

## The Role of “Radical Change” In Medium-of-Instruction and its Impact on Academic Achievements

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### Abstract

Today, English is renowned as the dominating language in the world and as medium of instruction, it plays central role in the students' learning and academic performance at university level. This paper presents a retrospective study aiming to empirically test the theoretical Academic Achievement model for the perceived impact of the medium of instruction. It explores the effect of English as medium of instruction on academic performance. For this retrospective study, a self-made questionnaire was used to collect the data from 300 university students by using the stratified random sampling with proportional allocation. To confirm the chosen variables, Confirmatory factor analysis is used. This study uses structural equation modeling (SEM) to identify the critical dimensions in the model. This leads to the development of an Academic achievement model with the path coefficients showing weak to strong relationships ranging from 0.127 to 0.691 with acceptable significance levels. The results support the hypothesis that good learning in English language does not only rely on the English language knowledge, but other factors such as students' ability and talent, communication skills, supportive teacher and supportive home environment, motivation and the right attitude towards language also affect the learning and Academic achievement both directly and indirectly.

**Key words:** Medium of instruction, English language, Home/First language, Second language, Confirmatory factor analysis, Structure Equation Modeling.

### 1. Introduction

It is a known fact that learning is not solitary a process of communication and interaction between the teacher and his students but also among the students themselves. A continuous Interaction of teacher with the student's is the essence of this process. The classroom interaction is represented by the communication patterns, and plays an important

part in increasing the effectiveness of the learning process and raising the learner's academic performance and achievements.

Information is exchanged among individuals, through communication which demands a shared understanding of language. Language serves as a tool to convey ideas, facts and feelings. For many countries, the use of two or more languages in a conversation is not an astonishing phenomenon but the norm. It is necessary to have full command on language in which a person is learning. High quality learning always has a positive effect on students' academic performance and achievement. Although research and theory on second language learning beliefs are receiving increasing attention and interest, there is no unified model for understanding and interpreting this. Learning in second language has gained widespread acceptance but it has been the subject of considerable debate among second language researchers.

Like so many other countries in the world Pakistan is also a multilingual country. Rahman (2003) examined that Pakistan is a multilingual country with 6 major and more than 59 other languages. Despite the fact that Urdu is the national language, mostly all official correspondence is made in English at educational institutes, banks, courts, industries etc. Even if an individual has to get education in native language, he cannot use it professionally as the world is not aware of that same language and he end up becoming misfit. It is just fairly developed from world standards. As a result, English continued to be the more important language for higher education, scientific research and office work. So status of English language can never be denied in the country. As a result in Pakistan Medium of Instruction (MOI) is an unsolved issue due to overwhelming of other local and native languages in different provinces.

Numerous factors can influence learning and as a result academic achievement of a student and language is one of them. Passing of knowledge, information and skills appropriately is possible when MOI is acceptable and is according to the mental state of the learner. Students must be able to convey their unique ideas to each other, to share their knowledge, argue their point of view and discuss their thoughts in a language, in which they are learning. Often those who don't have a grip on a particular language are excluded from conversations. This study utilized the most significant factors reviewed from literature. The factors such as learner's social and economic background, formal schooling in primary language and so on (Collier, 1988) can affect learning in second language. In general, studies show that secondary school grades account for approximately 20% of the variance in college achievement. The home environment has a huge influence on the student's psychological, emotional, social and economic state. The language in which parents communicate serves the individual for his whole life. There is also a significant correlation between accurate learning approaches e.g., "time management, taking class notes, reading extra material, regular presence in class, paying full attention in class, consistently revising lessons, come up with short notes, and ask questions" and academic achievement in higher education [Soares, et al., (2009)]. Communication skill is also an important factor. When the overall correctness of English production increases, for example grammar, vocabulary, pronunciation, spelling skill, punctuation, translating and analyzing text etc, then the student's academic performance automatically increases. Many researchers have substantiated that there is an anxiety particular to language learning and it has a devastating effect on learning and achievement [Gardner, Smythe, & Lalonde, (1984); Horwitz, Horwitz, and Cope, (1986)].

Along with adopting the suitable learning strategies, student's right attitude toward the language and learning also matters. Krashen (1985) proposes that attitudes can perform

