Exploring Language related challenges of Pakistani Students in English Medium Instruction (EMI) Program

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Abstract

In this global world, the internationalization of education has promoted various concerns over the medium of instruction. This concern of the medium of instruction has diverted the attention of various scholars and educationists across the globe. Educational policymakers have adopted English as the medium of instruction in many parts of the world. It is one of the main educational phenomena of the globalized world. English medium instruction refers to the use of the English language in teaching academic subjects other than English itself in countries where the L1 is not English. (Macaro,2018, p.19). English as a medium of instruction has been playing a great role in internationalizing education. (Chapple,2015, p.1). However, other higher education institutions claim internationalization but operate in another lingua francas yet their number is less (Jenkin,2019).

Keywords: Challenges of Pakistani Students, English Medium Instruction, Educational Policy

1. INTRODUCTION

Vygotsky's (1934) socio-cultural theory argues that language guides cognitive development. It supports other activities such as reading and writing. People use language as a tool to communicate. In EMI, language plays a vital role in content learning. On the surface level, EMI has a close link with content and language integrated learning (CLIL). However, EMI pays less attention in students' language development as compared to CLIL (Aizawa, 2020). As a result of this detachment from language development, many linguistics challenges have emerged. The medium of instruction is closely related with linguistic challenges (Galloway & Ruegg, 2020). These challenges have been observed in Pakistani students using English as a medium of instruction (Mehboob,2014).

The debate over English medium instruction has created the question as to how the effectiveness of EMI is categorized. Whether in learning of language or content learning or both (Evans, 2002; Macaro et al, 2018). Some of the studies of EMI on language learning on Chinese university revealed that EMI students were not satisfied with content taught in limited linguistic benefits they gained (Lei and Hu 2014). While others claim that students can learn both language and content knowledge at the same time (Rose et al, 2020; Gallowey et al, 2017). However, there is a controversy that is not clear. To this end, the understanding of language-related challenges that are faced by Pakistani students in the EMI context needs successful content learning.

The main objective of this paper is to contribute to the emerging literature on linguistics challenges faced by L2 learners in studying EMI based on shreds of evidence from Pakistani students. This study explores the factors that cause hindrance for L2 learners in EMI. Although waste literature on English medium instruction EMI exists. This study provides an analysis of linguistic challenges faced by Pakistani students in their EMI program. This research paper analyses the following research questions.

RQ1. Does English language proficiency enhance students` understanding of content in the EMI program?

RQ2. Does vocabulary problems create hurdles for the students in EMI studies

2. LITERATURE REVIEW

2.1 Linguistic challenges in English medium instruction program

Several types of research have been done to point out the challenges encountered by L2 students in the EMI program (Halekjaer, 2010; Wilkinson, 2013). The main reason that comes out of these challenges is the insufficient levels of English language proficiency among students entering in EMI program(Ali, 2013, Sultana, 2014). The students face more linguistic challenges where the proficiency of the student is low. However, one of the main causes of these challenges is insufficient English language skills like difficulty in writing reports or producing essays in a better way (Evans & Morison, 2011). Similarly in the context of listening, the understanding of lectures (Halekjaer,2010), and the accents of the lecture are hard for learners to grasp (Tange,2010). While speaking students face problems in participating in discussions and delivering presentations (Kirkgoz,2005). In terms of reading, they face problems in comprehending books that contain vocabulary (Andrade,2007). This has led the researchers like Halekjaer, Wong & Wu to assert that students going through EMI study without English proficiency cannot achieve the same standard of content knowledge as the ones who have studied the program in their L1. The insufficient linguistic knowledge of EMI students is recognized as a significant factor creating difficulties for students' success. The study above provides that the lack of English language proficiency is recognized as a significant factor creating hindrance for students in the EMI program. therefore, we propose the following hypothesis.

H1. English language proficiency is directly associated with active learning in the EMI program.

2.2 Vocabulary knowledge

There is a limited number of researches found in which the vocabulary knowledge is given

more attention. Some studies found that the knowledge about vocabulary is one of the most crucial challenges that students face in EMI studies. (Evan, S and Greene,C, 2007). A study conducted in Hong Kong university, where the students analysed that limited vocabulary knowledge is considered a hinderence in understanding the .content in EMI.

