

Perception of Science Subject Studying Students towards English as a Medium of Instructions at Secondary Level; A Case Study

Fiza Nazish

Department of English, women university of Multan,

Saima Baig

Department of English Linguistics, the Islamia University of Bahawalpur.

Rabia Fayyaz

English literature, institute of southern Punjab.

Muhammad Rashid,

English Linguistics, Institute of Southern Punjab, Multan.

*Email of the corresponding author: FizaFaizanPhD@gmail.com

ABSTRACT

English has become the global language due to the language of science and technology as well as its usage. Expansion of language needs and eradication of English language hurdles requires to adopt English language as the medium of instruction at the root level of education. Secondary classes are the base of the science subject in which the major fields of subjects are thoughts and learning separately. As the students have to enroll themselves in different other fields of science and technology there is a requirement to minimize their English language deficiencies while ensuring that they are given instructions in global language. Present study is conducted to note the perception of science subjects studying students towards English as a medium of instruction at secondary level in District Multan. The study is quantitative in its nature while the data is collected through a questionnaire. 150 science students are selected as the sample of the study through convenient sampling. Data is analyzed in Microsoft Excel 2016 and the significance of the statement is found through percentages and mean values. The results describe that the science subject studying students have great and positive intentions towards English as a medium of instruction. The study suggests that English as a medium of instruction would be adopted to the future language hurdles could be minimized. Despite the language issues, the students could be confident in this regard, that, educational level is of the global level or touching to the global standards of education, with respect to the medium of instruction.

Keywords: English as a Global Language, English as a Medium of Instructions, Secondary School Students.

INTRODUCTION

Pakistan is the post-colonial country which had been ruled under British Raj before the partition of the subcontinent. English is learned and taught as foreign language in Pakistan (Crystal, 2003). Due to the expanded phenomenon of foreign language learning, English is adopted at the prominence level where English is taken as the foreign language in Pakistan. Rahman says that English is still more used in Pakistan than Urdu in official correspondence as well (2010).

Due to the expanded phenomenon of English language, the need of adoption is education, as English as a medium of Instruction has been increased. The situation can be better understood as Graddol viewed that English will remain in future too but the new hybrid

dialects will emerge so the significance of the English language cannot be neglected at any stage (2000), yet there is need of preparation more effectively to adopt the language.

Expanded needs of English language adoption and focus on fluency, requires rooting this language in the science subjects so that the receiving, perceptions, learning, usage and exploratory skills of English language could be enhanced in students.

Secondary school level is the level at which science subjects are taught separately with the usage of English language terms in them. If the students could be taught with English medium instructions then the future studies and English language understanding hurdles can be remitted effectively in students.

Statement of the Problem

English has become the global language as well as the language of science and technology. The field of science and technology requires the international standards of learning and teaching so that the future learning concerns could come in chains. Native language instructions can create the gaps in national and international standards while the international language medium can minimize the hurdles of scientific technological studies.

Research Objectives

- To understand the significance of English as a medium of instruction at secondary level in Pakistan.
- To explore the perception of science subjects studying students towards English as a medium of instruction at secondary level.

Research Questions

- How can English as a medium of instruction, be more beneficial for secondary school students studying science subjects?
- What is the perception of the students studying science subjects towards English as a medium of instruction at secondary level?

Significance of the Study

Present study enables us to suggest the significance of global and international standards of medium of instruction so that the learning process could come in chains from national to international level. The study is going to describe the significance of English as a medium of instructions and its necessity in the age of globalization and internationalization. The study could enable us to understand the effectiveness of chain learning in science students.

Literature Review

Ewie & Eshun (2015) did a study on “*The Use of English as a Medium of Instruction at the Upper Basic Level (Primary 4 to Junior High School) in Ghana: From Theory to Practice*”. The study concluded that a learner's ability to succeed academically depends on the language of instruction. Due to its diversity, Ghana has established a language policy that uses the child's first language (L1) as the primary medium of instruction from Kindergarten through Primary 3, and English (L2) from Primary 4 onward. Teachers and school officials, however, have not strictly followed and applied this regulation. Therefore, the purpose of

this qualitative study was to investigate the barriers that have prevented the use of English as the primary language of instruction in Ghana's upper elementary and middle schools (Primary 4 through junior high school) and to explore potential solutions.