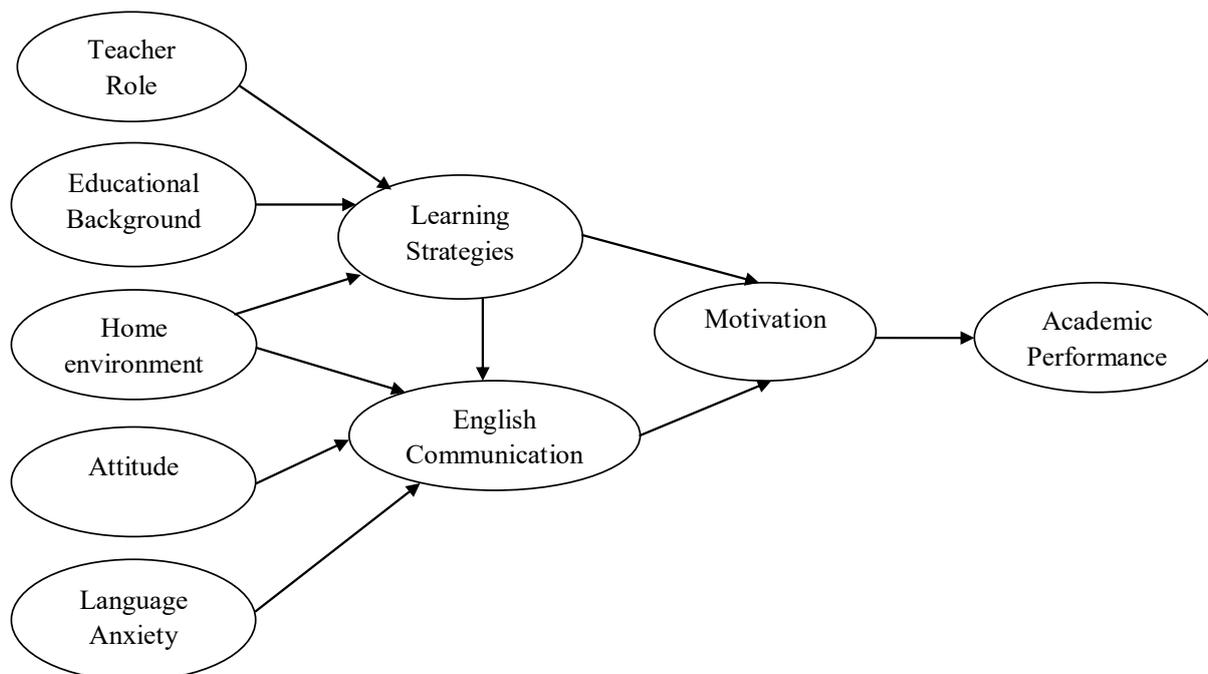
as barriers or bridges to learning a new language and are the indispensable environmental ingredient for language learning. Krashen (1985), states that good learning can only happen if the affective conditions, for example positive attitudes, self-confidence, low anxiety, exist and that when these self-doubt, are present input can pass through the affective filter and be used by the learner. Motivation of the students is also very significant factor for learning in L2. It is extremely hard to teach in second language if the learner does not desire to learn in it. Language learning complexity stems from the triadic interplay of motivation [Niederhauser, (1997)]. The role of teacher is a fundamental factor in the success of second language learning. The productive interaction with teachers is very essential. Yiğiter, (1988) expresses that, generally, three factors can affect L2 learning; these are teacher, learner and method respectively.

It is a burning issue in Pakistan whether the MOI should be the universally famous English or the regional language. The government, particularly the Education Department, is now familiar with the fact that English is an international language, and has to be adopted as MOI because of its importance in higher education and especially in the professional courses. They are aware if the language is alien to the learners then the process of learning will be hampered, at large. This could affect the over-all standard of education. If the learners are less frequent of language, it not only affects on their understanding and developing concepts but also hinder to generate new ideas. The creativity of a student is normally deployed for coping with some deficiency factor in their language. The act of introducing new concepts cannot be initiated without the support of language. The MOI has a strong influence on the overall learning, performance and confidence of students. In Pakistan, very little systematic research has been done, for developing an Academic performance model considering MOI. This study not only endow with the factors that can affect the Academic achievement of university students regarding MOI, But also provide an Academic achievement model. The research aims at following:

1. To determine the impact of English as a MOI on students learning and academic performance.
2. To identify and confirm the factors those are paramount for student's concept development in a second language.
3. To develop a model for academic performance, how it is affected when English is used as MOI, using structure equation modeling.
4. To measure the overall effect of different factors related to the English MOI on academic performance.

### Conceptual Model

The conceptual framework for academic performance regarding MOI is derived from the inference and relevant literature review is shown below each cell stands for a construct and the whole model is centered on the motivation to learn in English language influenced by its antecedents including Home environment, Teacher Role, Attitude, Educational Background, Learning Strategies, English Communication. Finally academic performance is affected by the motivation.



**Figure: 1** Conceptual Framework Compiled by Authors

### LITERATURE REVIEW

The reviewed literature of the studies conducted in various countries about the provocative issue of MOI, showed the factors that can affect the learning process and consequently the academic achievement of students. Kimura, et al. (2000) used Exploratory Factor Analysis and confirmed 6 factors and the MANOVA indicated that a few factors were characteristics of certain language learning setting. Cotterall (1999) disclosed factors which were suggested by literature as important in successful language learning and used Factor Analysis to conform them.

Talib (2009) identified that good learning rely not only on the teaching methodology but also on factors such as students' ability, language proficiency, and the right attitude toward learning. David and Ogunsiji (2009) identified that English language proficiency has a significant positive relationship with overall academic achievement. Brantmeier (2006) examined that Readers remember more in their national language, with learners of lower L2 reading attainment performed better on L1 recalls than L2 recalls. Parveen, et al. (2007) claimed that learner should be familiar with the MOI for thorough learning. Hudson (2009) concluded that English vocabulary, grammar and pronunciation are paramount for student's concept development. Guzman (2006) and GÖMLEKSİZ (2001) identified that the English learning difficulties are relative to the student's sociolinguistic competence, cultural factors, ability to acquire a language, age and motivation of the learner. Cooper (1987) discovered the effect of Second Language on Test Scores, Intelligence and Achievement and found that

Economic background, did not affect students' performance. Jalaluddin, et al. (2009) and Berman and Cheng (2000) determined the difficulties in academic achievement with English language and argued that the inability to communicate in English has been one of the reasons of high unemployment rate, Environment not conducive to language learning further add to the problem. Wilkinson (2005) reported that teaching through English demands more time so that terms and concepts can be explained.

