

**IDENTIFYING FACTORS FOR STUDYING IN AN ENGLISH MEDIUM
SCHOOLS OR INTERNATIONAL CURRICULUM IN SECONDARY AND
HIGHER SECONDARY LEVELS IN BANGLADESH**

BY

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Master of Science in Computer Science and Engineering

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APPROVAL

This thesis titled “**Identifying factors for studying in an English Medium Schools or International Curriculum in Secondary and Higher Secondary Levels in Bangladesh**”, submitted by **Md Masum Billah** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of M.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 19 January 2022.

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DECLARATION

We hereby declare that, this thesis has been done by me under the supervision of **Dr. S. M. Aminul Haque Associate Professor, Department of CSE** Daffodil International University. I also declare that neither this thesis nor any part of this thesis has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

Educational Data mining is a conspicuous research area that helps to develop an educational context. The primary purpose of this work is to find out the factors or attributes for studying in English Medium school or any International Curriculum in grade V to XII in Bangladesh. To prepare the set of attributes, help was taken from some of the renowned persons of the English Medium School and International Curriculum in Bangladesh, such as country director, principal, vice-principal, coordinator, teacher, human resources manager, parents, and students. A set of questionnaires with 29 different questions were prepared. Google form is used to collect data from students to identify the relevant attributes. After pre-processing the data, different clustering algorithms are used to find the best cluster. K-means cluster with 3 clusters gives the best result and found some main attributes or reasons for studying in Bangladesh's international Curriculum. The finding of this thesis is revealed the main factors for studying in an English Medium school or International curriculum and the differences among other schools in Bangladesh. This study finds the importance and the key features of the English Medium School in Bangladesh. It reflects the idea of English Medium School's students on their Curriculum and school. This thesis will help the students select the Curriculum and help the parents decide while admitting their children. This work also reflects the student's and parent's demands on a school and its Curriculum. In the future, this study will help find the main differences between different curriculums in the Bangladeshi education system.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In this era of machine learning, Educational data mining is one of the best research fields. If we have a robust and complete curriculum for our students, we will get the best education. To make the best education system, it's crucial to research educational data. Data mining on educational data can improve the education system.

In Bangladesh, there are three levels of the education system. Those are given below:

- Primary level (class 1-5)
- Secondary level (class 6 t- 12)
- Tertiary level (University level) [1]

Besides those levels of education in Bangladesh, there are some other education systems.

- Technical and vocational education
- Madrasah education
- Refugee education [2]

Students of all levels of schooling are receiving their education in either Bangla or English. Private schools are based on the English medium, while government schools use Bangla. Now a day's English version of government school is available. Bangladesh sustains one of the largest primary education systems in the world with as many as 80401 primary institutions of 10 different kinds namely, Government Primary School, Registered Non-Government Primary School, Non-Registered Non-Government Primary School, Experimental schools, Community schools, Kindergartens, NGO schools, Eebtedae madrasahs, primary sections of high madrasahs, primary sections of high schools [3]. There are 108515 non-English medium schools and 196 English medium schools in Bangladesh till 2018[4]. Government schools or non-English medium schools follow the Bangladeshi education system. The name of the Curriculum of the Bangladesh government education system is National Curriculum and Textbook Board (NCTB). In 1974, Bangladesh Education Commission declared English Language is given priority as a foreign language, to be taught from class 6[5]. Bangladesh entered English medium schooling from then.

English-medium schools use international curricula such as Edexcel International Curriculum, Cambridge International Curriculum, International Baccalaureate (IB), and International Primary Curriculum [6]. Bangla medium schools are controlling by Ministry of Education of Bangladesh [7] and English medium schools are operating by United Kingdom (UK) based or international institutions such as Cambridge Assessment International Education, Pearson Edexcel, Oxford International AQA, or International Baccalaureate (IB) [8]. English medium schools are owned privately but under the Ministry of Education, Bangladesh.

The number of English medium schools and students in English medium school day by day increases higher than Bangla medium school and students. There are some causes why it's happening. There are some differences between Bangla medium and English medium schools in Bangladesh.

In this thesis work, the main focus was to determine the factors for studying English medium schools or international curriculum in Bangladesh and the differences between Bangla and English medium Curriculum. This thesis has found some exceptional factors for studying in English medium school in Bangladesh. There are some unique features of English medium school and International Curriculum. Besides the special features of the Curriculum also there are some family reasons to admit a student into an English medium school or international Curriculum in Bangladesh. Students of English medium school are practicing global culture. So, also, there are some differences between the culture of Bangla medium school and English medium school in Bangladesh.

Mentioned differences make English medium schools' students different than Bangla medium schools. Because of those factors, students prefer English medium school for their schooling. Also, English medium school students are getting better international education and job field opportunities.

This thesis work will help to work on educational data in the future. It will be helpful for the researcher those who want to research on English medium school or international Curriculum in Bangladesh.

1.2 Motivation

We constantly gather or store big data in every sector in our real world. If we can research those data, we can field pure new knowledge. And that knowledge will be beneficial in the particular field. So, machine learning can be one of the best education and research sectors.

Machine learning is one of the very emerging fields of research. Machine learning on educational data makes this field more impressive. Data mining researchers have well explored and discussed the applicability of data mining in higher education. In [9] performed comprehensive study of educational data mining from 1995 to 2005. In [10] applied k-means clustering to analyze learning behavior of students which will help the tutor to improve the performance of students and reduce the dropout ratio to a significant level [11]. In Bangladesh, it's a rising field of study, and its future will be very impressive also.

English medium schools are offering an international education system and culture in Bangladesh. Students of English medium schools are brilliant in international communication. They are getting more international scholarships abroad quickly. Also, they are getting more advantages than Bangla medium students in the job sector. There should have some reasons for these differences with Bangla medium school. This research finds the factors for studying in English medium school or international curriculum and the differences between English and Bangla medium school in Bangladesh.

1.3 Research objectives

There are some particular objectives of this research. This research will find the factors for studying in English medium school or international Curriculum in grade V to grade XII in

Bangladesh. Besides these primary objectives, this research will also find some other goals.

Those are given below:

- This research will discover the unique feature of an English medium school
- Specialist of International Curriculum
- It will introduce the culture of English medium schools' students

1.4 Expected outcome

This research will find the factors for studying in an English medium school. Also, it will find the unique causes of studying in an English medium school or international curriculum from grade V to grade XII in Bangladesh. Besides this, also it will find the unique features of English medium schools' curriculum or international curricula.

1.5 Report layout

This research paper consists of five chapters. Introduction, Background, Research Methodology, Experimental Results and Discussion, Summary, Conclusion, and Future Study.

Chapter 1: Introduction: Introduction, Motivation, Research Objectives, Expected Outcome, Report Layout.

Chapter 2: Background: Introduction, Related Works, Challenges.

Chapter 3: Research Methodology: Introduction, Research Subject and Instrumentation, Data Collection Procedure, Statistical Analysis.

Chapter 4: Experimental Results and Discussion: Introduction, Experimental Results, Descriptive Analysis.

Chapter 5: Summary, Conclusion, and Future study: Summary of the Study, Conclusions, Future study.

CHAPTER 2

BACKGROUND

2.1 Introduction

"Education is the backbone of a nation". This is a well-known quote. To make a strong backbone of a nation, education is crucial. If the education system of any country is perfect, that nation will be perfect. The world's future also depends on education. Education can make a nation better, and also it can make a nation worse. The education system is designed by a country's higher educated and specialist person.

Around the world, there are different education systems in a foreign country. Maximum countries are using their national language as the medium of their education system. Every country is designing its education system based on its culture, history, and demand. Some education system is changing with the change of the world. That education system is best and time-demanding. Also, some of the education systems are not updating with time. To make an education system better needs to update timely with the change of world or with the evolution of demands.

There are few education systems in Bangladesh based on its culture, history, and demand. With time, the system is also updating partially. There is also some international education system which is available in every country. There are some gaps and differences between a national and a global education system.

The world is passing the era of globalization. We can have named today's world as the global village. It means we all are living in a village. So, we are connected with others very easily. When we develop something, we have to think about that development for the world. We should be careful about how the outcome will be the best for the entire world. So, to make a better world, we need to have a perfect and world-demanding education system.

We should have a robust education system if we want to lead this world. In Bangladesh, what are the differences between the national and international education system and the reasons for studying in an international curriculum of English medium school? It's crucial to make a perfect education system in Bangladesh. If we know the reasons for choosing an international school, we can change or update our education system. Or, also, we can include the good things from other education systems.

For the mentioned reasons, this study has been started and tried to find out the factors of studying in English medium school or international Curriculum and the unique features of international Curriculum in Bangladesh.

2.2 Related works

In the recent past, there were not enough related works are done in Bangladesh. Internationally, few works were done, and some of those works helped us a lot.

Related work:

- “CHALLENGES OF IMPLEMENTING ENGLISH CURRICULUM AT RURAL PRIMARY SCHOOLS OF BANGLADESH”-by, Md. Mahbub Rabbani Khan:
Primary level English curriculum implementation is essential in Bangladesh to achieve the set English language competencies in the rural areas. The main purpose of this study was to find out the challenges of implementing English curriculum at primary level in rural schools of Bangladesh. The current study was a mixed method research by nature. Two sets of questionnaires were used to collect data from students and teachers of rural areas to understand the views and situation of English Language teaching and learning.
- “Predictive Modeling of Student Dropout Indicators in Educational Data Mining using Improved Decision Tree”- by Subitha Sivakumar.
The objective of this work is to identify relevant attributes from socio-demographic, academic and institutional data from undergraduate students at the university

located in India and develop an improved decision tree algorithm based on ID3 which can able to predict whether the students continue or drop their studies.

- “Language wars: English education policy and practice in Bangladesh”-by Raqib Chowdhury.

This article critically reviews the major trends of English education policy as enacted through four decades of reform and how English has played out in the education system in a developing country fast emerging as a rich ground of alternative educational research.