Zaki & Zaidi (2017) in "*English Language in Pakistan: Expansion and Resulting Implications*" illustrated that Pakistan is categorized as a multilingual setting from a sociolinguistic or anthropological standpoint, with the majority of people speaking one native or regional language in addition to Urdu, the national language. Pakistan is a second language setting in terms of English, which means that the language is institutionalized and has the privileged status of being the official language. The purpose of this topic paper is to examine the entrance and expansion of the English language in Pakistan both before and after its creation. The historical narrative is completed in order to identify the effects of this spread and to connect them to potential future developments and ramifications. A brief historical review of the English language is provided in the article, from how it was created to how it has evolved over time, particularly in relation to various language and educational policies. According to the critical examination of material presented in the research, there appears to be no threat to English in Pakistan, which is also true globally. As English's prominence rises around the world, it will continue to grow and prosper in Pakistan, complementing the Pakistani English variant that has already emerged and is being studied and codified. However, due to the inconstancy of government policies and legislators, this process may take a lengthy time. The endangered and indigenous varieties, which may continue to be under significant pressure from the prestigious types, will remain a critical issue for scholars and the general public.

Shaheen & Kang (2020) studies on "*Impact of Medium of Instruction on Conceptual Understanding of Students of Secondary Level in the Subject of General Science*". In the current study, the effect of instructors' instructional methods on secondary students' conceptual knowledge of the subject of general science was examined. The research was descriptive. The study's focus was only on Karachi's secondary schools. There were four main research questions. Research was conducted using a mix of methodologies. Students and general science teachers from secondary schools in Karachi made up the study's population. Design for stratified random sampling was used. Students took a pre-test and a post-test. For teachers and specialists, respectively, questionnaires and interviewing techniques were devised. Data from 245 people were gathered, and both qualitative and quantitative analysis was done. This study found that employing a second language as a teaching tool for general science causes students' understanding to remain unclear. To encourage conceptual thinking and creativity in their pupils while teaching general science, teachers may choose to use their mother tongue, national language, or a bilingual medium of instruction.

Ashraf et, al. (2021) did a study on "*Multilingual Language Practices in Education in Pakistan: The Conflict Between Policy and Practice*". This study looked at language habits in Pakistani educational contexts, taking into account the country's multilingual population. Each province in Pakistan is defined by the people's single or multiple identities, as well as the languages spoken by the majority. Urdu, the native language, is only used in educational contexts and as a lingua franca. English is used by those in positions of power, offices, and educational institutions. This study explores the individual and cooperative acts of policymakers and teachers using discourse-ethnographic analysis to better

understand the function of language in educational policy and practice in educational environments. In regional, national, and international settings, the interview data revealed challenges relating to language, identity, nation, area, religion, power, and personal attainment. Furthermore, the regional discourses that politicians neglect impede the ability of national education policy to deliver appropriate results. The article continues by saying that language-in-education policy practices in multilingual societies necessitate careful planning that is guided by local conditions and requirements for effective implementation.

Pun & Jin(2022) made a research study “*English as a medium of instruction in science learning: A path analysis*”. The study found strong relationships between the variables emerged from the path analysis, demonstrating that L2 students' self-perceptions and English proficiency play crucial roles in their learning of scientific information. Although the level of English proficiency of L2 students was found to be the largest predictor of scientific accomplishment, negative attitudes of EMI brought on by a lack of English proficiency also help students' academic performance in science to some amount. When teaching science courses, mixed-language instruction appeared to be more advantageous than pure English-medium instruction from a pedagogical perspective.

Research Methodology

Present study is quantitative based on the survey. Gay (2012) says that quantitative type of research is a research in which facts are described in numeric form. The survey questionnaire consisted of the 10 different questions related to the English medium instructions being asked to the science subjects studying students.

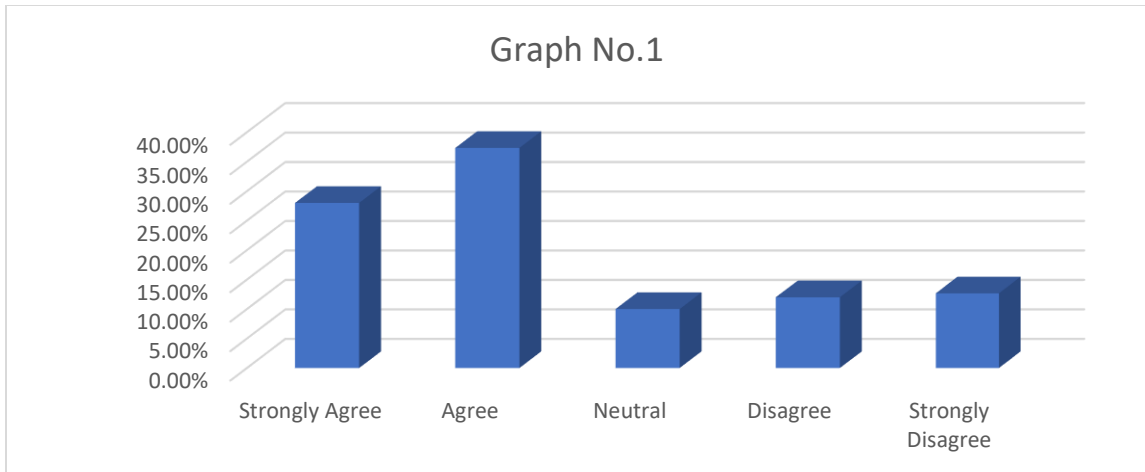
Selected sample is 150 science-subjects students study in different institutes of District Multan. Selected sample of the students is of the following two schools.