Vandal (2004) found that in Pakistan there was variation in the MOI, majority follow the government prescribed Urdu language and a small number offer instructions in the English Language. Duxbury and Tsai (2010) recognized that motivation, student beliefs and personality, teacher interactions, student-background in the language, and cooperative learning influenced levels of foreign language anxiety among students. Okan (2009), Vaezi (2008) and Obeidat(2005) discovered that talented students were very enthusiastic about learning English they had very high motivation and positive attitudes towards learning English and there was no significant differences in student's motivation related to sex, parent's proficiency and level of study. Wei (2007) observed the motivational pattern in relation to the anxiety of English learners. Fakeye (2010), Bidin, et al. (2009) and Al-Tamimi and Shuib (2009) claimed that there was a positive relationship between Students' Attitude and their academic achievement in English Language and discovered that mostly students had positive attitudes towards the social value and educational status of English. Sansgiry, et al. (2006) examined that Academic performance was significantly connected with factors like academic and test competence. Alwis (2003) explored that students with positive attitude toward English also have positive attitude toward learning Science in English. Kam examined that attitudes towards language situation, anxiety in language class and language use environments affect the learner's persistence in language learning. There was high relationship between motivation and achievement.

### 3. SURVEY METHODOLOGY

The study population is consisted of the students of B.S (Hons) from natural and social sciences, who are studying in second semester at University of Gujrat. **In order to ensure the ample representation of each disciple in the sample**, Stratified random sampling has been applied. To determine the sample size for an appropriate model development a table developed by Bartlett, et al. (2001) **was used**. As the total population size is 1170 and the data is categorical so the sample size 'n' is taken as 25% of the population with 0.05 margin of error. The method of proportional allocation is utilized to choose a sample of 300 students. Firstly strata's are made with respect to natural and social sciences and then each designed stratum is further stratified on the basis of departments. And finally these strata's are stratified according to the gender. 118 students are from natural science (50 males and 68 females) and 182 students from social science (105 males and 77 females). Self made questionnaire consisted of two parts was employed as a main instrument. First part was about demographic information and second contains factors studied through literature consisted of 67 questions on 5-point Likert scale.

Descriptive statistics are carried out for all items involved in the study. **Confirmatory factor analysis is used to confirm the factors. Structure equation modeling is used** to fulfill the main objectives of the study. SEM is a multivariate statistical analysis technique used for testing and estimating causal relationships through a combination of statistical data and qualitative causal assumptions. **It can be thought as a unique combination of both types of interdependence and dependence techniques**. SEM provides a very general and convenient framework for statistical analysis that includes different traditional multivariate procedures,

for example Factor analysis, Regression analysis, Discriminant analysis and Canonical correlation, as special cases.

#### **4. RESULTS AND DISCUSSION**

To observe the academic performance of students, the descriptive statistics are calculated for all variables but results of some of the important variables are discussed here.

##### **4.1 Descriptive Analysis:**

Average study time of the students is around two hours. Average marks of the students in Matric, out of 850 are 661.40 and its S.D is 77 and average marks in English (Matric), out of 150 are 115.31 and its S.D is 21. Average marks in intermediate, out of 1100 are 755.09 and its S.D is 91. Average marks of the respondent in English course (intermediate), out of 200 are 128.53 and its S.D is 26. Mean GPA of the respondents is 3.06 and its S.D is 0.48 which shows that GPA of students is close to mean. 34% of the respondents belong to rural areas and 66% are from urban areas. It is also shown that 48.7% of the students had never studied in an English medium school, at the same time 27.7% of the students had throughout studied in an English medium school. At intermediate level 31.3% of the students studied in Urdu medium and 68.7% studied in English medium. 39.3% of the respondents speak Urdu at home, 29% speak Punjabi and only 3% of them also speak English at home. 54.7% respondents can speak Urdu most fluently, 17.7% can speak Punjabi most fluently and only 11.3% can speak English fluently. These results specify that students are fond of English language but they do not have the revelation to this language as it is not their home language. It also shows that the inclination to use the mixture of English and Urdu is more as compare to use English separately.

##### **4.2 Confirmatory Factor Analysis:**

*Factors are chosen from the reviewed literature that can influence the academic performance of students when MOI is a second language e.g. Educational Background, Home Environment, Attitude and Motivation and so on.* Confirmatory factor analysis is a type of factor analysis. It is the first part of a complete structural model. CFA is used on all the factors used in the analysis. It does not need to distinguish between exogenous and endogenous constructs.