- “Teachers’ Beliefs and Practices of Implementing Secondary English Curriculum Reform in Bangladesh: A Phenomenological Study”-by

The study focuses on the implementation of communicative English language curriculum reform of four secondary school teachers in Bangladesh. The study is explorative, interpretive, and qualitative in nature. A phenomenology approach, under the qualitative method, was adopted to explore how teachers experience the phenomenon of communicative language teaching (CLT) based curriculum reform.

- “Ritualisation of testing: Problematising high-stakes English language testing in Bangladesh. *Compare: A Journal of Comparative and International Education*”- by Ali.

The present study investigates the development of the English Paper-1 test for the Higher Secondary Certificate examination in Bangladesh, drawing on curriculum policy and test documents, and particularly on the perspectives of test writers and moderators.

- Alwan, F. H. (2006). *An analysis of English language teachers’ perceptions of curriculum change in the United Arab Emirates* (Unpublished doctoral dissertation). University of Exeter, United Kingdom
- Borg, S. (2003) Teacher cognition in language teaching: A review of research on what language teachers think, know, believe and do. *Language Teaching*.

2.3 Challenges

Where there is a problem, there is learning. The problem makes research work more perfect. Problems create the scope of learning. This research work also found some issues arise.

- Collecting the thoughts of specialists on the title of this thesis work was essential and challenging work.
- It was tough to set the attributes for the survey question. It took a lot of time to select the correct attributes.
- After setting the survey question, it needed to be verified. I needed to know if the questions were correct to find the best result.
- Data collection was very tough in this pandemic situation because there was no physical school.
- Finally, we faced the problem with cluster selection. We selected the cluster considering the present. In the future, clusters might change or not.

In this thesis work, all the problem or challenges was solved with the help of the supervisor, co-supervisor, principal, teachers, students, and self-studying. Every problem was like a challenge. The solution to those problems made this work more perfect.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The nature of the research questions should be able to formulate the type of research design [12]. For making business decisions and collect information the process is used. The methodology may include interviews, publication research, other research techniques, and surveys including present and historical data.

This research was concerned with finding out the factors for studying in English medium school or international Curriculum in Bangladesh. It was designed in a mixed approach. Attributes and data were gathered from different sources by using different data collection tools. A physical interview was conducted to collect the attributes from specialists. A questionnaire in Google form was used to collect data from students, teachers, and parents. The research work was conducted in the English medium school all over the country.

Sample schools, students, teachers were chosen based on the school's performance in the last few years. Country best schools' students, teachers were chosen. More than 20 schools and 300+ students of grade V to grade XII were selected for collecting data. Also, some data was collected from social media.

3.2 Research subject and instrumentation

In this research, the main subject was to find out the reasons for studying in English medium school or international school. Here there are some sub-subjects, and they are:

Selecting Attributes Table: with the help of specialist persons of English medium school in Bangladesh, several research papers, different website attributes table was created.

Selecting Attributes Table: Attributes table was verified by the specialist person of the English medium Curriculum of Bangladesh.

Collecting pure data: Google forms as an instrument to collect students' data.

Data Pre-processing: Weka's built-in pre-processing technique as a pre-processing instrument for data pre-processing. Also, pre-processed data manually.

Applying Machine learning algorithms: I used Weka's default machine learning algorithms to mine from the data.

3.3 Data Collection Procedure

From some specialist persons of English medium school in Bangladesh sample attributes was collected. Based on those sample attributes, main attributes were prepared. Sample attributes are given below:

Abdullah Al Mamun

Regional Development Manager- Bangladesh & Nepal

Pearson Edexcel

- a) globally recognized qualifications
- b) up-to-date syllabus content, which helps students adequately for their higher studies at the university level
- c) multiple examinations opportunities in a calendar year
- d) students get free access to their actual marked scripts, which makes the qualifications extremely transparent
- e) since the medium of communication of these qualifications are in English, students are advantaged to communicate internationally
- f) a wide range of subjects in International GCSE & International Advance Level (not only science, maths, etc.)

Monzoor Hussain Mamun

Senior Coordinator & Exams Manager

South Breeze School, Uttara, Dhaka, Bangladesh

- a) Economic development
- b) Updated Curriculum
- c) Resources are available
- d) Internationally recognized
- e) Family Migration

Abu Saleh Md Hasan

Assistant Vice Principal, Daffodil International School, Uttara

- a) International Curriculum creates a wide range of job facilities for the students.
- b) Students get ample opportunities for studying abroad with scholarships submitting their IGCSE & IAL result
- c) Students may apply for higher study without having IELTS
- d) It is easy for the students to cope up with the Curriculum after completing the International Curriculum.

Patrick Gomes

Chemistry Teacher, South Breeze School, Uttara, Dhaka

- a) Globally recognized qualifications
- b) To have better opportunities abroad in future
- c) For Acceptance anywhere in the world.
- d) Updated Curriculum

Ms. Kamrun Nahar

Senior Teacher, Daffodil International School, Uttara

- a) To have a solid English base
- b) To enrich the skills of listening, speaking, reading, and writing.
- c) To get the chance of studying in better courses
- d) To cope up quickly with the higher education's Curriculum
- e) To get a better job/ to build up a career in a better place
- f) To get promoted in the workplace/job easily
- g) To have better opportunities abroad in future

Md. Ibrahim Real

Marketing & HRM, Daffodil International School, Uttara

- a) For standard Curriculum
- b) For Acceptance anywhere in the world.
- c) For better career opportunities.

- d) For having better teacher and environment.
- e) For getting enrolled in the best Universities in the world.

Somaita

Students Grade 9, Insight International School

- a) English medium Curriculum approaches its students with more tendency of developing their knowledge, overall in English, snubbing any further focus on Bangla in the process.
- b) English medium Curriculum is prominent for its distinctive teaching ways that vary from the traditional ways of the Bangla medium curriculum. This reflects how English curriculums widen the children's perspectives by introducing engaging studying methods such as multimedia options and extracurricular activities. Unlike the Bangla medium curriculum, English curriculums mold their students into creative learners and focus more on teaching them 'how to think' than 'what to think'.
- c) English curriculums require higher financial abilities of learners compared to Bangla medium curriculums.
- d) The practice of English speaking and writing is lower in Bangla curriculums than in English curriculums. This reflects that Bangla curriculum methods depend entirely on the native language of Bangladesh, Bangla. This means no matter what area of knowledge the Bangla medium students wish to pursue; they must do so in Bangla. This restricts the practice of English in Bangla medium schools. On the contrary, in English medium schools, the opportunities for the practice of the Bangla language are limited.
- e) Overall, the English medium curriculums are better known for their better education standards when compared to Bangla curriculum options.
- f) This is why students such as myself favor English medium curriculums more than the Bangla education systems.

Umayla Mehezabin

Student, Grade 10, Insight International School

- a) To help the other people in a foreign country, a random student must need English.
- b) To attend the different foreign conference a person, need English. Well, the same goes for presentation. If a person goes to a foreign country, they must need English for specific presentations/public speaking.
- c) However, if a person stays and studies in Bangla Medium/Version, they may lack many things, such as Vocabulary, writing skills, etc. So, a person should read in English Medium school.
- d) I'm not saying reading in Bangla Medium school isn't going to help that person learn English. They can learn differently from any teacher or coach.
- e) Well, it depends on the person if they want to develop skills. So, as we know, there's a lot of British/American stories that are being read in English medium school, so, from there, a person can learn a lot of things. It can even develop a person's English role from beginner to advanced role. From there, they can be extra fluent.
- f) However, in Bangla Medium schools, they don't care about English books. The only thing they do is, make students read Bangla. There's mainly one subject, which is well written, but that book isn't going to make any change. Those are only for beginners.

After studying those sample comments and attributes main table of attributes was created. Attributes was categorized into three different categories. Those are personal interest, academic, and family background.

Table 3.3.1: Questionnaire to collect data

Serial	Attribute	Attribute value
Personal Interest		
01	Which language do you like most?	Bangla, English, Both, Other

02	Which language is more comfortable to communicate with?	Bangla, English, Both, Other
03	Which culture(music, movies, serials) do you like most?	National, International, Both, None of them
04	Which type of job do you want to do?	National, International, Both
05	Do you want to be a global citizen?	Yes, No, Not sure
06	Have you visited any other countries?	Yes, No
Academic and Curriculum Related		
07	From when do you love English?	Before joining school, 1 year after joining, 2 years after joining, 2+ years after joining, Don't love
08	Why are you studying in English medium school?	My interest, Family interest, Others interest, not interested

09	Do you want to change your school to Bangla medium school	Yes, no, Maybe, Family decision
10	Is your curriculum updated?	Fully updated, partially, not at all
11	Is it perfect for the upcoming world?	Yes, No, Maybe
12	Students can take multiple subjects from different departments. Such as Physics, Accounting, Economics, Arts, etc. Is it good for students?	Yes, No
13	What do you think is it good for students' careers?	Yes, No
14	Multiple examinations opportunities in a calendar year. Is it good?	Yes, No
15	Students get free access to their actual marked scripts which makes the qualifications extremely transparent. Do you agree with it?	Yes, No
16	Is your curriculum enough for international competition?	Yes, No
17	Is your school doing international activities?	Yes, No, Very less
18	Is your curriculum helping you to communicate internationally?	Yes, No, Maybe
19	Will your curriculum helps you to get a job internationally?	Yes, No, Maybe
20	Is your curriculum support more practical experiences?	Yes, No, Maybe

21	Is your teachers are resourceful?	Very Good, Good, Average, Below Average
22	In which university do you want to study?	National, International, Both
Family Background		
23	Father's Education	SSC/O Level, HSC/ A Level, Graduation, Masters, PhD, Below SSC/ O Level
24	Mother's Education	SSC/O Level, HSC/ A Level, Graduation, Masters, PhD, Below SSC/ O Level
25	Do any family members work in English Medium School?	Yes, No
26	Number of graduates in the family	1,2,3,4
27	Monthly family income	50k to 100k, 100k to 150k, 150k to 200k, More than 200k

28	Is there any foreign citizen member?	Yes, No
29	Family income type	Government, Private services, Business

Google form had been created based on those 29 questionnaire.