- Govt. Comprehensive Secondary School Multan
- Govt. Model High School Gulgasht Multan

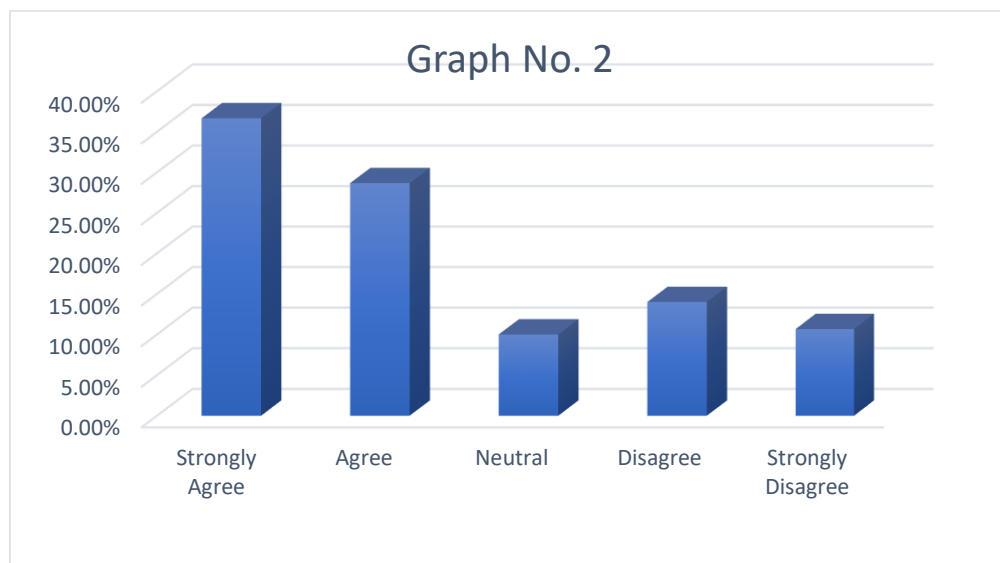
Data Analysis:

Table No. 1:

No.	Statements of the Questions		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total	Mean Value
1	I think that I am very happy to have English medium study.	F	42	56	15	18	19	150	3.56
		%	28.00%	37.33%	10.00%	12.00%	12.67%	100.00%	
2	I think that I feel boredom during repeated instructions.	F	55	43	15	21	16	150	3.67
		%	36.67%	28.67%	10.00%	14.00%	10.67%	100.00%	
3	I think that I feel pleasure to study English medium curriculum.	F	56	50	16	20	8	150	3.84
		%	37.33%	33.33%	10.67%	13.33%	5.33%	100.00%	
4	I believe that I get much understanding when my teacher speaks in English.	F	55	50	15	17	13	150	3.78
		%	36.67%	33.33%	10.00%	11.33%	8.67%	100.00%	
5	I believe that I use dictionary to understand the concepts.	F	60	40	22	16	12	150	3.80
		%	40.00%	26.67%	14.67%	10.67%	8.00%	100.00%	
6	I believe that I use to read English writing materials to enhance my academic writings.	F	65	50	20	10	5	150	4.07
		%	43.33%	33.33%	13.33%	6.67%	3.33%	100.00%	
7	I believe that I use to watch movies to build my habit for English medium concepts.	F	66	43	26	20	15	150	4.23
		%	44.00%	28.67%	17.33%	13.33%	10.00%	100.00%	
8	I believe that I will secure a better future if I would study English medium courses.	F	55	45	25	15	10	150	3.80
		%	36.67%	30.00%	16.67%	10.00%	6.67%	100.00%	
9	I believe that I am given chance in my classroom to discuss the difficult concepts.	F	55	40	30	13	12	150	3.75
		%	36.67%	26.67%	20.00%	8.67%	8.00%	100.00%	
10	I believe that my academic studies get enough time to understand the English medium concepts.	F	60	45	20	14	11	150	3.86
		%	40.00%	30.00%	13.33%	9.33%	7.33%	100.00%	

