. 49% students opted for the satisfied option consists of 25% males and 24% females.

These figures shows that a teacher who adopted a teaching style in which he/she explains the objective of the study to the student than its satisfaction level is strong as compared to when the students are not told about the learning objectives. Telling the learning objectives may increase the understanding level of students or may provide them a proper path for study.

You can see the histogram with normal curve below for this question.



The histogram shows the frequency and percentages as mentioned above in the discussion. The mean in this question is 1.98 and Standard Deviation is 0.887.

4.1.2. Question Number 2

Percentage Table. How satisfied are you if the assessment criteria for the study are explained to you

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Satisfied	20	19.6	20.0	20.0
	Satisfied	30	29.4	30.0	50.0
	Neutral	32	31.4	32.0	82.0
Valid					
	Dissatisfied	15	14.7	15.0	97.0
	Strongly Dissatisfied	3	2.9	3.0	100.0
	Total	100	98.0	100.0	
Missing	System	2	2.0		
Total		102	100.0		

Crosstab

		How satisfied are you if the assessment criteria for the study are explained to you.					Total	
		Strongly Satisfied	Satisfied	Neutral	Dissatisfied	Strongly Dissatisfied		
Male		9	15	10	11		2	47
Gender								
Female		11	15	22	4		1	53
Total		20	30	32	15		3	100

It can be seen in the percentage table that the highest percentage that is opted in this question is Neutral and its percentage is 32%. In this 32% males are 9% and females are 11%. 30% students opted for satisfied (Male: 15%, Female: 15%). This shows that majority says that student satisfaction is affected if the assessment criterion for the study is explained.

But some do think that they are dissatisfied if the assessment criterion for the study is explained. This may bring some pressure on the students who are dissatisfied.

The results can be seen in the histogram with normal curve on the next page.

This histogram shows the data that is discussed on the previous page which was shown in the

4.1.3. Question Number 3

If the teacher is competent and has up to date professional skills of teaching. Does it affects your satisfaction level?

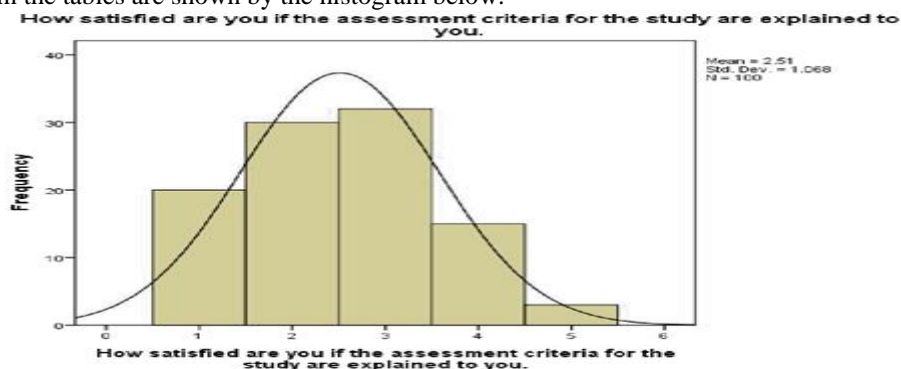
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Satisfied	25	24.5	25.0	25.0
	Satisfied	38	37.3	38.0	63.0
	Neutral	26	25.5	26.0	89.0
	Dissatisfied	7	6.9	7.0	96.0
	Strongly Dissatisfied	4	3.9	4.0	100.0
	Total	100	98.0	100.0	
Missing	System	2	2.0		
Total		102	100.0		

Crosstab

		If the teacher is competent and has up to date professional skills of teaching. Does it					Total	
		Affects your satisfaction level?						
		Strongly Satisfied	Satisfied	Neutral	Dissatisfied	Strongly Dissatisfied		
Male		11	25	7	3	1		47
Gender								
Female		14	13	19	4	3		53
Total		25	38	26	7	4		100

In the above two tables it can be clearly seen that the teacher is competent and has up to date professional skills of teaching which affects the way teacher delivers his or her lecture. Majority Students opted for satisfied which means that student satisfaction level is boosted if the teachers are competent and have up to date knowledge. 38% of the students have opted for satisfied option. In this 38% there are 25% males and 13% females. This shows that males are more satisfied than the females if the competency level and professional skills are up to date.