303 data were collected through this form from the students, guardians, and teachers.

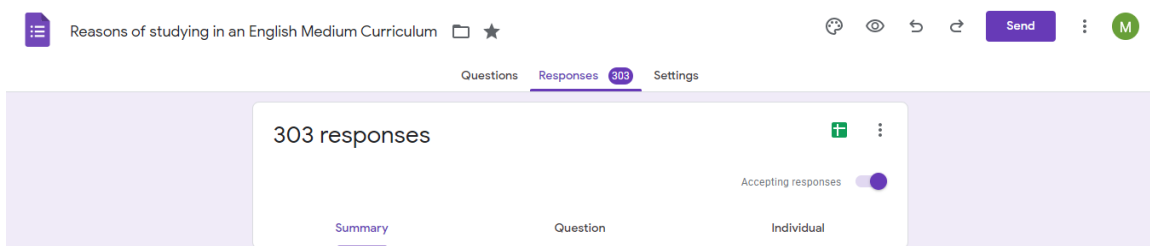


Figure 3.3.1: Google Form to collect data

3.4 Statistical Analysis

From all respondents, 65% response was same category, 19% response was another category, and rest 16% response was another category.

Questionnaire for the students

1. Which language do you like most?

From all respondents, 45.2% students like English, 42.6% students like both English and Bangla, 9.2% students like Bangla and rest 3% students like other language. So, if I combine liking English and both, I found that 87.8% (45.2% English, 42.6% Both) students like the English language and 51.8% (9.2% Bangla, 42.6% Both) students like Bangla.

Which language do you like most?

303 responses

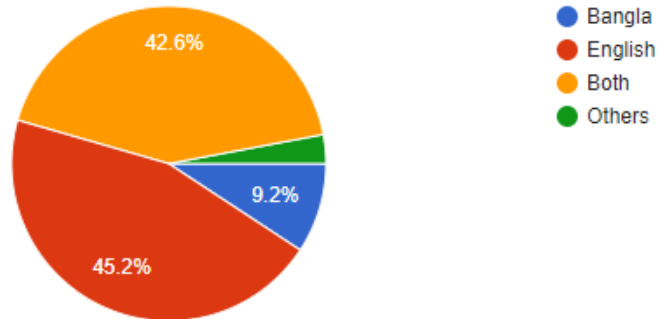


Figure 3.4.1: Language you like most

2. Which language is more comfortable to communicate with?

From all respondents, 51.5% of students are comfortable with English and Bangla Both, 30% of students are comfortable with Bangla, 17.8% of students' comfort with English, and the rest 0.7% students are comfortable with other languages. After combining all, it can be found 81.5%(51.5% Both and 30% English) students are to communicate in English.

Which language is more comfortable to communicate with?

303 responses

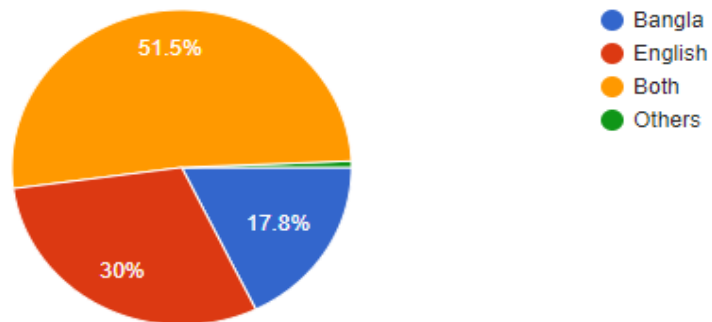


Figure 3.4.2: Which language is more comfortable to communicate with

3. Which culture (music, movies, serials) do you like most?

Among all respondents, 60.1% students like international culture, 31.7% students like both national and international culture Bangla, 4.3% students like national culture, and the rest 4% students don't like any culture.

Which culture(music, movies, serials) do you like most?

303 responses

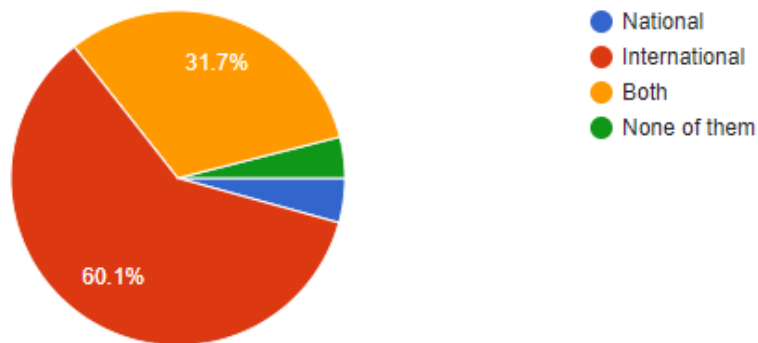


Figure 3.4.3: Which culture (music, movies, serials) do you like most

4. Which type of job do you want to do?

Which type of job do you want to do?

303 responses

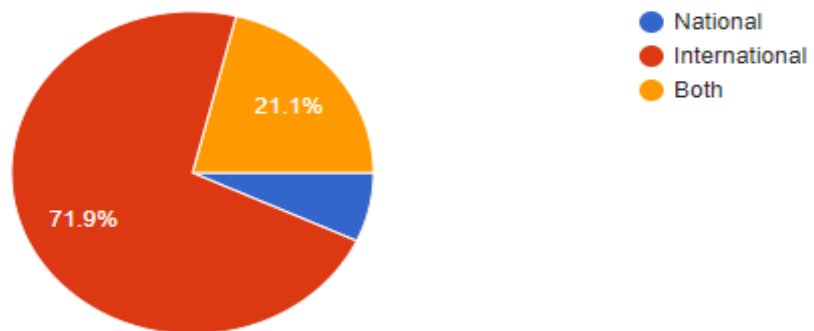


Figure 3.4.4: Which type of job do you want to do

In this study, 71.9% of students want to do the job on the international platform, 21.1% of students want to do both national and international jobs, and the rest, 7% of students, want to do a national job.

5. Do you want to be a global citizen?

Do you want to be a global citizen?

300 responses

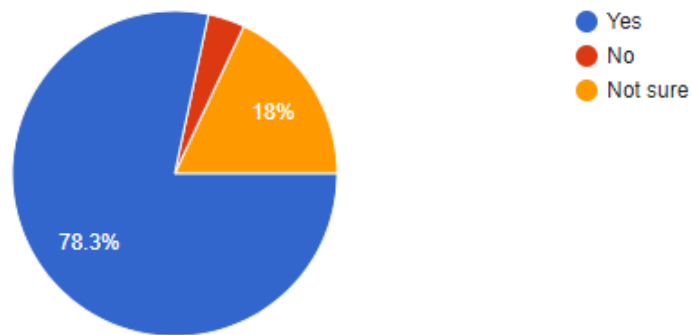


Figure 3.4.5: Do you want to be a global citizen

Among all the students, 78.3% want to be a global citizen, 18% are not sure about that, and the rest, 4.7%, are not interested in global citizenship.

6. Have you visited any other countries?

Of all the participants, 69.6% of students visited at least one country, and 30.4% didn't visit any country.

Have you visited any other countries?

303 responses

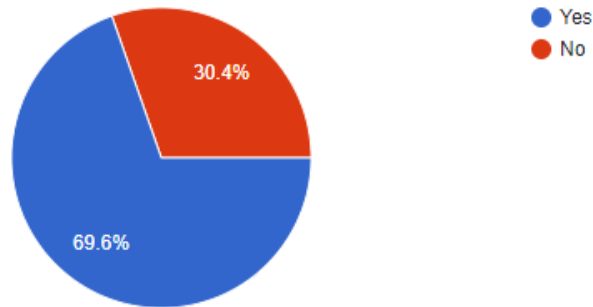


Figure 3.4.6: Have you visited any other country

Academic and curriculum related questionnaire

7. From when do you love English?

Among all the students, 63% students love English before joining in English medium school, 15.5% students love English after 2+ year of joining in English medium school, 10.6% students love English 1 year after joining in English medium school, 5.6% students love English 2 year after joining, and 5.3% students don't love English.

From when do you love English?

303 responses

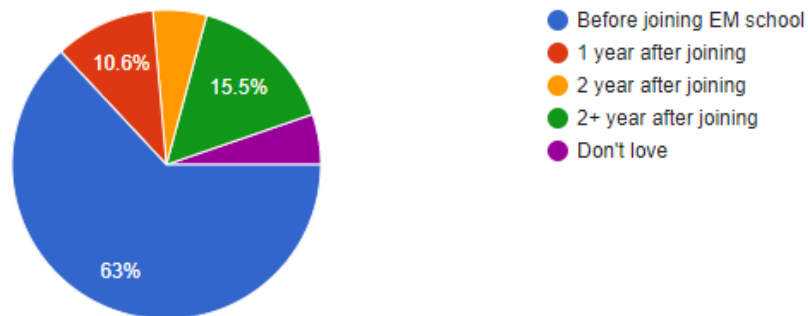


Figure 3.4.7: From when do you love English

8. Why are you studying in English medium school?

Why are you studying in English medium school?

303 responses

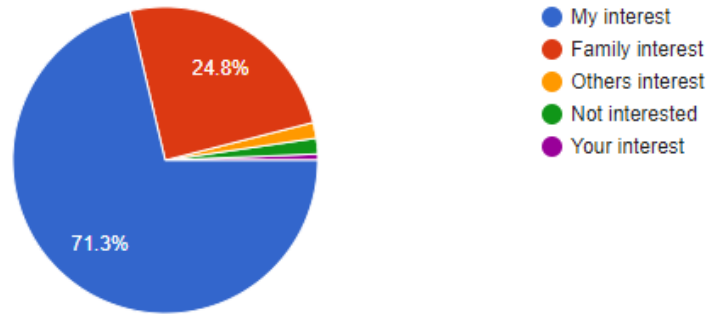


Figure 3.4.8: Why studying in English medium school

Among all the students, 71.3% of students are studying in English medium school because of their interest, 24.8% students are studying for their family interests, and 1.7% students are not interested in learning in English medium school.