The model estimate of CFA of Educational Background is shown in Table A-1. It is a factor with eight items that is tested for confirmation. P-values of all the items are significant so the null hypothesis that all items are not confirm for the factor is rejected. Results indicate that marks at intermediate have a parameter estimate value of 0.778, which is high as compared to other variables in the factor. So this variable is most important for the factor. MOI at intermediate has a value of -0.133 as a parameter estimate, which is low as compared to other variables in the factor; it shows that this variable is less important for the factor. The model estimate of CFA of Home environment is shown in Table A-2. This factor is tested with five items for confirmation. Results show that mother education has a parameter estimate value of 0.935, so this variable is most important for the factor. Encouragement to speak English from home has a parameter estimate value of 0.172, which is low as compared to other variables in the factor; it shows this variable is less important for the factor.

Model Estimates of CFA of learning strategies is shown in Table A-3. This factor with five items is tested for confirmation. All items of the factor are confirmed. Results indicate that regular presence in class has a parameter estimate value of .773, which is high as compared to other variables in the factor, so this variable is most important for the factor. Need extra coaching just to learn English language has a parameter estimate value of .290, which is low as compared to other variables in the factor, therefore it is less important for the

factor. Model Estimates of CFA of English communication is shown in Table A-4. It is tested with five items for confirmation. All items of the factor are confirmed for that factor. Results shows that good listening skill has a parameter estimate value of .589, which is high as compared to other variables in the factor, therefore this variable is most important for the factor. Speak English with friends has a parameter estimate value of .365, which is low; it means this variable is less important for the factor. Model Estimates of CFA of language anxiety is shown in Table A-5. It is tested with ten items for confirmation. All items of the factor are confirmed. Results reveals that the fear that others will laugh at you when you speak English has a parameter estimate value of .927, which is high as compared to other variables in the factor; it means that variable is most important for the factor. Comfortably ask questions in the class in English has a parameter estimate value of -.203, which is low as compared to other variables in the factor, therefore this variable is less important for the factor. Model Estimates of CFA of Attitude is shown in Table A-6. Attitude factor with eight items is tested for confirmation. P-values of all the items are significant so we reject the null hypothesis that all items are not confirm for that factor, and conclude that all items of that factor are confirmed for that factor. Results reveals that to understand properly while listening has a parameter estimate value of .718, which is high as compared to other variables in the factor, so this variable is most important for the factor. Excitement of learning a new language has a parameter estimate value of .277, which is low as compared to other variables in the factor; therefore this variable is less important for the factor.

Model Estimates of CFA of Motivation is shown in Table A-7. Motivation factor with nine items is tested for confirmation. All items of the factor are confirmed. Results reveals that MOI should be English from primary level has a parameter estimate value of .712, which is high as compared to other variables in the factor, so this variable is most important for the factor. Speak English outside the class has a parameter estimate value of .489, therefore this variable is less important for the factor. Model Estimates of CFA of teacher's role is shown in Table A-8. This factor with six items is tested for confirmation. P-values of all the items are significant so all items of the factor are confirmed for that factor. Results reveals that English courses offered are useful has a parameter estimate value of .632, which is high as compared to other variables in the factor, so this variable is most important for the factor. Lectures are delivered in English has a parameter estimate value of .131, which is low as compared to other variables in the factor. Model Estimates of CFA of Academic performance is shown in Table A-9. This factor with five items is tested for confirmation. All items of the factor are confirmed for that factor. Results reveals that performance in exams is according to the knowledge has a parameter estimate value of .810, which is high as compared to other variables in the factor, so this variable is most important for the factor. Made a schedule for study has a parameter estimate value of .220, which is low as compared to other variables in the factor; therefore it is less important for the factor.

The Goodness of Fit criteria for all the above factors is shown in Table A-10. Chi-square ( $\chi^2$ ) is the fundamental Goodness of fit measure used in CFA. It supports our estimated model of all the variables. Goodness of Fit Index (GFI) is absolute goodness of fit measure. In factor of educational background, GFI value is .922 and AGFI value is .86, which supports estimated model. Another measure to assess the GOF of estimated model is Root Mean Square Error of Approximation. Recommended range of RMSEA is less than .08. In educational background factor, the value of RMSEA is 0.11. All the important Goodness of fit measures indicates that all the variables are conformed for the factor. In home environment factor, GFI value is .935, AGFI value is .805 and RMSEA is 0.17, which supports the variables present in this factor, but