The results in the tables are shown by the histogram below:



4.1.4. Question Number 4

Is your satisfaction level boosted when the teacher provides you with the opportunity to give her/him feedback on the studies.

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes	76	74.5	76.0	76.0
Valid	No	24	23.5	24.0	100.0
	Total	100	98.0	100.0	
Missing	System	2	2.0		
Total		102	100.0		

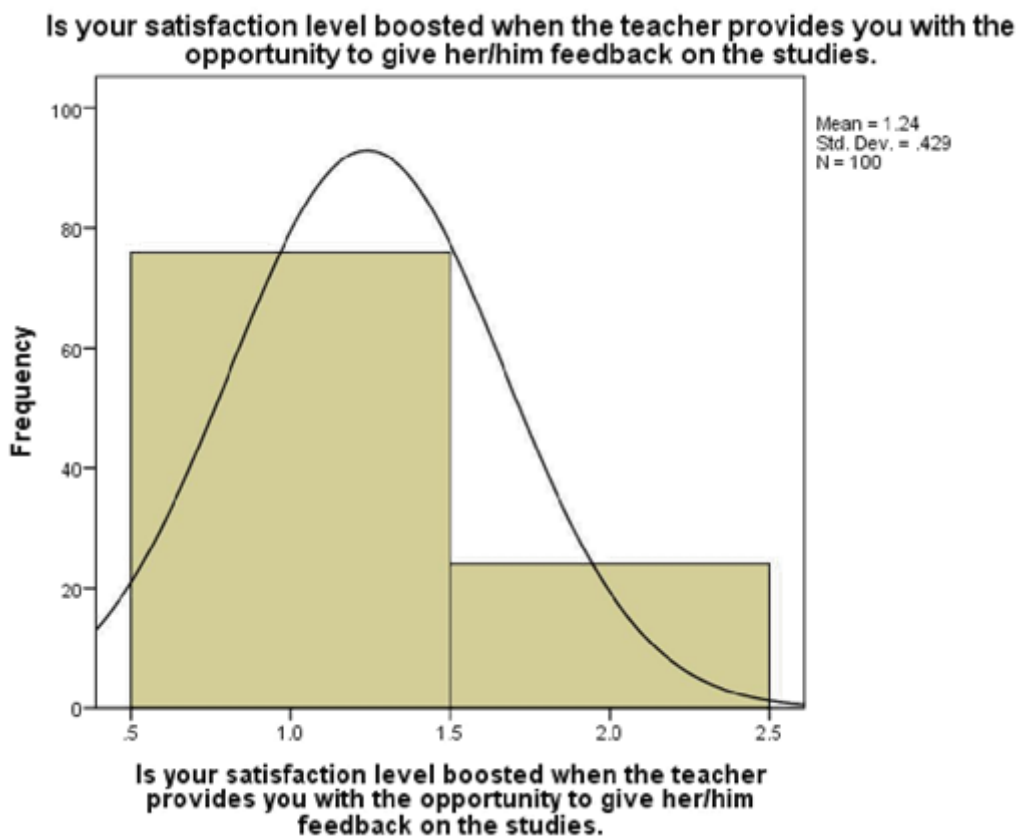
Crosstab

	Is your satisfaction level boosted when the teacher provides you with the opportunity to give her/him feedback on the studies.		Total
	Yes	No	
Male	36	11	47
Gender			
Female	40	13	53
Total	76	24	100

As it can be seen from the results if the teacher provides an opportunity to give him/her feedback on the studies than the satisfaction level of students is boosted as compared to when the teacher does not provides an opportunity to give feedback. In the cross tab table 35% of Males said yes and 40% of females said yes.

This means that teaching style includes the way a teacher gives an opportunity to students to discuss their feedback on studies.

These results are shown in the histogram below:



The mean of this question is 1.24 and the standard deviation is 0.429.