9. Do you want to change your school to Bangla medium school?

Do you want to change your school to Bangla medium school

303 responses

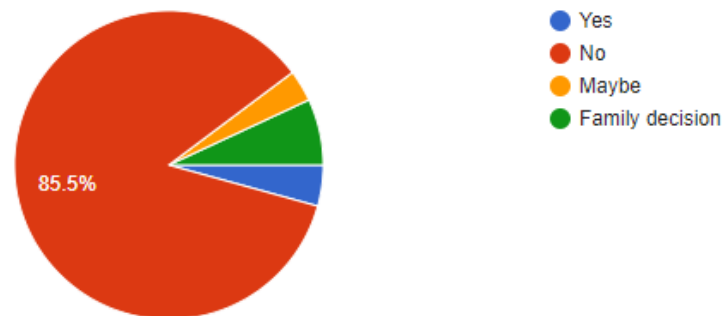


Figure 3.4.9: Do you want to change school

From all the students, 85.6% students don't want to change their medium and 4.3% want to switch Bangla.

10. Is your curriculum updated?

Is your curriculum updated?

303 responses

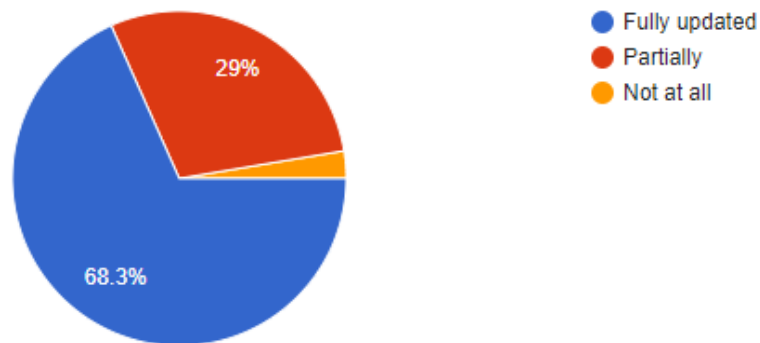


Figure 3.9.10: Is your curriculum updated

Among all the participants, 68.3% of students said their Curriculum is fully updated, 29% of students said it is partially updated, and 2.7% of students said it is not updated.

11. Is it perfect for the upcoming world?

Is it perfect for the upcoming world?

300 responses

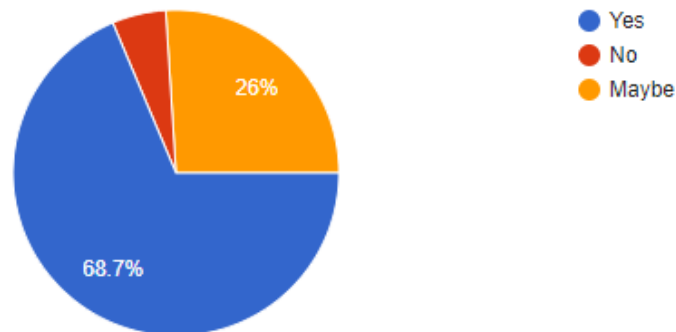


Figure 3.4.11: Is your curriculum perfect for upcoming world

Among all the students, 68.7% of students said their Curriculum is perfect for the upcoming world, 26% of students said maybe it's perfect, and 4.35 students said it's not perfect for the upcoming world.

12. Students can take multiple subjects from different departments. Such as Physics, Accounting, Economics, Arts, etc. Is it good for students?

Students can take multiple subjects from different departments. Such as Physics, Accounting, Economics, Arts, etc. Is it good for students?

303 responses

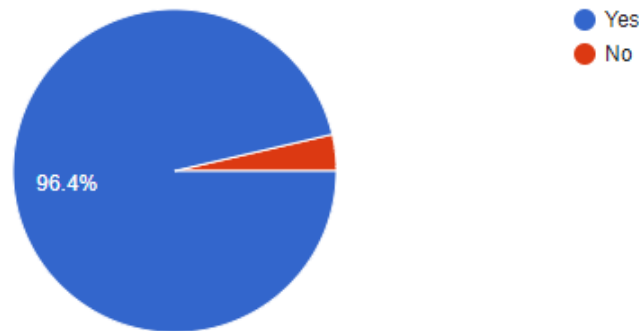


Figure 3.4.12: Students can take multiple subjects from different departments. Such as Physics, Accounting, Economics, Arts, etc. Is it good for students?

Among all students, 96.4% said that taking multiple subjects from different departments is good for them, but 3.6% of students said it is not good.

13. What do you think is it good for students' careers?

Among all the students, 98% of students said it is also suitable for their careers, and only 2% of students said it is not good for their careers.

What do you think is it good for students' careers?

303 responses

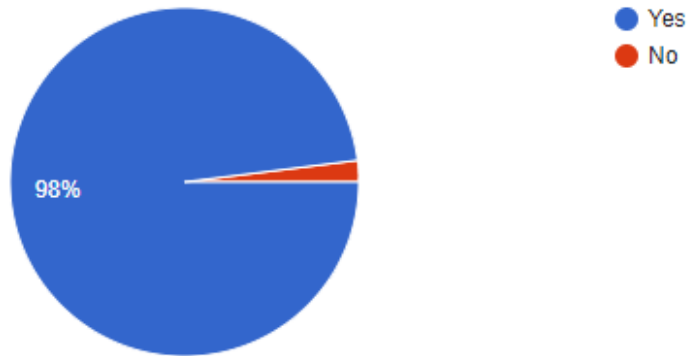


Figure 3.4.13: What do you think is it good for students' careers

14. Multiple examinations opportunities in a calendar year. Is it good?

Multiple examinations opportunities in a calendar year. Is it good?

303 responses

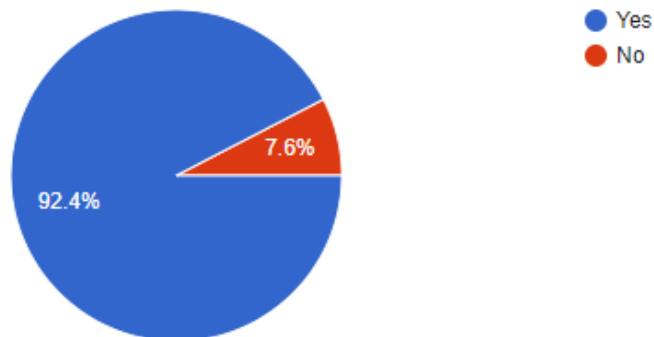


Figure 3.4.14: Multiple examinations opportunities in a calendar year. Is it good

In this study, 92.4% of students agreed to multiple examinations in one calendar year, and 7.6% disagreed.

15. Students get free access to their actual marked scripts which makes the qualifications extremely transparent. Do you agree with it?

Students get free access to their actual marked scripts which makes the qualifications extremely transparent. Do you agree with it?

303 responses

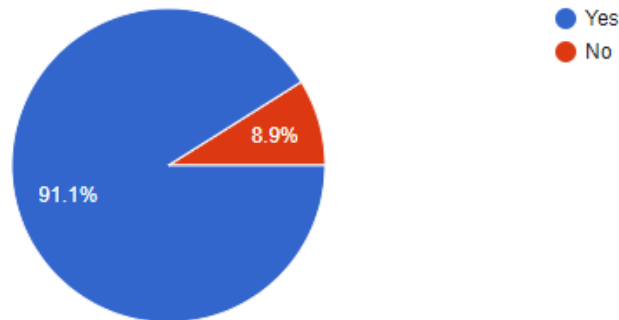


Figure 3.4.15: Students get free access to their actual marked scripts which makes the qualifications extremely transparent. Do you agree with it

91.1% students are agreed to check their marked script, 8.9% students do not agree.

16. Is your curriculum enough for international competition?

Is your curriculum enough for international competition?

303 responses

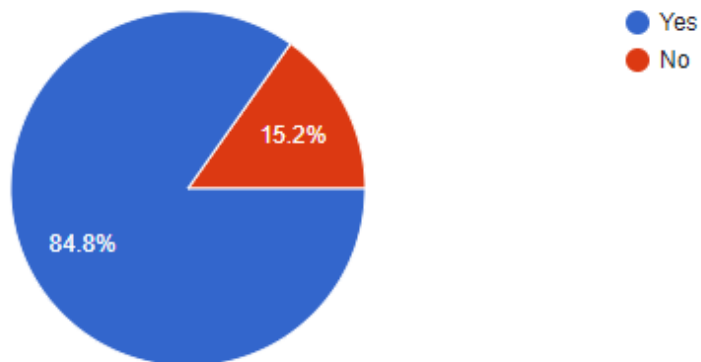


Figure 3.4.16: Is your curriculum enough for international competition

84.8% of students said their Curriculum is enough for the international competition and 15.2% of students said no.

17. Is your school doing international activities?

Is your school doing international activities?

303 responses

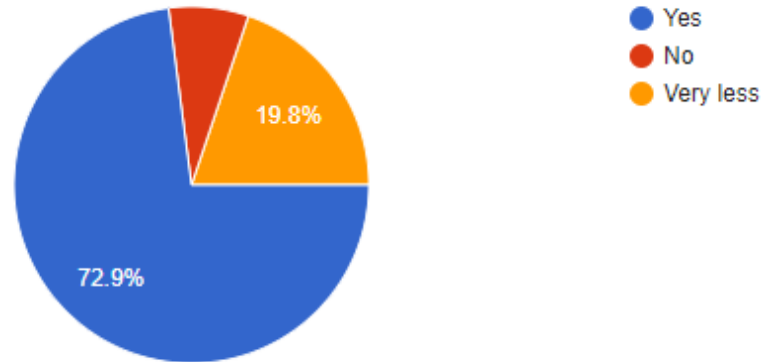


Figure 3.4.17: Is your school doing international activities

72.9% of students said their school is doing international activities, 19.8% said no, and 7.3% of students said significantly fewer activities are done by their school.