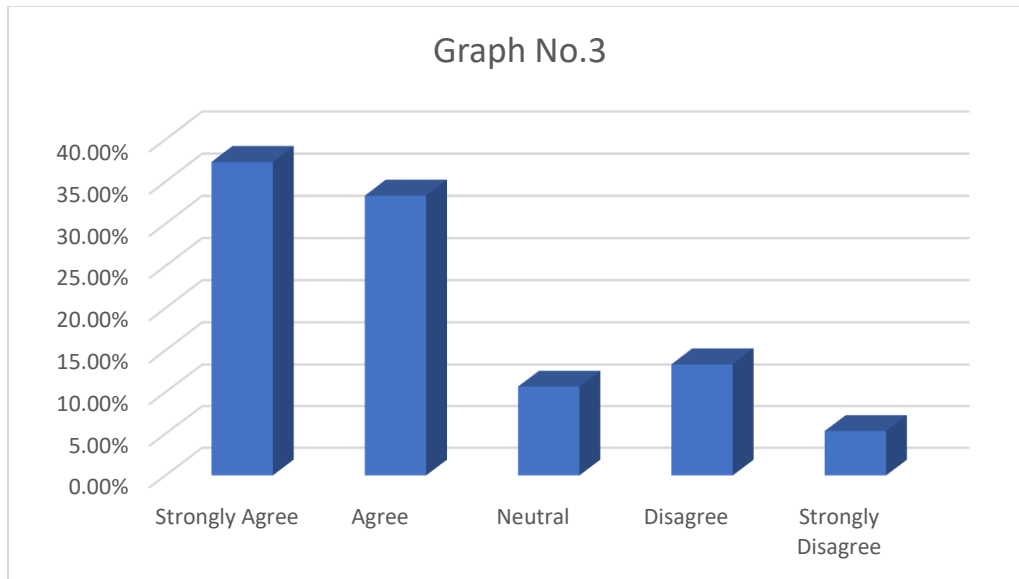


Basically, this research is about English medium instruction in secondary school students. The questionnaire has been prepared related to the secondary school level students. The researcher asked about the students' happiness. They are asked whether they are happy to have English medium study, or not. Their responses show that 28 % of the students strongly agree, 37.33% of the students agree, while 10 % of students are neutral in their response. They did not answer the question. It also has been shown in the table and graph one that 12 % of the students disagree with the question because they don't like English medium study in their class at secondary level for science subjects. It also has been mentioned that 12.67% students strongly disagree with the statement, they are not happy for English medium study in their class for their all science subjects, because they feel it tough to understand and prepare for final exams. The overall division of the responses of the students have been mentioned in Graph.1. It can also be seen that the mean value is also given in the table, which is 3.56, it is highly significant. It can be observed that most of the students are happy for English medium study in their class for science subjects. ...

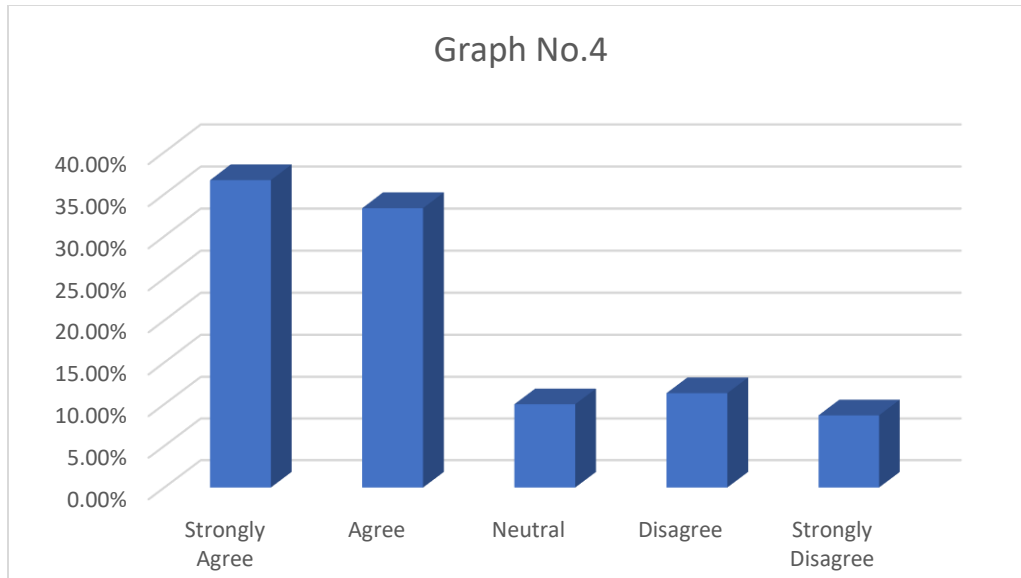


This question is about the mood of the secondary school students, when the same instruction is repeated. The responses have been mentioned in the table. It can be seen that