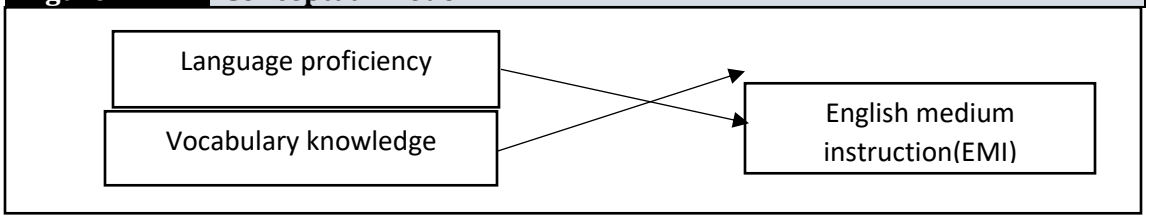
furthermore, Chang (2010) in his research work found that the students from Taiwan faces difficulties in understanding the concepts which ultimately results in poor academic performance. Furthermore, Yip and Tsang (2007) pointed out that EMI students in science face more difficulties than in any other subject because there are terminologies with abstract thinking that need more focus. these difficulties also cause teachers to slow down their content input (Airey, 2011). Therefore, we can propose the following hypothesis

H2. Vocabulary knowledge is associated with active learning in the EMI program.

2.3 Conceptual model

This study along with the previous research works gives an insight for developing the conceptual model. The model consists of two challenges in EMI. The conceptual model appears in figure 1.

Figure 1 Conceptual model



3. METHODOLOGY

The research paradigm used in this research paper is positivism which is based on observation and experiments. In this paradigm, the objective approach is used to interpret the data. Moreover, in this paper quantitative method is used to answer the research questions. The data were collected from different participants and quantitative data analysis was conducted.

3.1 Measurement of Variables

The measurement of variables was performed to analyse the language related challenges of EMI students.

Table 1 Variable Description

Variables	Sources	Measurement
Language proficiency	Halekjaer et al, (2010); Sultana (2014)	Language proficiency focuses on students` listening, speaking, reading & writing skills

Vocabulary	Chang, (2011); Evans & Greene (2014)	Students' ability to comprehend the meaning of different English words

3.2 English language proficiency

The student's language proficiency was measured by analyzing high skills in listening, speaking, reading, and writing in the English language to understand the content of the EMI subject.

3.3 Vocabulary power

To measure the vocabulary power of the students, the ability of the students in getting the meanings of unfamiliar English words was considered.

Instrumental development.

A questionnaire was used as an instrument in this research. It was adopted and adapted from similar works found in the literature. The questionnaire was consisted of four measuring items for each variable, English language proficiency, vocabulary knowledge, and English medium instruction.

A five-point Likert scale was used to measure the construct (scores ranged from 1= "strongly disagree" to 5= strongly agree with the neutral score=3). The survey was done online. The English language that was used.

Data collection.

A convenience sampling approach was used to collect the data through an online self-administered survey. The number of participants were increased through the technique of snowball sampling. Where respondents from various cities of Pakistan participated. The participants were older than 18 who were students from different universities and have experienced EMI courses. The respondents were invited to complete the survey through google form within two weeks. And the link was shared through social media networks.

Data preparation.

The data were downloaded from google form into the Spss24.0 data file. All questions were coded using letters and numbers on sequence basis . Only five responses were incomplete for most of the variables and those responses were removed from the data analysis. 99 responses were valid and showed readiness for analysis.

4. DATA ANALYSIS AND RESULTS

The confirmatory analysis (CFA) was used to look at the research instrument and see how the questionnaire items connected to the latent variables. The validity of the study instrument was assessed using CFA. It was discovered that in an EMI setting, questionnaire items could serve as a reliable indicator of linguistic difficulties.

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Moreover, in this research Structural equation model (SEM) was used to test and validate the research. To evaluate the correlations between several variables, second-generation

multivariable methods, or statistical models, are employed, such as SEM. The advantage of SEM is that it estimates measurement errors for both independent and dependent variables (Byrne, 2011). SEM is being extensively used in social sciences. The sections are given below discuss the stages of using SmartPLS3.2.1 software.