18. Is your curriculum helping you to communicate internationally?

Among all the students, 82.2% of students said their Curriculum is helping them to communicate internationally, 14.2% students said maybe it is satisfying, and 3.6% students said no.

Is your curriculum helping you to communicate internationally?

303 responses

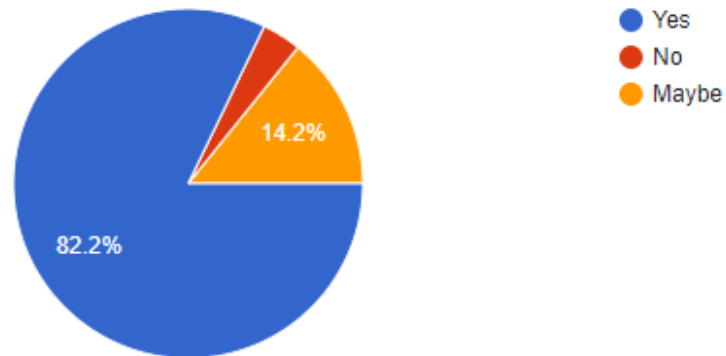


Figure 3.4.18: Is your curriculum helping you to communicate internationally

19. Will your curriculum help you to get a job internationally?

Will your curriculum helps you to get a job internationally?

303 responses

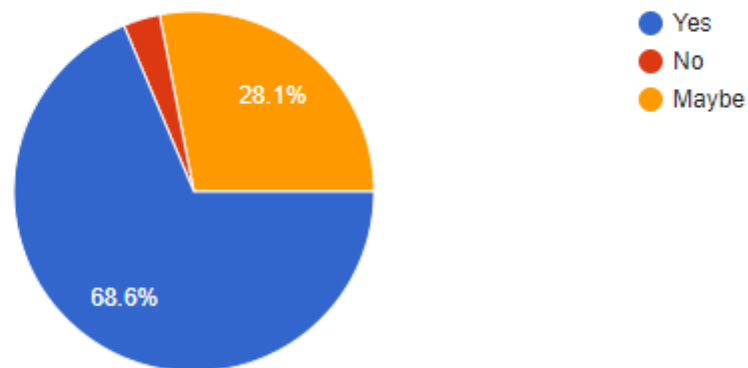


Figure 3.4.19: Will your curriculum help you to get a job internationally

68.6% of students said their Curriculum would help them get a job internationally, 28.1% students said maybe it could help, and 3.3% students said no.

20. Are your curriculum support more practical experiences?

Is your curriculum support more practical experiences?

303 responses

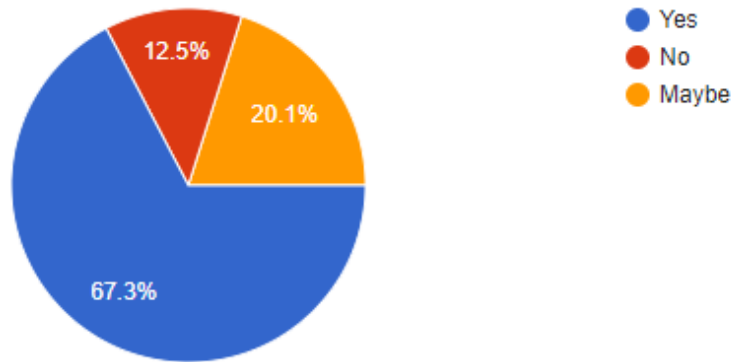


Figure 3.4.20: Are your school curriculum support more practical experiences

67.3% of students said their Curriculum support more practical work, 20.1% of students said maybe it supports, 12.5% said it is not supporting more practical experiences.

21. Is your teachers being resourceful?

62.% students said their teachers are very resourceful, 27.4% teachers are good, 8.9% students said average, and 1.3% of students said they are average.

Is your teachers are resourceful?

303 responses

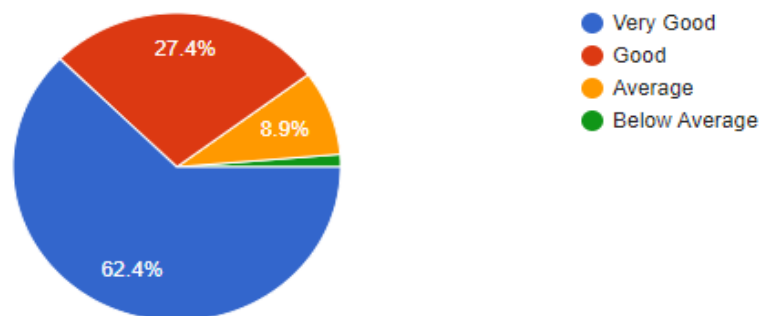


Figure 3.4.21: Is your teachers being resourceful

22. In which university do you want to study?

In which university do you want to study?

303 responses

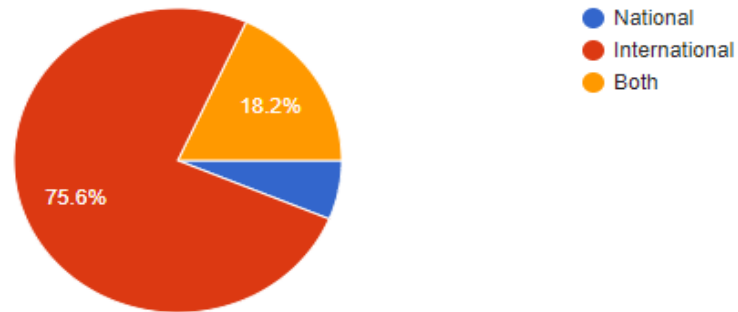


Figure 3.4.22: In which university do you want to study

Among all of the students, 75.6% of students want to study in an international university, 6.2% want to study in a national university, and 18.2% want both national and international universities.

23. Father's education

Among all the students' fathers, 44.6% of fathers have a master's degree, 40.9% have a graduation degree, 5.3% have a higher secondary degree, 4.6% have a Ph.D. degree, 2.3% have a secondary degree, and the rest 2.3% has below secondary degree.

Father's Education

303 responses

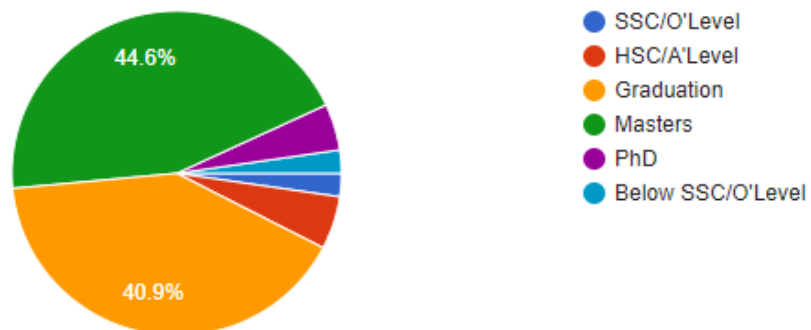


Figure 3.4.23: Father's Education

24. Mother's education

Among all the students' mothers, 40.6% of mothers have a master's degree, 38.9% have a graduation degree, 11.6% have a higher secondary degree, 6.3% have a secondary degree, 1.7% have a Ph.D. degree, and the rest 1% has below secondary degree.

Mother's Education

303 responses

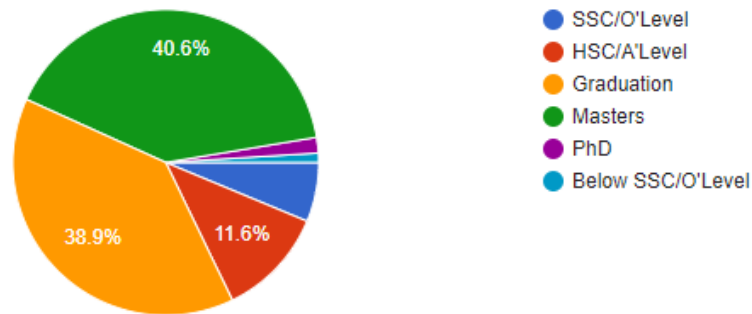


Figure 3.4.24: Mother's Education

25. Do any family members work in English Medium School?

Among all of the students' family 80.5%, at least one member works in an English medium school, and the rest of the family members are not work in an English medium school.

Do any family members work in English Medium School?

303 responses

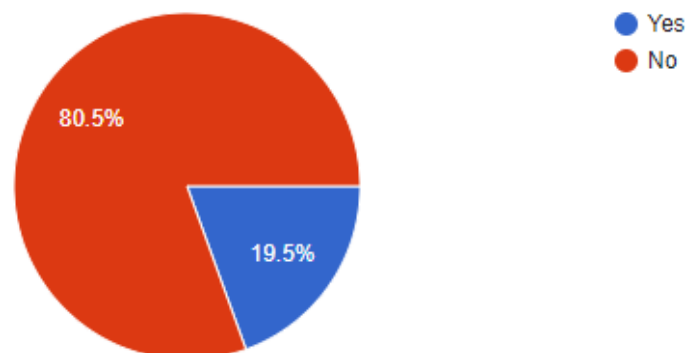


Figure 3.4.25: Do any family members work in English medium school

26. Number of graduates in the family

Number of graduates in the family

303 responses

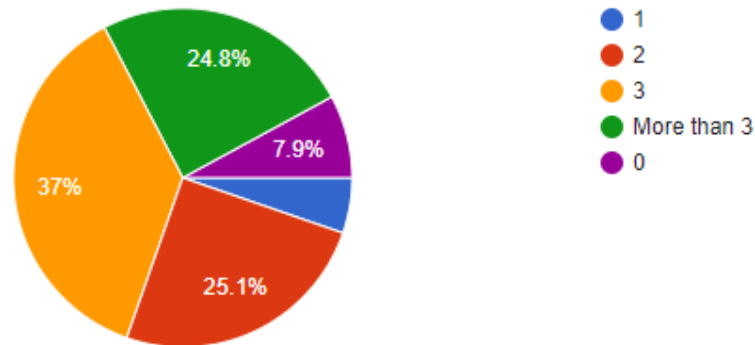


Figure 26: Number of graduates in the family

In this study, 37% of family has three graduates, 25.1% family has two graduates, 24.8% has more than 3, 7.9% family has 0 graduate, and the rest of the family has one graduate.