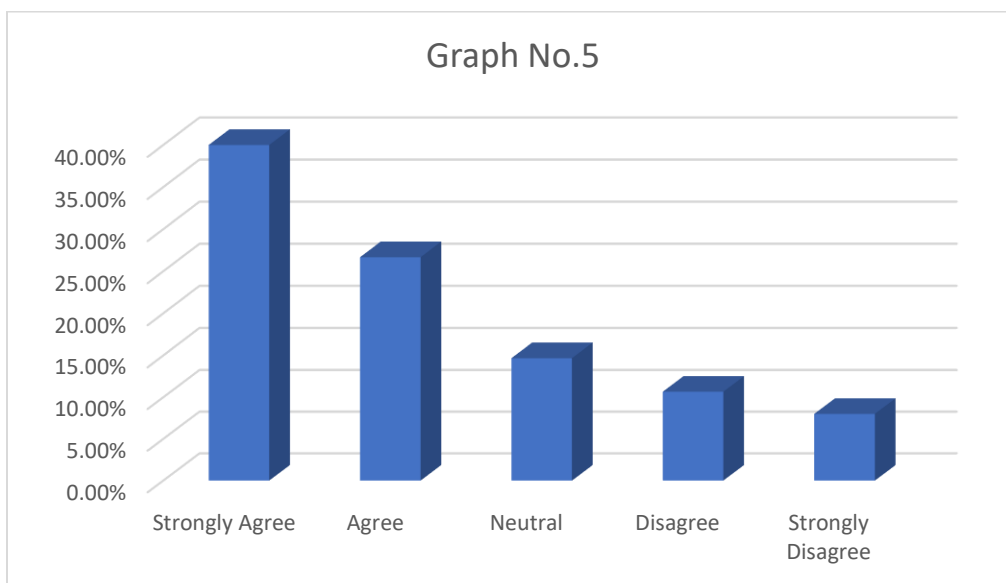
36.67% students strongly agree that they feel bored during the instructions in the class. While, 28.67% of the students agree with the statement that they usually feel bored during the repeated instructions by the teachers in the class. 10 % of the students are neutral in their response, they don't give any response for their mood and boredom. But, 14% of the students disagree with the statement of the question, they don't feel bored during repeated instructions, and 10.67% students strongly disagree with the statement of the researcher. They don't believe/ agree with the question because the repeated instructions don't affect their mood. This also has been shown in Graph 2. The mean value is 3.67 which is more significant. The graph 2 shows that most of the students agree that they feel bored during repeated instructions.



This statement is about students' pleasure to study English medium curriculum. It has been mentioned in the table that 37.33% of the students strongly agree and 33.33% of students agree with the statement of the questionnaire. They believe and think that it is a source of pleasure to study the English medium curriculum in secondary school level for their science subjects. Whereas, 10.67% of students don't make any response to the statement. The table and graph 3 also show that 13.33% of the students disagree and 5.33% students strongly disagree with the question, they don't feel pleased with students' English medium curriculum at secondary level. The mean value is 3.84 which is more significant. The graph 3 shows that most of the students agree with the researcher's statement. They really feel pleased to study the English medium curriculum at their secondary school. They have a great interest in the English medium curriculum for their science subjects.