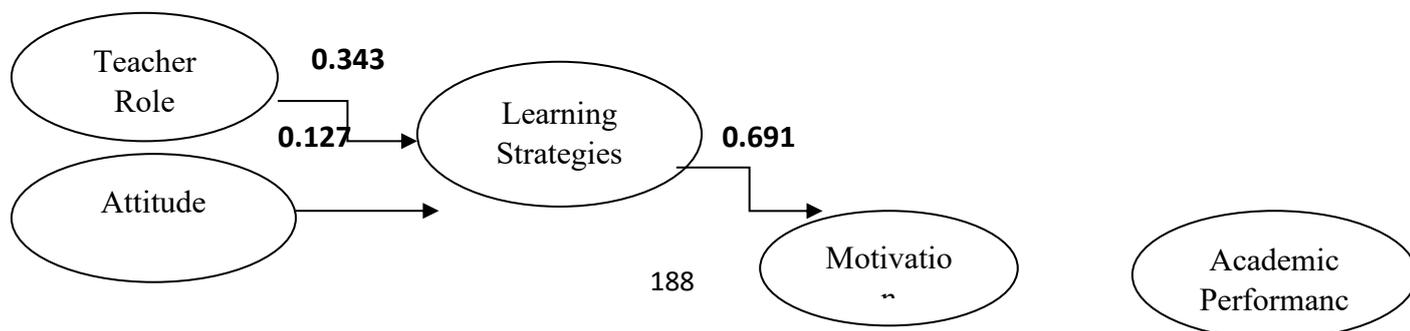
overall this construct is not confirmed, so we will not use it in structure equation modeling. In learning strategies factor, the value of  $(\chi^2/d.f)$  is 2.29 that is less than 3. GFI value is .98 and AGFI value is .95, the value of RMSEA is .06 that is less than .08. The entire criterions are according to recommendations, so these all these variables are conformed for this factor. In case of English communication factor, the value of  $(\chi^2/d.f)$  is 2.89 which is less than 3. GFI value is .98 and AGFI is .94, the value of RMSEA is .08. The entire criterions are according to recommendations, so these all these variables are conformed for this factor. In factor of language anxiety, the value of  $(\chi^2/d.f)$  is exactly 3 that support the estimated model. GFI value is .928 the value of AGFI is .887, the value of RMSEA is .08. All the important Goodness of fit measures indicates that this factor is conformed by CFA. In case of Attitude factor, the value of  $(\chi^2/d.f)$  is 7 that is greater than 3. So this criterion does not support the fitted model. While, GFI value is .87 the value of AGFI is .78, the value of RMSEA is .15 that is greater than .08. So RMSEA is not supported to fitted model. In Motivation factor, the value of  $(\chi^2/d.f)$  is 4.5 that is greater than 3. So this criterion does not support the fitted model. While, GFI value is .907 the value of AGFI is .844, the value of RMSEA is .11 that is greater than .08. So RMSEA is not supported to fitted model. But all the important Goodness of fit measures indicates that this factor is conformed by CFA. In teacher's role factor, the value of  $(\chi^2/d.f)$  is 2.68 that is less than 3. So this criterion supports the fitted model. While, GFI value is .972 the value of AGFI is .935, the value of RMSEA is .078. All the important Goodness of fit measures is supportive to the variables in this factor. In academic performance factor, the value of  $(\chi^2/d.f)$  is 2.73 that is less than 3. So this criterion supports the fitted model. While, GFI value is .981, the value of AGFI is .944 and the value of RMSEA is .079. The entire criterions are according to recommendations, so these all these variables are conformed for this factor. Nearly all the factors are meeting the criteria of conformation, and can be used for further analysis.

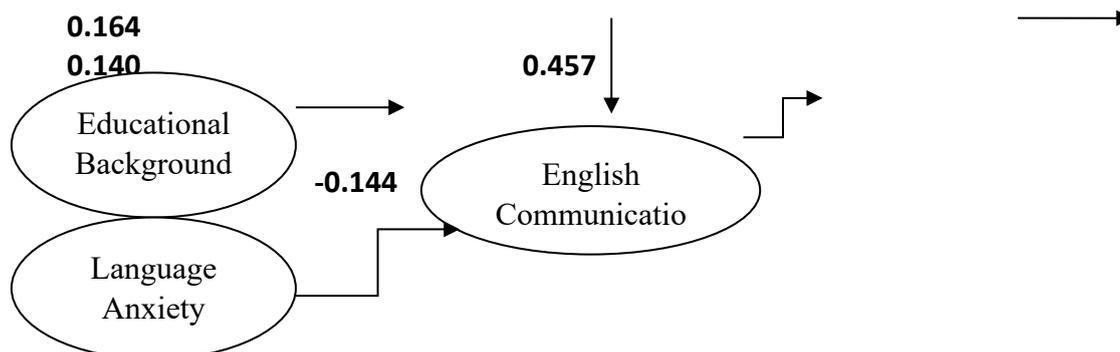
**4.3 Structure Equation Modeling:**

The central objective of the study is to predict the academic performance of students, while they are learning in a foreign language, to fulfill this objective the technique of Structure Equation Modeling is used.

**4.3.1 Path Diagram of Fitted Model** A path diagram for structural equation modeling with effective goodness of fit index was obtained including factors

- 1) Role of Teacher
- 2) Attitude towards English language
- 3) Educational Background
- 4) Language Anxiety
- 5) Learning Strategies
- 6) English Communication
- 7) Motivation of student for English language
- 8) Academic Performance





**Figure: II** Path diagram

Structural relationships between latent constructs are specified by a structure model. Table A-11 contains the Parameter estimates of Structure Equation model. P-values of all the parameters are significant therefore; we reject the null hypothesis that the coefficients are zero and conclude that all relations are significant and positive.

The Goodness of Fit measures of SEM are shown in Table A-12. P-value of Chi-Square test is significant. Recommended value of  $(\chi^2/d.f)$  is 1.62 that is less than 3. So it supports our estimated model. The value of RMSEA is 0.046 that is less than 0.08; therefore it supports the fitted model. The value of SRMR is 0.080, which is also supportive to the model. In this case, GFI value is 0.831 the value of AGFI is 0.810, which supports the estimated model. As the general criterion is being fulfilled by the fitted model, therefore it is an indicative of a good fitted model.