PLS measurement (OUTER) model results

The values of outer loadings were analyzed to evaluate the correlation between the indicators and the latent variable. Indicators with outer loading greater than 0.6, according to Hair Jr et al. (2016), were kept. Therefore, all of the items were determined to be over 0.6 when the outer model testing was performed, indicating that they are dependable things. As indicated in table II,

Table II: Items loadings

Construct	**EMI**	**LP**	**VK**
EMI1	0.584		
EMI2	0.854		
EMI3	0.848		
EMI4	-0.635		
LP1		0.893	
LP2		0.917	
LP3		0.702	
LP4		0.696	
VK1			-0.739
VK2			0.796
VK3			0.870
VK4			-0.740

Construct validity is a further measurement used in the external model testing. Construct validity evaluates whether the selected metrics accurately reflect the constructs that characterize the event (Hair Jr et al, 2016). Construct validity consists of convergent and discriminant validity. The convergent validity refers to the new scale that correlates with other variables or measures of the similar construct . The convergent validity is established when the Average variance explained (AVE) between the constructs is equal to or above 0.5(Fornell Larcke, 1981). Therefore, in this research, 0.5 was found as the AVE score for the overall constructs in the model as shown in table 3, which means the convergent validity is retained. Examining the construct's composite reliability provides an additional method for determining convergent validity, though (Fornell and Larcker, 1981).Thus, the constructs are deemed appropriate as their composite reliability values above 0.70.

Moreover, Cronbach alpha measurements must be looked at in order to evaluate internal consistency. When reliability estimates are higher than 0.70, internal consistency is attained (Field, 2009). The social sciences generally agree that a cutoff value of 0.70 is appropriate. However, as convergent validity would not be obtained, the measurement exhibiting low reliability levels should not be subjected to additional investigation (Hair Jr et al, 2016).Thus,

the scores in the table are suitable for high reliabilities, with Cronbach's coefficient alpha exceeding 0.07, satisfying the convergent validity standards.

Table III: validity and reliability estimates of the constructs.

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
EMI	0.537	0.740	0.601	0.548
LP	0.833	0.918	0.881	0.654
VK	-0.585	0.819	0.023	0.621

Another validity measurement is discriminant validity. Discriminant validity tests whether concepts or measurements that are not supposed to be related are not related. Discriminant validity can be examined through the co-relation matrix, which is the main approach to assess the discriminant validity among constructs. The average variance explained AVE of each latent construct is calculated and compared with co-relation between constructs as shown in table IV. The results in the table indicate that the discriminant validity is higher than the construct validity among various constructs. Therefore discriminant validity is established.

Table IV: Discriminant validity

Constructs	EMI	LP	VK
EMI	0.740		
LP	-0.467	0.809	
VK	0.649	-0.709	0.788

PLS structural (INNER) model results

The internal model of the structural equation model is the structural model. The PLS technique and bootstrapping procedure are utilized in this study to identify the significant levels of path coefficients, and PLS software is used to assess the power of the model and the relevance of the routes. By analyzing the standard error, T statistics, and confidence interval, a thorough evaluation of the structural model was carried out to investigate the path coefficient's importance. The estimates' stability is demonstrated by T-statistics, which is deemed satisfactory above 1.96 at a 95% confidence interval. Table V displays the study hypothesis as well as the route coefficient between the bootstrap critical ratios and the latent variables.

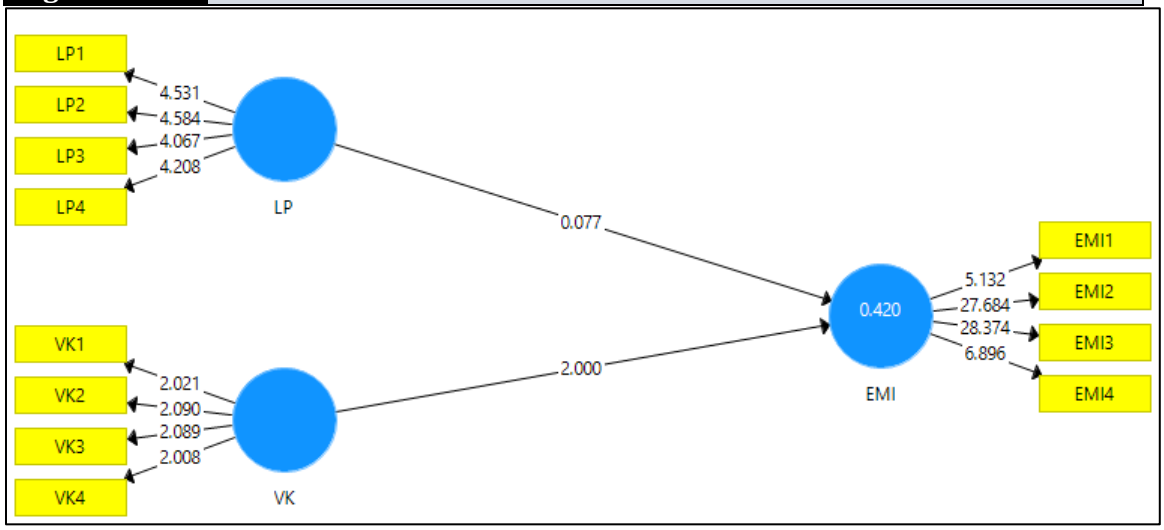
By using 500 samples as a result one hypothesis is supported and one I not supported because it is less than 1.96.