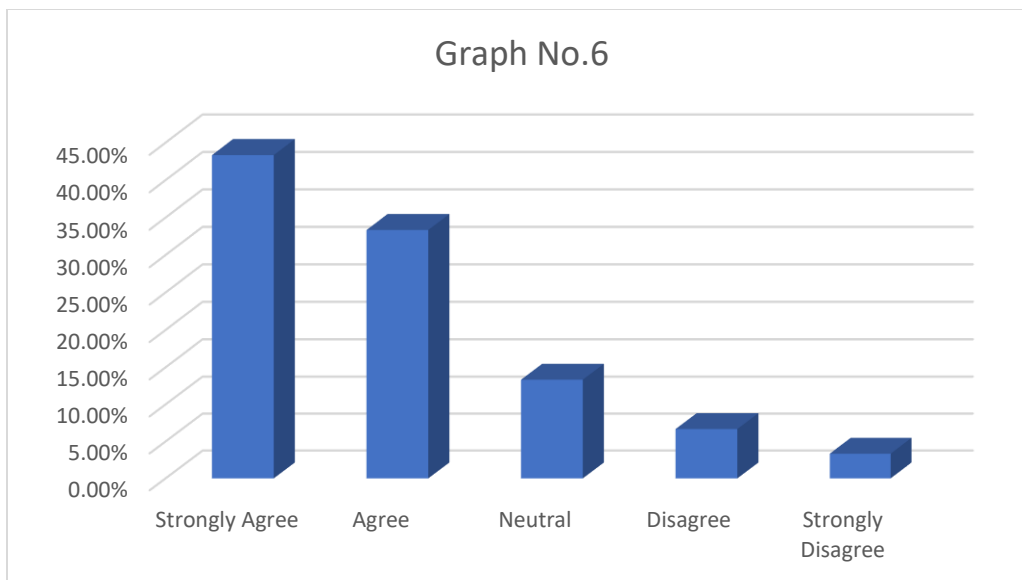


This statement is about English as the language of instruction during the class. The table shows that 36.67% of the students strongly agree and 33.33% of the students agree with the statement that they get a better understanding of concepts during the class when the teachers speak English. They feel that English is a good medium of instruction in the class for a better understanding. While 10% of the students are neutral in their response, they don't give any feedback to the question. Whereas, the table shows that 11.33% of the students disagree and 8.76% of students strongly disagree with the statement of the question. They don't accept it. For them, it is not good for understanding when the teacher speaks English in their class. The mean value for this statement is 3.78 which is most significant. The graph 4 shows that the maximum number of the students agree that they get much understanding when the teacher speaks English in the class. ...



This question is about the knowledge of dictionary's usage to understand different new concepts. The table shows that different students give their responses regarding this

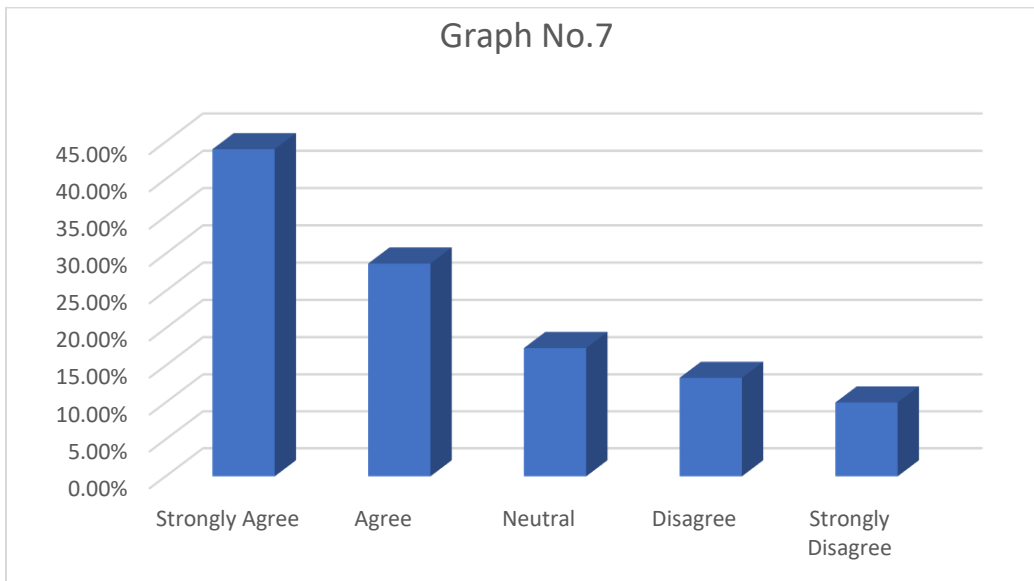
particular statement. 40 % of the students strongly agree, and 26.67% of the students agree with the question's statement. They accept that they want to use a dictionary for complex and new concepts. Whereas, 14.67% are neutral in their response, they don't give the answer for this particular question. But, 10.67% of the students disagree and 8.00% of them strongly disagree with the statement to use the dictionary for complex and difficult concepts. This shows that they don't use dictionaries frequently for their studies. The value which is shown in the table is 3.80, which is most significant for this statement. It also has been shown in the Graph 5 that most of the students use the dictionary for their science subjects for complex and difficult concepts. They think that a dictionary is the best source to understand different new concepts.