#### 4.3.2 Estimated Equations of the Model:

$$Y = 0.193 X_7$$

$$X_7 = 0.691 X_5 + 0.457 X_6$$

$$X_5 = 0.343 X_1 + 0.127 X_2$$

$$X_6 = 0.140 X_3 - 0.144 X_4 + 0.164 X_5$$

Where

$X_1$  = Teacher Role,  $X_2$  = Attitude,  $X_3$  = Educational Background,  $X_4$  = Language Anxiety,  $X_5$  = Learning Strategies,  $X_6$  = English Communication,  $X_7$  = Motivation and  $Y$  = Academic Performance

With the help of Structure Equation Model we can conclude this model on the logical grounds that teacher's role and attitude of student towards English language affect their learning strategies directly, the research shows a significant correlation between such learning approaches and academic achievement in higher education [Soares, et al., (2009)]. On the other hand the educational background and learning strategies of students positively effects their English communication, but language anxiety negatively affects their English communication skill. Learning strategies and English communication skill directly affects the motivation of students and indirectly related to the Academic Performance. Motivation to learn the subjects in English language positively affects the academic performance. All the factors are positively related to Academic performance except the language anxiety. These relationships are conformed by the past studies conducted by different researchers on different factors. Second language researchers have long been aware that second language learning is often associated with the constructs of anxiety and motivation. Several authors (Noels, Clément and Pelletier, 1999; Yan, 1998) have suggested a possible negative relationship between anxiety and motivation in view of the opposing effects of these two

constructs. This is conformed by the current study. Tremblay and Gardner (1995) in Schumann (1998: 95) hypothesized that motivational behavior could have a direct influence on achievement. It is widely known that motivation is one of the factors that influence second language acquisition. In general, motivation refers to the effort which learners put into learning an L2 as a result of their need or desire to learn it (Ellis, 1994: 715). These findings also support the views of researchers that there is a correlation between proficiency in the language of instruction and overall academic achievement of learners (Ajibade 1993; Feast 2002). In separate studies, Feast (2002) and Graves (2001) found a significant and positive relationship between English language proficiency and performance at University as measured by Grade Point Average (GPA).

#### **4.4 Measuring overall effect of English Medium of Instruction on Motivation and Academic Performance.**

##### **Overall effect on Motivation**

Total direct and indirect effect of teacher's role, Attitude, Educational Background, Language Anxiety, Learning Strategies and English Communication on Motivation of students.

$$TR \rightarrow LS \rightarrow MOT = (0.343) (0.691) = 0.2370$$

$$ATT \rightarrow LS \rightarrow MOT = (0.127) (0.691) = 0.0877$$

$$ATT \rightarrow LS \rightarrow EC \rightarrow MOT = (0.127) (0.164) (0.457) = 0.0095$$

$$EB \rightarrow EC \rightarrow MOT = (0.140) (0.457) = 0.0639$$

$$LA \rightarrow EC \rightarrow MOT = (-0.144) (0.457) = -0.0658$$

$$\text{Total direct and indirect effect on Motivation is } 0.2370 + 0.0877 + 0.0095 + 0.0639 - 0.0658 = 0.3323$$

Total effect of teacher role on motivation is 0.2370

Total effect of attitude on motivation is  $0.0877 + 0.0095 = 0.0973$

Total effect of educational background on motivation is 0.0639

Total effect of language anxiety is -0.0658

It shows that teacher's role has greater effect on motivation while attitude towards learning in English has the second highest effect on motivation.

##### **Overall effect on Academic Performance**

Total direct and indirect effect on academic performance

$$TR \rightarrow LS \rightarrow MOT \rightarrow AP = (0.2370) (0.193) = 0.0457$$

$$ATT \rightarrow LS \rightarrow MOT \rightarrow AP = (0.0877) (0.193) = 0.0169$$

$$ATT \rightarrow LS \rightarrow EC \rightarrow MOT \rightarrow AP = (0.0095) (0.193) = 0.0018$$

$$EB \rightarrow EC \rightarrow MOT \rightarrow AP = (0.0639) (0.193) = 0.0123$$

$$LA \rightarrow EC \rightarrow MOT \rightarrow AP = (-0.0658) (0.193) = -0.0126$$

Total direct and indirect effect of teacher's role, Attitude, Educational Background, Language Anxiety, Learning Strategies and English Communication through motivation on academic Performance is  $0.0457 + 0.0169 + 0.0018 + 0.0123 - 0.0126 = 0.0642$

These results indicate that MOI's impact on academic performance is 0.0768, when the teacher has a supportive role and tries to enhance student's abilities in English language. Student has good educational background and English communication skills, his attitude are positive and motivation is high. But when student has to face language anxiety MOI's impact on academic performance is 0.0642.