4.1.5. Question Number 5

Supportive feedback from teacher affects my satisfaction level

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	43	42.2	43.0	43.0
	Agree	37	36.3	37.0	80.0
	Neutral	16	15.7	16.0	96.0
Valid					
	Disagree	2	2.0	2.0	98.0
	Strongly Disagree	2	2.0	2.0	100.0
	Total	100	98.0	100.0	
Missing	System	2	2.0		
Total		102	100.0		

Crosstab Count

	Supportive feedback from teacher affects my satisfaction level						Total
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree		
Male	22	17	5		2	1	47
Female	21	20	11		0	1	53
Total	43	37	16		2	2	100

As shown in the above tables that it can be clearly seen that strongly agree has the highest valid percentage of 43% and we can conclude that the supportive feedback from teachers affects the level of student satisfaction level a lot.

We can also clearly see in the cross tab table that among 43% there are 22% Males and 21% Females.

The histogram above represents the data in the table. The mean in this question is 1.83 and 0.911

4.2. Discussion

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis		
								Std. Error	Std. Error		
Q1	100	4	1	5	1.98	.887	.787	1.190	.241	2.311	.478
Q2	100	4	1	5	2.51	1.068	1.141	.227	.241	-.645	.478
Q3	100	4	1	5	2.27	1.043	1.088	.688	.241	.148	.478
Q4	100	1	1	2	1.24	.429	.184	1.236	.241	-.482	.478
Q5	100	4	1	5	1.83	.911	.829	1.165	.241	1.536	.478

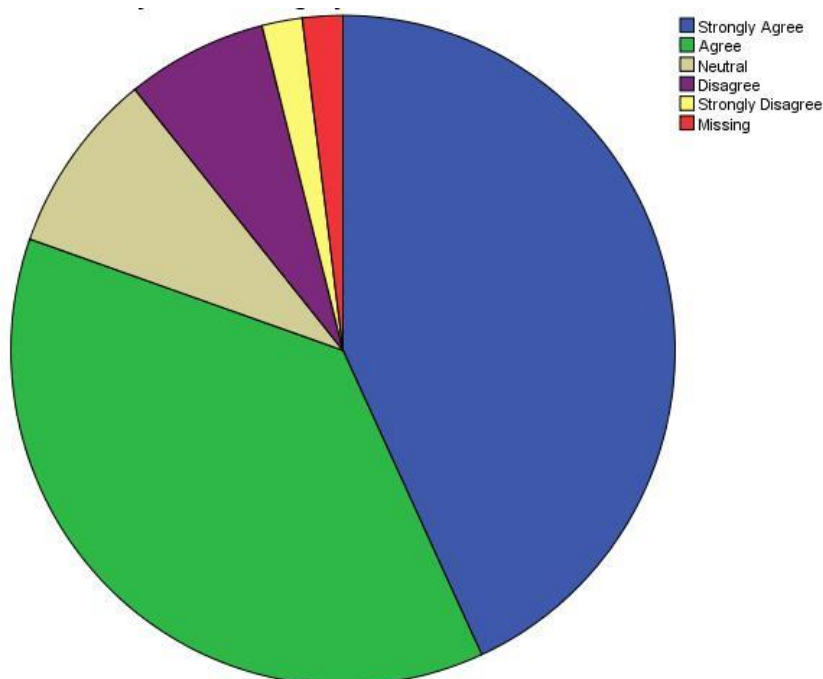
The purposes of the study were to examine effects of teaching style on student satisfaction through mediating role of teacher’s behavior and qualification and to determine this we studied the relationship between their apparent teaching style and learning strategies. A review of current literature indicated that independent and successful learning requires effective use of learning strategies. Therefore, it is crucial to understand how students approach learning and they are satisfied. Not only teaching styles of teachers but also students’ perceptions of their teachers’ teaching styles influence academic performance. Being aware of students’ perspectives can help teachers adjust their teaching styles to fit the individual students need.

Five research questions were posed and a data analysis was conducted to check the relationship between student’s satisfaction and teaching style. The descriptive statistics of the sample are shown in the table for each question given in the questionnaire.

Friendly environment between teachers and students is very important for gaining a desired student satisfaction level that is created while learning something. Teaching styles that encourages students to ask questions makes them feel more comfortable while learning and increases their level of satisfaction. When teachers do not get irritated and answer all questions calmly while teaching a topic than the level of student satisfaction is increased. Students prefer to study theoretical subjects using a multimedia rather than studying them orally.