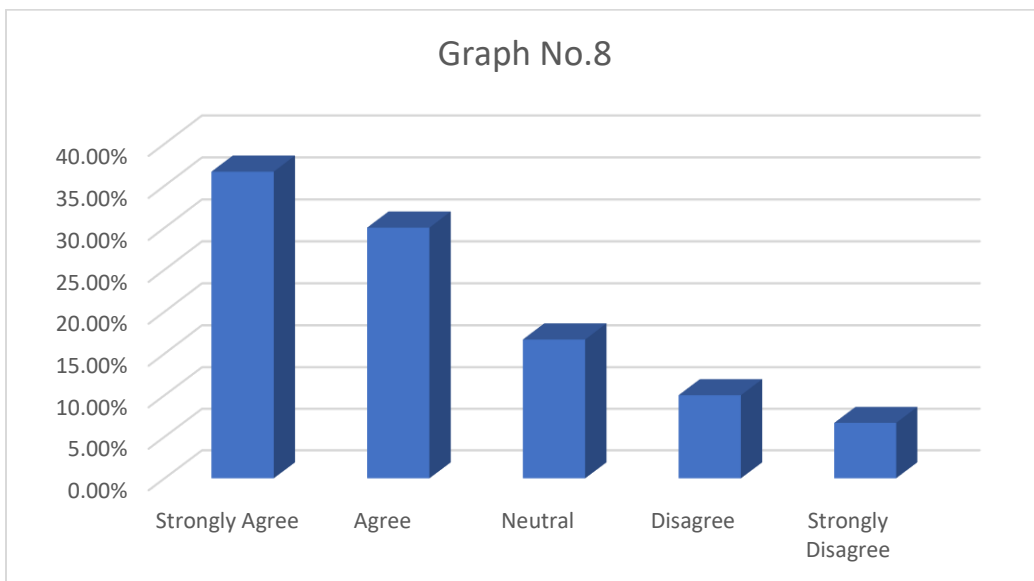
From the questionnaire, this question is about the reading of English writing material to enhance the academic writings. It is true that when a learner reads the English material he/she observes the concepts, themes and different new theories/ ideologies related to their subject matter and studies. The responses which are mentioned in the table show that 43.33% of the students strongly agree and 33.33% of the students agree with the question's statement. They believe and accept that reading English material helps to enhance their vocabulary and knowledge of that particular science subject, it also helps to probe and understand the importance of that particular topic of science in our real life. This table also shows that 13.33% of the students are neutral in their response, they don't answer this question. Whereas, 6.67% of the students disagree, and 3.33% students strongly disagree with the statement. They don't accept the question given by the researcher in the questionnaire. They're of the view that English writing material is not helpful to them in their academic writings. It also can be seen that the mean value is 4.07 which is the most significant. Graph 6 shows that the maximum number of the students believe that reading English material enhances their academic writing ability. They can make a better understanding after reading a couple of English materials.

The researcher asks this question which is related to English movies. The researcher is of the view that English movies can build a habit to make English concepts in the minds of student's better way, by watching the English movies students can start to think I'm

English. Their minds start to think directly in their target language. The responses have been mentioned in the table which show that 44% of the students strongly agree and 28.67% of the students agree with the question' statement.

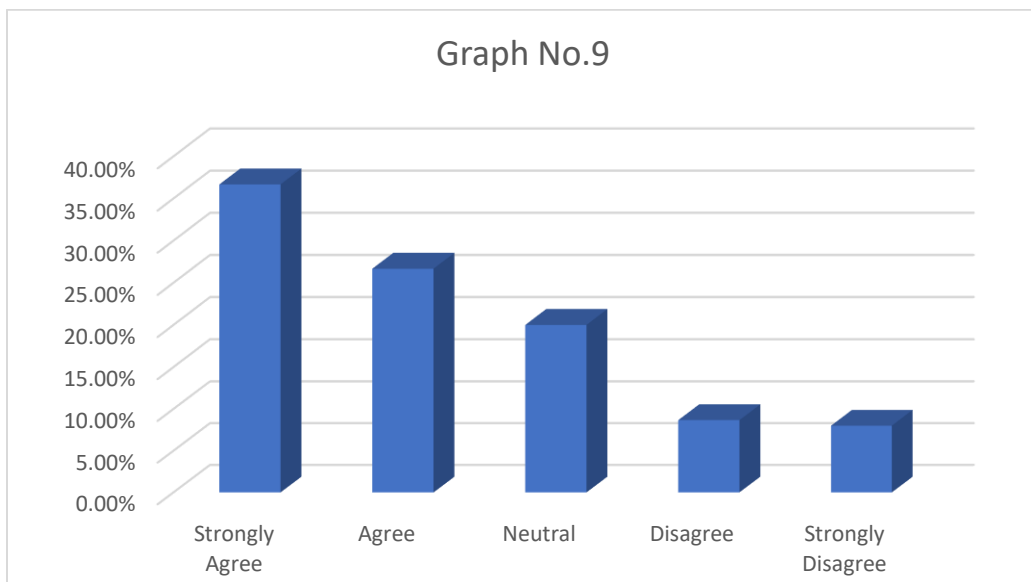


They accept the view of the researcher. These students believe that English movies become a good source to learn English. By watching and listening to the movies, they can better undertake the science subjects in their secondary level because their listening becomes good with the help of movies. It also has been shown that 17.33% students are neutral in their response, whereas, 13.33% students disagree and 10 % of the students strongly disagree with the statement of the question. These students don't accept the question. The mean value is 4.23 which is the most significant.