#### **4.5 Conclusion**

This study examined the effects on academic performance of students, when they are learning in a foreign language i.e. English. It also checks that which factor play an important role for measuring student's motivation and academic performance. The findings show that

the study time of most of the student's is approximately two hours. More than half of the students are from urban areas and almost half of the student's had never studied in an English medium school at all. Mostly mothers are less educated and more than half of the students speak Urdu or Punjabi at home. Almost half of the students think that by improving the speaking skill of English language, they can improve their overall learning in English. Structural Equation Modeling is applied to find the interrelationship of all the factors. Before applying SEM, there is a need to confirm factors to be used in path diagram as constructs. Confirmatory factor analysis is applied to confirm all the factors included in the study reviewed from literature with different variables used to measure these factors. A significant relationship is found between English language skills and academic performance of the subjects studied, as English language skills increases, academic success increases. The findings present a picture which confirms that the teacher, class atmosphere, the educational background, as well as personal characteristics of the student i.e. their learning strategies, attitude and English communication skill will have an influence on the individual's learning and motivation and finally, motivation affects their academic performance. Results also disclose that most of the students realize the tremendous potential, English language can bring to their learning. They will continue to use English language despite facing problems. Almost all of the students expressed their perception that learning in the English language is a good opportunity for them to be more successful in the future.

**4.6 Limitations of the Study:**

Regarding financial and time concerns only the students from the University of Gujarat (second semester) have been taken in the study for observing the impact of language on students learning. In restricted time frame a large sample is not chosen, which is required for the reliability of the survey and to generalize the findings and drawing inferences from a sample about the population.

**4.7 Future research recommendations:**

A similar type of study can be conducted for longitudinally collected data, So that it can be observe how MOI, impacts on academic achievement with the passage of time. Secondly this study can be expanded by including new variables such as home environment, peer values and influence, mental health, personality, interests, incentives and direct motivation, amount of course work taken, curricula and occupational choice, and extra-curricular factors. Thirdly this study can be reinforced by changing the population, culture and language. For high Academic Performance, the students need to improve their Learning Strategies, then their communication Skills which assists them in presentation skills, assignment writing and reading materials related to course. Educators should also motivate by encouraging them to learn English, frequently reminding them of the importance of mastering English; to attain their personal goals such as to further studies, travel abroad, prepare for the working in all over the world. This is due to the fact that some of the respondents are not aware of the purpose of learning English and learn it because it is required in the system. Finally, this study can be expected to pave the way for other exploratory studies on student's learning relative to their language learning.

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## APPENDIX

### Confirmatory Factor Analysis and Structure Equation Modeling

Table A-1: Model Estimates of Confirmatory Factor Analysis of Educational Background.

Variables	Parameter Estimate	Standard Error	T Statistic	Prob. Level
Educational background ->Studied in English medium	0.369	0.120	3.086	0.002
Educational background->Inter MOI	-0.133	0.032	-4.163	0.000
Educational background->Matric marks	0.430	0.054	7.971	0.000

Educational background) ->Matric English marks	0.565	0.082	6.894	0.000
Educational background) -> Inter marks	0.502	0.054	9.291	0.000
Educational background) ->Inter English marks	0.778	0.077	10.068	0.000
Educational background) -> GPA in 1 <sup>st</sup> semester	0.498	0.054	9.235	0.000
Educational background) -> grade in English course	0.752	0.073	10.323	0.000

**Table A-2: Model Estimates of Confirmatory Factor Analysis of Home Environment**

Variables	Parameter Estimate	Standard Error	T Statistic	Prob. Level
Home environment->FATHER education	0.802	0.098	8.197	0.000
Home environment->MOTHER education	0.935	0.111	8.433	0.000
Home environment -> Home Language	0.234	0.059	3.951	0.000
Home environment -> make English discussion	0.196	0.077	2.538	0.011
Home environment ->Encouragement from home	0.172	0.071	2.433	0.015

**Table A-3: Model Estimates of Confirmatory Factor Analysis of Learning Strategies**

Variables	Parameter Estimate	Standard Error	T Statistic	Prob. Level
Learning Strategies -> make draft of lecture	0.697	0.078	8.981	0.000
Learning Strategies -> note grammar mistakes	0.693	0.079	8.757	0.000
Learning Strategies -> read extra material	0.682	0.085	8.035	0.000
Learning Strategies -> regular in class	0.773	0.088	8.769	0.000
Learning Strategies -> need extra coaching	0.290	0.090	3.213	0.001

**Table A-4: Model Estimates of Confirmatory Factor Analysis of English communication**

Variables	Parameter Estimate	Standard Error	T Statistic	Prob. Level
English communication ->Overall English	0.470	0.050	9.422	0.000
English communication) ->Writing skill	0.542	0.053	10.213	0.000
English communication->Listening skill	0.589	0.055	10.763	0.000
English communication ->Reading skill	0.534	0.055	9.731	0.000
English communication -> speak with friends	0.365	0.071	5.135	0.000

**Table A-5: Model Estimates of Confirmatory Factor Analysis of Language Anxiety**

Variables	Parameter	Standard Error	T	Prob.
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	Estimate		Statistic	Level
Language anxiety -> comfortably speak	-0.203	0.066	-3.094	0.002
Language anxiety -> get panic	0.356	0.063	5.614	0.000
Language anxiety -> murmur to yourself	0.203	0.059	3.421	0.001
Language anxiety -> get nervous	0.738	0.069	10.756	0.000
Language anxiety -> others laugh at you	0.927	0.069	13.477	0.000
Language anxiety -> others criticize you	0.908	0.066	13.857	0.000
Language anxiety -> lack of confidence	0.691	0.066	10.434	0.000
Language anxiety -> embarrassment	0.531	0.063	8.374	0.000
Language anxiety -> feel others better	0.516	0.066	7.767	0.000
Language anxiety -> assignment writing difficulty	0.446	0.072	6.220	0.000