27. Monthly family income

In this study, 38.2% of the family's income has more than 200k BDT, 30.5% of family has 150k to 200k BDT, 18.3% of family has 50k to 100k BDT, and the rest 13% family has 100k to 150k BDT.

Monthly family income

262 responses

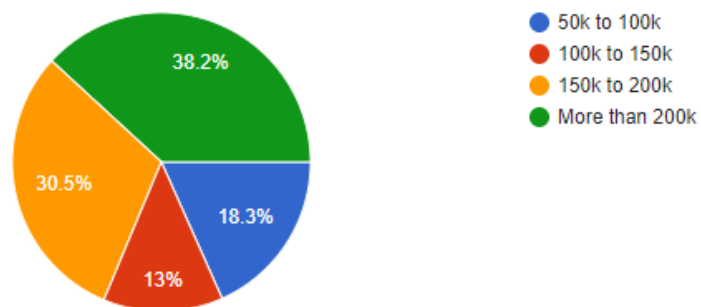


Figure 3.4.27: Monthly family income

28. Is there any foreign citizen member?

In this research, 75.9% family has no foreign citizen, and 24.1% family has at least one foreign citizen.

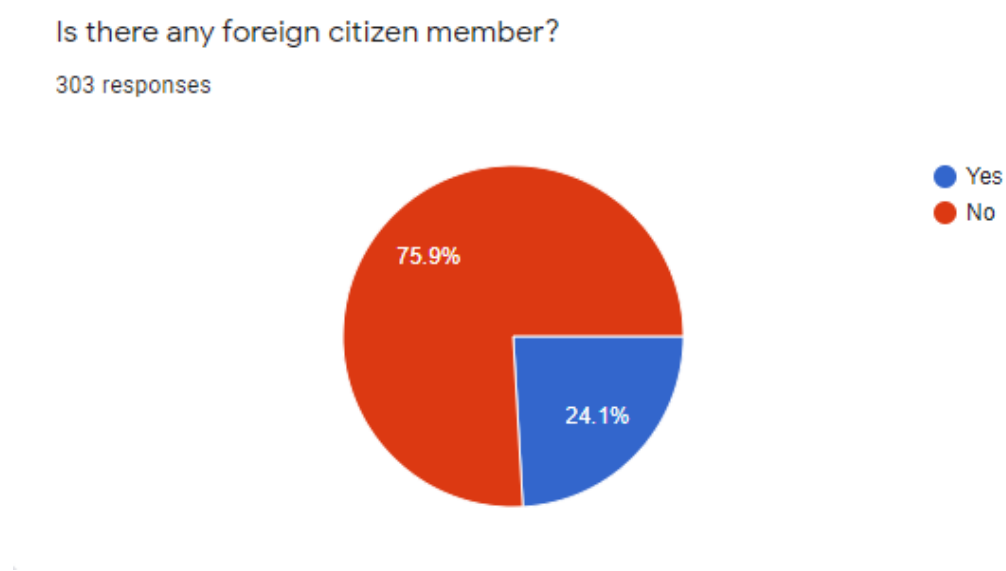


Figure 3.4.28: Is there any foreign citizen member

29. Family income type

Among all families, 58.2% family income type is business, 32% private services, and 9.2% government job.

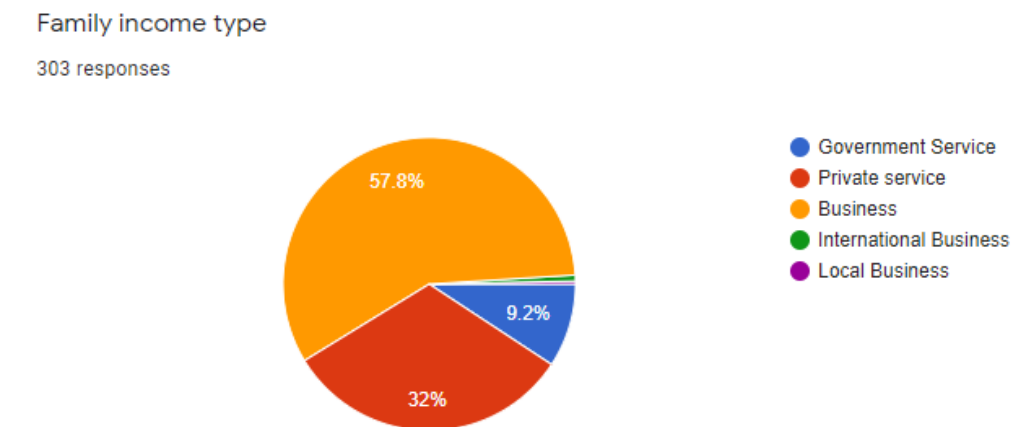


Figure 3.4.29: Family income type

CHAPTER 4

EXPERIMENTAL RESULTS AND DISCUSSION

4.1 Introduction

In this study, I experimented with different machine learning algorithms with different values to get the expected result or outcome. I have applied Simple EM, Simple K-means clustering, FarthestFirst, Filtered clustering, Hierarchical clustering, Canopy clustering, and MakeDensityBasedClusterer. Different algorithms gave different results. Filtered clustering and Simple K-means clustering showed the same and best result.

Simple EM clustering

Clustered Instances	
0	113 (38%)
1	132 (44%)
2	56 (19%)

Figure 4.1.1: Clustered instances in Simple EM clustering

In simple EM clustering algorithm number of instances in all clusters was close to others which is not as like expected outcome.

Canopy clustering

Clustered Instances	
0	126 (42%)
1	120 (40%)
2	55 (18%)

Figure 4.1.2: Clustered instances in Canopy clustering

In Canopy clustering algorithm number of instances in all clusters was close to others which is not as like expected outcome.

Make Density Based Clustering

Clustered Instances

0	76 (25%)
1	128 (43%)
2	97 (32%)

Figure 4.1.3: Make Density Based clustering

In this algorithm, result was average but not as like expected outcome.

Simple K-Means

In the clustering problem, we are given a training set $x(1), \dots, x(m)$, and want to group the data into a few cohesive "clusters." Here, we are given feature vectors for each data point $x(i) \in \mathbb{R}^n$ as usual; but no labels $y(i)$ (making this an unsupervised learning problem).

Our goal is to predict k centroids **and** a label $c(i)$

for each data point. The k-means clustering algorithm is as follows:

for each data point. The k-means clustering algorithm is as follows:

1. Initialize **cluster centroids** $\mu_1, \mu_2, \dots, \mu_k \in \mathbb{R}^n$ randomly.

2. Repeat until convergence: {

For every i , set

$$c^{(i)} := \arg \min_j \|x^{(i)} - \mu_j\|^2.$$

For each j , set

$$\mu_j := \frac{\sum_{i=1}^m 1\{c^{(i)} = j\} x^{(i)}}{\sum_{i=1}^m 1\{c^{(i)} = j\}}.$$

}

Euclidean Distance:

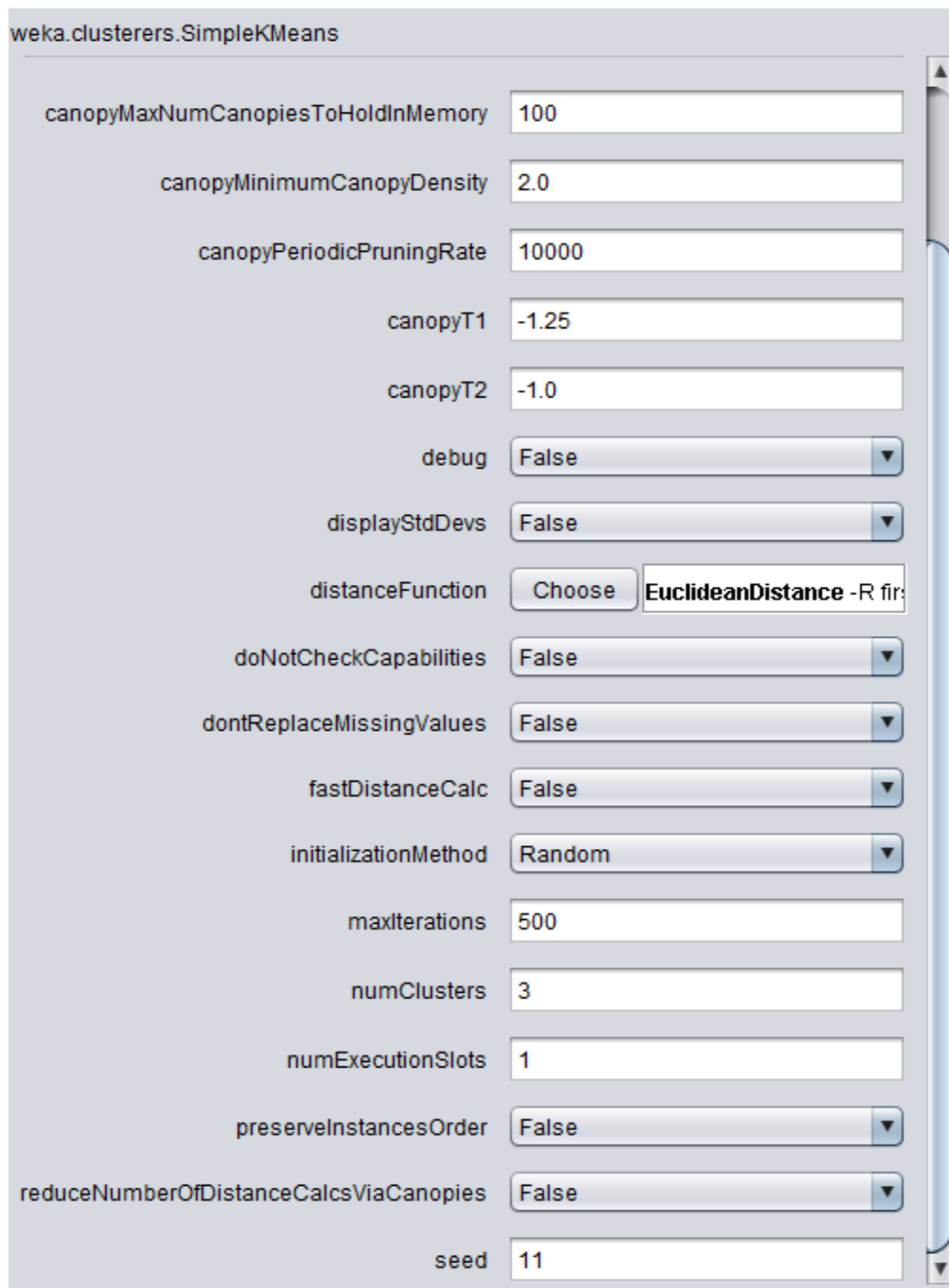
The notation $\|x-y\|$

means Euclidean distance between vectors x and y ^[13].

4.2 Experimental Results

Best experimental result is given below:

K-means clustering



The screenshot displays the configuration window for the SimpleKMeans algorithm in Weka. The window title is "weka.clusterers.SimpleKMeans". It contains a list of attributes, each with a corresponding input field or dropdown menu. The attributes and their values are as follows:

Attribute	Value
canopyMaxNumCanopiesToHoldInMemory	100
canopyMinimumCanopyDensity	2.0
canopyPeriodicPruningRate	10000
canopyT1	-1.25
canopyT2	-1.0
debug	False
displayStdDevs	False
distanceFunction	Choose EuclideanDistance -R fir
doNotCheckCapabilities	False
dontReplaceMissingValues	False
fastDistanceCalc	False
initializationMethod	Random
maxIterations	500
numClusters	3
numExecutionSlots	1
preserveInstancesOrder	False
reduceNumberOfDistanceCalcsViaCanopies	False
seed	11

Figure 4.2.1: Cluster attributes

Simple K-means clustering with 3 cluster, seeds 11, Euclidean distance, maximum 500 iteration shows the best result.

```
Time taken to build model (full training data) : 0.02 seconds
```

```
=== Model and evaluation on training set ===
```

```
Clustered Instances
```

```
0      48 ( 16%)
1     195 ( 65%)
2      58 ( 19%)
```

Figure 4.2.2: Clustered Instance of K-means clustering with 3 cluster

Simple k-means clustering with 3 cluster give the best result. 195 instances found in the cluster no 1 and it is the best cluster which is 65% of all data.

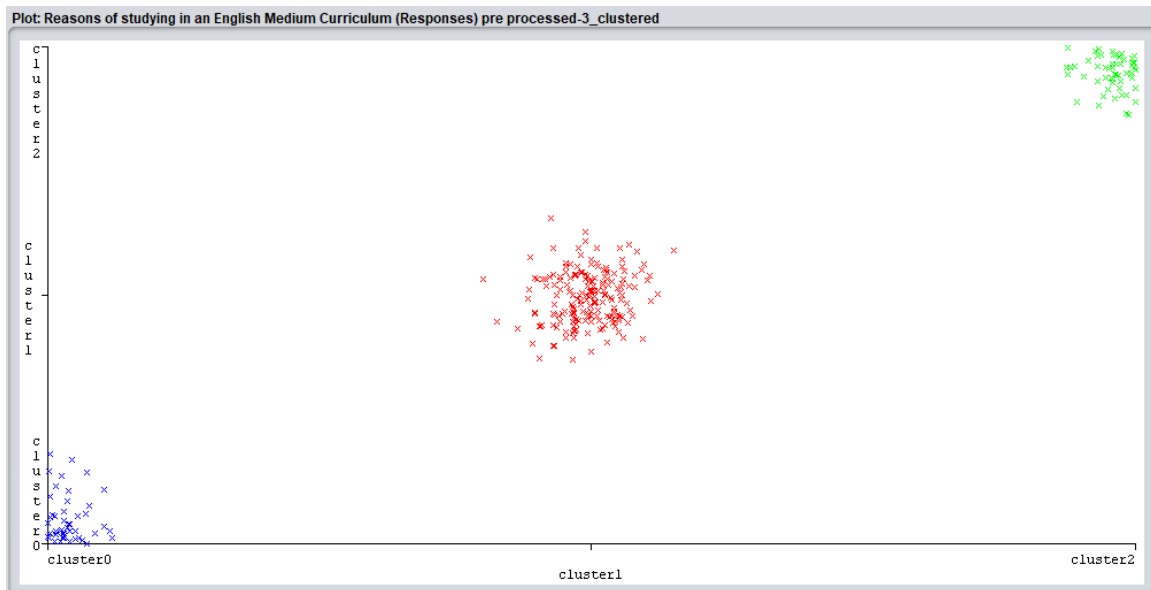


Figure 4.2.3: Cluster centroid of K-means clustering with 3 cluster

Missing values globally replaced with mean/mode

Final cluster centroids:

Attribute	Full Data (301.0)
Number of graduates in the family	2.64
Monthly family income	More than 200k
Is there any foreign citizen member?	No
Family income type	Business
Father's Education	Masters
Do any family members work in English Medium School?	No
Which language do you like most?	English
Which language is more comfortable to communicate with?	Both
Which culture(music, movies, serials) do you like most?	International
Which type of job do you want to do?	International
Do you want to be a global citizen?	Yes
Have you visited any other countries?	Yes
From when do you love English?	Before joining EM school
Why are you studying in English medium school?	My interest
Do you want to change your school to Bangla medium school	No
Is your curriculum updated?	Fully updated
Is it perfect for the upcoming world?	Yes
Students can take multiple subjects from different departments. Such as Physics, Accounting, Economics, Arts, etc. Is it good for students?	Yes
What do you think is it good for students' careers?	Yes
Multiple examinations opportunities in a calendar year. Is it good?	Yes
Students get free access to their actual marked scripts which makes the qualifications extremely transparent. Do you agree with it?	Yes
Is your curriculum enough for international competition?	Yes
Is your school doing international activities?	Yes
Is your curriculum helping you to communicate internationally?	Yes
Will your curriculum helps you to get a job internationally?	Yes
Is your curriculum support more practical experiences?	Yes
Is your teachers are resourceful?	Very Good
In which university do you want to study?	International

Figure 4.2.4: Best cluster centroid values of K-means clustering with 3 cluster

Table 4.2.1: Best cluster values

Serial	Attribute	Cluster value
Personal Interest		
01	Which language do you like most?	English
02	Which language is more comfortable to communicate with?	English
03	Which culture(music, movies, serials) do you like most?	International
04	Which type of job do you want to do?	International
05	Do you want to be a global citizen?	Yes
06	Have you visited any other countries?	Yes
Academic and Curriculum Related		

07	From when do you love English?	Before joining school
08	Why are you studying in English medium school?	My interest
09	Do you want to change your school to Bangla medium school	No
10	Is your curriculum updated?	Fully updated
11	Is it perfect for the upcoming world?	Yes
12	Students can take multiple subjects from different departments. Such as Physics, Accounting, Economics, Arts, etc. Is it good for students?	Yes
13	What do you think is it good for students' careers?	Yes
14	Multiple examinations opportunities in a calendar year. Is it good?	Yes
15	Students get free access to their actual marked scripts which makes the qualifications extremely transparent. Do you agree with it?	Yes
16	Is your curriculum enough for international competition?	Yes
17	Is your school doing international activities?	Yes
18	Is your curriculum helping you to communicate internationally?	Yes
19	Will your curriculum helps you to get a job internationally?	Yes
20	Is your curriculum support more practical experiences?	Yes

21	Is your teachers are resourceful?	Very Good
22	In which university do you want to study?	International
Family Background		
23	Father's Education	Masters
24	Mother's Education	Masters
25	Do any family members work in English Medium School?	No
26	Number of graduates in the family	3
27	Monthly family income	More than 200k
28	Is there any foreign citizen member?	No
29	Family income type	Business

Cluster#	0	1	2
	(48.0)	(195.0)	(58.0)
	2.9792	2.7725	1.9138
	100k to 150k	More than 200k	50k to 100k
	No	No	No
	Private service	Business	Private service
	Masters	Graduation	Masters
	Masters	Graduation	Masters
	No	No	No
	English	English	Both
	Both	Both	Both
	International	International	Both
	International	International	International
	Yes	Yes	Yes
	Yes	Yes	Yes
	Before joining EM school	Before joining EM school	Before joining EM school
	Family interest	My interest	My interest
	No	No	No
	Partially	Fully updated	Partially
	Yes	Yes	Maybe
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Very less
	Yes	Yes	Maybe
	Maybe	Yes	Maybe
	Maybe	Yes	Maybe
	Good	Very Good	Good
	International	International	International

Figure 4.2.5: All cluster values of K-means clustering

4.3 Descriptive Analysis

K-means clustering and Filtered clustering algorithm give the best and same result with cluster number 3 and seeds number 11. Experimental result is perfectly match with the expected result. In this study, I found the factors of studying in an English medium school and international curriculum. Also found the key features of international curriculum.

Experimental result found the factors of studying in an English medium school and international curriculum.