This question is about a better future. The researcher is of the view that the student can make a better future if he studies the English medium science courses at secondary school

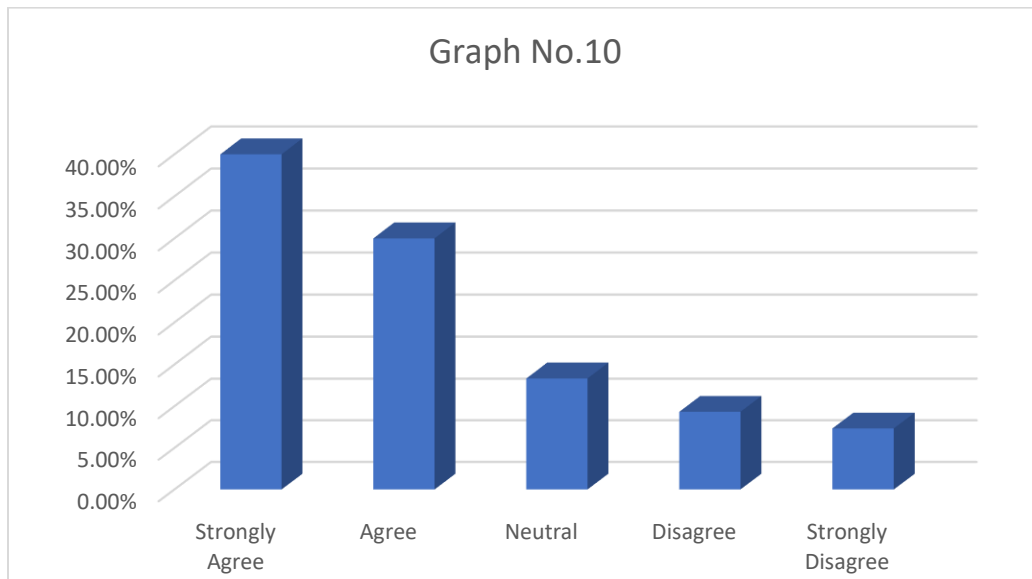
level. The students give their different responses for this question which has been shown in the table. It is a phenomenon that the English medium curriculum can be more beneficial for students in their academic career in intermediate and advanced levels. This table shows that 36.67% students strongly agree and 30% of the students agree with the question. They believe that English medium curriculum is more beneficial for students for their better future in their science subjects. 16.67% students are neutral in their response, they don't believe the statement, and they don't answer for it. Whereas, 10% of students disagree, and 6.67% strongly disagree with the question. They believe that English medium curriculum is not helpful for their better future. The table shows that the mean value is 3.80 who is the most significant. The graph 8 shows that the maximum number of the students believe that English medium curriculum for science subjects is more beneficial for a better future.



This question is about the active participation of the student in the class. The researcher asks this question from the students whether they are given a chance to ask and discuss the difficult concepts, or not. Different students give their responses for this statement. The table shows that 36.67% of the students strongly agree and 26.67% of the students agree with the statement. They believe that they are given a chance to ask and discuss difficult concepts in their class with teachers. But, 20 % of students are neutral in their response, they don't answer for this statement. Whereas, 8.67% students disagree and 8.0% students strongly disagree with the question, they don't believe that they are given a chance to ask for their query and difficult concepts in the class for their science subjects.

The table shows that the mean value is most significant, which is 3.75. The graph 9 shows that the maximum number of the students believe and accept that they are given a chance to ask for their science subjects' queries in front of their class at secondary school level. In this question the researcher asks that students' academic studies get enough time to understand the English medium concepts. Different students give their own point of view for this question. This table shows that 40 % of students strongly agree and 30 % of students agree with the question. They believe that it takes enough time to understand the English medium curriculum in their secondary level. 13.33% of the students remain neutral in their

response, they don't give any feedback for this particular question. But, 9.33% of students disagree and 7.33% of the students strongly disagree with the researcher' statement.



They believe that the English medium curriculum doesn't take much time to understand their science subjects at secondary school level. The mean value is most significant, which is 3.86. The graph 10 shows that most of the students believe that their academic studies get enough time to learn the English medium concepts of their science subjects at secondary level.

Conclusion

It can be concluded that students studying science have great and positive intentions towards English as a medium of instruction or instructions in their studies. It can also be observed that the English as a medium of instruction phenomenon, can lead the students towards the easiness of future studies which are based on the English medium courses. Many of the students have to get scholarships for foreign countries so they have to be prepared and well equipped with the English language and receive speaking skills. Root building phenomenon can lead them towards the effective receiving and performing skills based on the English medium instruction at every stage of education too.

Recommendations

- English as a medium of instruction can lead towards the hurdle eradication phenomenon of higher education, if it is adopted at secondary level.
- English as a medium of instruction is much necessary for science students so their linguistic needs can be fulfilled from the secondary stage of education.
- Courses and the contents could be delivered based on English as a medium of instruction if the teachers' training and highly qualified teachers would be adopted.

- Gap of education and global education standardized education can be rooted through adopting English as a medium of instruction especially for science students in Pakistan.

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