Teachers who use various teaching methods in classrooms while teaching are able to increase the satisfaction level of students which would definitely result in higher levels of learning. This shows that if a teacher has a

teaching style of providing sufficient information and guidance to students' related studies than their satisfaction level is enhanced. If a teacher has a teaching style of building or focusing on concepts rather than just on the bookish knowledge than the satisfaction level of students is increased and they remain satisfied. Student satisfaction is affected if the assessment criterion for the study is explained. But some do think that they are dissatisfied if the assessment criterion for the study is explained. This may bring some pressure on the students who are dissatisfied. The way of delivering knowledge that students can understand is important. Does teaching style effects the level of student satisfaction through the mediating role of teachers behavior and qualification



5. Conclusion

Quality of academic institutions depends on several factors which involve infrastructure, quality of education and students satisfaction. Across the globe the governing authorities of academic institutions have developed quality frameworks but the student's satisfaction is the widely used element to evaluate the quality of institutions. The more the students are satisfied the more the institution possesses the quality. Though, another school of thought have a different point of view but students' satisfaction matters. In this study we have described the effect of teaching styles on students' satisfaction with the help of teachers qualification and different behaviors. On the basis of results and analysis it has been concluded that both teachers' qualification and behavior has a direct impact on students satisfaction and also significantly affects students satisfaction Finally the conclusion we have drawn from the analysis made is that the mediating role of teachers qualification and behaviors affects the relationship between independent and dependent variables.

5.1. Limitations

We faced several limitations while conducting this study. Some of the major limitations which we faced are as follows:

- Sample was only taken from five colleges and universities of Lahore due to travelling problems.
- Entering into the universities and colleges was another major hurdle because of security issues.
- Attitude of students was very non serious while filling the questionnaires. We had to stand with the students to make sure that they completely filled the questionnaire and didn't leave any question.
- Time was short and a research article needs a lot of time.

5.2. Future Implications

For better development in the education sector we firstly need to improve our environment. Different policy makers can develop effective management strategies to enhance the quality of teachers' behavior and performance in class rooms. In my opinion, more incentives should be given to teachers to motivate them to give their best .Best teachers are the assets of our economy and best quality and effective teaching methodology is a key to gain student satisfaction. Focus should also be on the communication gap between teachers and students. So, this study will provide a framework on the effect of teachers' qualification and behaviors on students Moreover, the findings are helpful for the teachers as well and they can enhance their competency level and teaching methodologies along with their qualification and teaching style to attain the maximum level of students' satisfaction.

References

- Berliner, D. C. (1987). *Simple views of effective teaching and a simple theory of classroom instruction*. In D.C. Berliner & B. Rosenshine (Eds.), *Talks to teachers*. Random House: New York. 93-110.
- Berliner, D. C. (2005). The near impossibility of testing for teacher quality. *Journal of Teacher Education*, 56(3): 205-13.
- Darling-Hammond, L. and Youngs, P. (2002). Defining “highly qualified teachers:” What does “scientifically-based research” actually tell us? *Educational Researcher*, 31(9): 13-25.
- Darling-Hammond, L., Berry, B. and Thoreson, A. (2001). Does teacher certification matter? Evaluating the evidence. *Educational Evaluation and Policy Analysis*, 23(1): 57-77.
- Felder, R. M. and Henriques, E. R. (1995). Learning and teaching styles in foreign and second language education. *Foreign Language Annals*, 28(1): 21-31.
- Fenstermacher, G. D. and Richardson, V. (2005). On making determinations of quality in teaching. *Teachers College Record*, 107(1): 186-213.
- Gregorc, A. F. (1979). Learning/teaching styles: Potent forces behind them. *Educational Leadership*, 36(4): 234-37.
- Iqbal, Z. (1996). *Teacher training: The Islamic perspective*. Institute of Policy Studies: Islamabad.
- Langlois, J. and Thach, S. (2001). Teaching and learning styles in the clinical setting. *Fam. Med.*, 33(2001): 344-46.
- Rockoff, J., E. (2004). The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*, 94(2): 247-52.
- Yaliz, D., Sonmez, A. G. and B., E., 2009. "Learning styles of students in the department of physical education and sports education and sports teacher at Anadolu University, ." In *IJAS Germany Conference, Gottenheim, Germany, 01-04 December 2008*.