Table V: influence paths and hypothesis results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
LP -> EMI	-0.010	-0.030	0.130	0.077	**0.939**
VK -> EMI	0.641	0.568	0.320	2.000	**0.046**

Additionally, figure 2 below depicts how the research model looked on the smart PLS3.2.1 program after it was evaluated and validated. As shown in the figure one variable has a significant impact on English medium instruction(EMI). Vocabulary knowledge has the most significant impact in EMI.while language proficiency has less impact on EMI. These results gives insight for the discussion in the next section

Figure 2 **Research model tested and validated**



REGRESSION ANALYSIS

Regression analyses was used to analyse the relationship between self-reported academic success and students challenges in EMI. Regression is used to evaluate the strength of the relationship between one dependent and independent variable. Regression analysis helps in predicting how much variance is being accounted for in a single response that is dependent variable by a set of independent variables. Regression is used to assess the strength of the relationship between one dependent and independent. In this research, linear regression analysis by using Spss24 is conducted to determine the relationship between the dependent variable (English medium instruction, EMI) and other independent variables (language proficiency LP and vocabulary knowledge VK). By considering the value of R-Square (R^2 =.257) from table 6 the interpretation suggests the percent of the variability in the independent variable is accounted for the dependent variable. Therefore, the value of R-Square suggests that 25.7 percent of independent variables are explaining the dependent variable (English medium instruction, EMI).

Moreover, the value of the F-Stat shows the overall combined effect of the conceptual model. If the value of F-Stat is lesser than 0.05 then it can be concluded that the overall model is fit and significant therefore in this research the sig value is .000 which indicates the fitness of the model.

Beta- coefficient tells the change in a dependent variable concerning change in the independent variable. By considering the unstandardized coefficient beta from table 8, the

relationship between the dependent variable EMI and independent variables VK is positive and significant which suggests that if the error due to the English medium instructions (EMI) increase by one percent, the errors in vocabulary knowledge VK would increase by 0.227. on the other hand, the relationship between dependent variable EMI and independent variable vocabulary knowledge LP is significant.

Table VI: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.506[a]	.257	.241	.53288

a. Predictors: (Constant), VK1, LP1

Table VII: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.307	2	4.653	16.387	.000[b]
	Residual	26.976	95	.284		
	Total	36.283	97			

a. Dependent Variable: EMI
b. Predictors: (Constant), VK1, LP1

Table VIII: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.158	.156		13.798	.000
	LP1	.037	.050	.076	.738	.463
	VK1	.227	.051	.462	4.459	.000

a. Dependent Variable: EMI

DISCUSSION

The result of the research revealed that vocabulary knowledge was considered as the most significance concern and the challenging area of English medium instruction (EMI) study for students. The difficulties reported by students in this study were mostly related to understanding the content of the course and class participation because of low vocabulary knowledge. The result suggests that challenges related to vocabulary knowledge are challenging issue in the EMI context. Therefore researchers should give more effort to explore what factors could affect vocabulary challenges in the EMI context.

However, language proficiency LP was also found to have a significant influence on English medium instruction. Speaking and writing are the most challenging areas in language proficiency problems for students in the context of EMI. Reading and listening were not

having much influence on the EMI study. Bachelor students perceived more challenges than all others. The difficulty and complexity of the EMI curriculum was the main issue in this concern..

Overall, the result of this study contributes to the understandings that what factors are challenging for Pakistani students in EMI study. To determine how the linguistic challenges experienced by students transitioning to EMI affect their academic success in content classes further research is needed.

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