Table A-6: Model Estimates of Confirmatory Factor Analysis of Attitude

Variables	Parameter Estimate	Standard Error	T Statistic	Prob. Level
Attitude -> learning a language is exciting	0.277	0.082	3.369	0.001
Attitude -> feel comfort speaking Urdu	0.477	0.088	5.435	0.000
Attitude -> easy to understand concept in Urdu	0.692	0.081	8.571	0.000
Attitude -> English lectures are difficult	0.599	0.076	7.908	0.000
Attitude -> read many times text	0.593	0.075	7.942	0.000
Attitude -> listening difficulty	0.718	0.068	10.639	0.000
Attitude -> overwhelmed by rules	0.532	0.068	7.839	0.000
Attitude -> learn to get good job	0.532	0.087	6.101	0.000

Table A-7: Model Estimates of Confirmatory Factor Analysis of Motivation

Variables	Parameter Estimate	Standard Error	T Statistic	Prob. Level
Motivation -> choose optional English course	0.672	0.074	9.022	0.000
Motivation -> understand deeply	0.656	0.061	10.819	0.000
Motivation -> plan a language course	0.604	0.073	8.283	0.000
Motivation -> plan English study	0.624	0.071	8.852	0.000
Motivation -> evaluate your English	0.584	0.070	8.314	0.000
Motivation -> useful for future	0.625	0.063	9.965	0.000
Motivation -> read English newspaper etc	0.569	0.069	8.227	0.000
Motivation -> speak outside class	0.489	0.066	7.400	0.000
Motivation -> compulsory from primary	0.712	0.072	9.896	0.000

**Table A-8: Model Estimates of Confirmatory Factor Analysis of Teacher's Role**

<b>Variables</b>	<b>Parameter Estimate</b>	<b>Standard Error</b>	<b>T Statistic</b>	<b>Prob. Level</b>
Teacher role -> lecture in English	0.131	0.067	1.942	0.052
Teacher role -> highlight mistakes	0.439	0.078	5.589	0.000
Teacher role -> accuse of knowledge	0.310	0.079	3.905	0.000
Teacher role -> help and motivate	0.769	0.081	9.464	0.000
Teacher role -> commit mistakes	0.493	0.076	6.462	0.000
Teacher role-> courses are useful	0.632	0.084	7.544	0.000

**Table A-9: Model Estimates of Confirmatory Factor Analysis of Academic Performance**

<b>Variables</b>	<b>Parameter Estimate</b>	<b>Standard Error</b>	<b>T Statistic</b>	<b>Prob. Level</b>
Academic Performance -> schedule studies	0.220	0.083	2.665	0.008
Academic Performance -> English course exams	0.649	0.076	8.567	0.000
Academic Performance -> according to abilities	0.810	0.069	11.785	0.000
Academic Performance -> convey knowledge fully	0.668	0.068	9.808	0.000
Academic Performance -> grades affected because of language	0.246	0.075	3.286	0.001

**Table A-10: Measures of Goodness of Fit for all the factors that can affect learning**

<b>Recommended</b>	$\chi^2/d$ .f	<b>GFI</b>	<b>AGFI</b>	<b>RMSEA</b>	<b>Recommended</b>	$\chi^2/d$ d.f	<b>GFI</b>	<b>AGFI</b>	<b>RMSEA</b> A
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Factors	≤ 5	≥ .90	≥ .90	≤ 0.08	Factors	≤ 5	≥ .90	≥ .90	≤ 0.08
1.Educational Background	4.6	0.92	0.86	0.115	6. Language Anxiety	3	0.92	0.88	0.08
2.Home Environment	10.9	0.93	0.80	0.177	7.Attitude	7	0.87	0.78	0.157
3.Learning Strategies	2.29	0.98	0.95	0.065	8.Motivation	4.5	0.90	0.84	0.118
4.English Communication	2.89	0.98	0.94	0.08	9.Teacher's Role	2.6	0.97	0.93	0.078
5.Academic Performance	2.76	0.98	0.94	0.079		8	2	5	

Table A-11: Model Estimates of Structure Equation Model

Variables	Parameter estimate	Standard error	T Statistic	Prob. level
Teacher role ->learning strategies	0.343	0.064	5.357	0.000
Attitude ->learning strategies	0.127	0.050	2.507	0.012
Language anxiety ->English communication	-0.144	0.036	-3.969	0.000
Educational background -> English communication	0.140	0.038	3.701	0.000
learning strategies -> English communication	0.164	0.063	2.582	0.010
learning strategies ->motivation	0.691	0.132	5.219	0.000
English communication >motivation	0.457	0.125	3.660	0.000
Motivation -> academic performance	0.193	0.078	2.472	0.013

Table A-12: Measure of Goodness of Fit of Model

	$\chi^2$	d.f	p-value	$\chi^2/d.f$	RMSEA	SRMR	GFI	AGFI
<b>CFA Model</b>	1124.26	693	0.000000	1.62	0.046	0.080	0.831	0.810
<b>Recommended</b>				≤ 3	≤ 0.08	≤ 0.08	≥ .90	≥ .90