Personal reasons

- a) **Language:** In this study, more than 87% students like English as a language than any other language. They are using English to communicate internationally. More than 80% students are more comfort with English to communicate with others than any other language. They prefer English as a language for study and also communicate. That's they are studying in an English medium school.
- b) **Entertainment:** In this research, more than 90% students love international culture such as music, drama, movie, series, etc. They are very much interested to international culture. This is another factors of studying in international curriculum.
- c) **Type of job:** More than 71% students want to do job internationally. For international job English is very much important and also international curriculum is important. International curriculum will help a student to get an international job. That's why they are choosing English medium school or international curriculum.
- d) **Citizen:** More than 78% students on this research want to be a global citizen. To being a global citizen global curriculum is important that's why they are studying in an English medium school.
- e) **Family interested:** More than 71% students are studying in English medium school for their own interest. 24.8% students are studying in English medium school because of their family interest. So, family's interest is an important factor for studying in an English medium school.

Academic and curriculum related reasons

- a) **Up to date curriculum:** Curriculum is the vehicle of education and its promote the student's development [14]. Around 70% students was agreed that their curriculum is updated. Maximum international curriculum is up to date. The authority update their curriculum with the time demand. Such as one of the international curriculum EDEXCEL they updated the GCSE (General Certificate for Secondary Education)

and IGCSE (International General Certificate for Secondary Education) curriculum in 2019. Previously it was updated in 2016[15]. Also they are updating individual subject. Updated curriculum is one of the best factor of studying in an English medium school in Bangladesh.

- b) **Perfectness for the upcoming world:** The world is changing very smartly. The curriculum should be perfect with the time. In this case, international curriculum is very suitable for upcoming world. In this study, 68.7% students were agreed that their curriculum is suitable for upcoming world and 26% students said maybe. To study in a suitable curriculum students are choosing English medium school.
- c) **Availability of different subjects:** In English medium school or international curriculum one student can seat for exam with different subjects from different department. Students can take science, commerce, and arts together. Subject selection is totally depending on students. And also the number of subjects also depend on students' interest. They can choose how many subject they want. This is a very special factor of choosing international curriculum and studying in an English medium school.
- d) **Multiple examinations opportunities in a calendar year:** This is one another special factor of studying in an English medium school. Students can seat for exam multiple times in a calendar year. Such as, Cambridge IGCSE exams are conducted in the months of February (India only), May and October, and the results are released in May, August and January respectively [16].
- e) **Accessing marked scripts:** In international curriculum, students can access their marked scripts freely [17]. It's a very special features of international curriculum.
- f) **International competition and activities:** Now a day all students from all over the world are connected together. They participating in every competition from all over the world. To do better in international competition, students need to have the knowledge of every international topic. In this aspects international curriculum is enough for international competition. This is another factor of studying in an English medium school. English medium schools are doing international activities. It also helps the students to gather knowledge about international activities.

- g) **Practical experiences:** English medium school and international curriculum support more practical experiences. For this reason, students can prepare them for the practical world. This is another factor of studying in an English medium school.
- h) **Resourceful teachers:** International curriculum and English medium school prepare the needful materials for their teachers very smartly. They have very good resourceful teachers. This is another factor of studying in an English medium school.
- i) **Future study:** In this study, more than 93% students want to do their future study in an international university. For the students of English medium school, it's easier to get the chance to get admission in an international university. That's why they are studying in an English medium school.

Family Reasons

- a) **Parents education:** In this study, more than 90% students said their parents at least completed their bachelor degree. Parents are more educated. They are very conscious about the current world and the situation of international education. That's why they are admitting their children in an English medium school.
- b) **Number of graduates in the family:** In this research, only 9% family hasn't any graduate. 86% family has at least 2 graduates. So, family members also educated. Family education is another factor of admitting children in English medium school.
- c) **Family monthly income:** In this research, it found that family income is very high. The cost of English medium school is high. So to admit any children needs more money. So, family income is a very important fact.
- d) **Family income type:** Family income type is also a fact of admitting students in English medium school. In this research, it found that maximum families are doing business especially international business. So they want their children will do study in an international curriculum. That's why they are admitting their children in English medium school.

CHAPTER 5

SUMMARY, CONCLUSION, LIMITATION, FUTURE STUDY

5.1 Summary of the Study

Students are the future leader of the world. To make our world better, we need to prepare our students for the upcoming better world. Curriculum is a very important part of an education system. Students career depend on the curriculum which he or she completed. In the world there are different curriculum. In our country, also there are some different curriculum system.

In this research work, I have tried to find out the factors of studying in an English medium school or international curriculum in Bangladesh. For this research purpose I have collected some sample attributes to make the questionnaires from the specialist person of international curriculum. After preparing the questionnaire, I have verified those question by teachers, students and education specialist.

I have collected data from students of English medium school and international curriculum students by google form. More than 300 students from more than 20 school in Bangladesh gave their valuable information.

After collecting data, I have applied different machine learning algorithms to find the expected outcome. And I have found the expected outcome. The experimental and expected outcome match with K-means clustering and Filtered clustering algorithm.

Factors of studying classified into three group. There are some personal factors of studying in an international curriculum such as comfort language, interested job categories, favourite culture, future study, future citizen. Maximum students are very comfortable with English language, want to do international job, want to higher study in aboard, and love international culture.

International curriculum has some special features. Those features also the factors of studying in an English medium school such as its update, it has open subject selection offer, in a calendar multiple exam, marked scripts are free to access, schools are doing international activities.

And also have some family factors. Students also studying in an English medium school because of their family demand. Maximum family has international network so they want to admit their student in an international school. Maximum family are well educated and their income also high.

5.2 Conclusions

Students' life is essential for someone career. Based on our profession, we need to select our curriculum and the department. So, one student should know about different curricula and the differences between other curricula.

In this research work, I have tried to find out the factors for studying in an English medium school and the unique features of the international curriculum. And I have found some causes and particular reasons for studying in an English medium school. Those are discussed in the upper section of this report.

This research will help students select the international curriculum and English medium school. And also helps the guardian admit their children to an English medium school.

The international curriculum has some unique features which already mentioned in the report. If any students want to build their career with those features, they must study the international curriculum. That's why they need to take admission in an English medium school.

In the same way, if any students want to build their career without those features, they must avoid the international curriculum. They need to do the study with the curriculum with the desired characteristics of that students.

5.3 Limitations

There is nothing called perfect in the world. Everything has some limitations. There is some limitation of my research. Those are given below:

1. This research is only for the schools of Bangladesh. May be it will not give best result for other countries.
2. This research done only for the secondary and higher secondary levels. It will not effective for primary and university levels.

5.4 Future Study

Education data mining is a very emerging field of research. In the future, this thesis work will help to do more research. There is some future work to do:

1. Reasons for studying in the national curriculum
2. Subject wise difference between national and international curriculum
3. Merit difference between Secondary School Certificate (SSC) and International General Certificate for Secondary Education (IGCSE)

REFERENCES

- [1] Education in Bangladesh, available at << https://en.wikipedia.org/wiki/Education_in_Bangladesh>>, last accessed on 01-01-2021 at 02:29 PM.
- [2] Education in Bangladesh, available at << https://en.wikipedia.org/wiki/Education_in_Bangladesh>>, last accessed on 01-01-2021 at 02:30 PM.
- [3] Ministry of Primary and Mass Education, available at << https://en.wikipedia.org/wiki/Ministry_of_Primary_and_Mass_Education>>, last accessed on 01-01-2021 at 02:31 PM.
- [4] Abu Nayeem Mohammad Salahuddin, Md. Mahbub Rabbani Khan, and Md. Arifur Rahman, “CHALLENGES OF IMPLEMENTING ENGLISH CURRICULUM AT RURAL PRIMARY SCHOOLS OF BANGLADESH”, The International Journal of Social Sciences, vol. 7(1), pp. 5, January 2012.
- [5] Mohammad Mosiur Rahman, Md Shaiful Islam, Abdul Karim, Takad Ahmed Chowdhury, Muhammad Mushfiqur Rahman, Prodhan Mahbub Ibna Seraj and Manjet Kaur Mehar Singh, “English language teaching in Bangladesh today: Issues, outcomes and implications”, Rahman et al. Language Testing in Asia, vol. 1, pp. 4, September 2019.
- [6] National Curriculum and Textbook Board, available at << https://en.wikipedia.org/wiki/National_Curriculum_and_Textbook_Board>>, last accessed on 01-01-2021 at 02:33 PM.
- [7] International school, available at << https://en.wikipedia.org/wiki/International_school>>, last accessed on 01-01-2021 at 02:34 PM.
- [8] Edexcel, available at << <https://en.wikipedia.org/wiki/Edexcel>>>, last accessed on 01-01-2021 at 03:064 PM.
- [9] Romera C, Ventura S, “Educational data mining: A Survey from 1995 to 2005”, Expert Systems with Applications, vol. 33(1), pp. 135-146, July 2007.
- [10] Ayesha S, Musta Fa T, Sattar AR, and Khan MI, “Data mining model for higher education system”, European Journal of Scientific Research, vol. 43(1), pp. 24-9, 2010.

[11] Subitha Sivakumar, Sivakumar Venkataraman, and Rajalakshmi Selvaraj, "Predictive Modeling of Student Dropout Indicators in Educational Data Mining using Improved Decision Tree", *Indian Journal of Science and Technology*, vol. 9(4), pp. 2, January 2016.

[12] Mohammad Mosiur Rahma, Monabbir Johan, Sheikh Mohammad Masud Selim, Manjet Kaur Mehar Singh, and Faheem Hasan Shahed, "Teachers' Beliefs and Practices of Implementing Secondary English Curriculum Reform in Bangladesh: A Phenomenological Study", *The Journal of Asia TEFL*, vol. 16(2), pp. 4, Summer, 2019.

[13] K-means clustering, available at << https://en.wikipedia.org/wiki/K-means_clustering >>, last accessed on 01-01-2021 at 003:10 PM.

[14] Ronald Barnett, "Knowing and becoming in the higher education curriculum", *Studies in Higher Education*, vol. 34, pp. 429-440, May 2009.

[15] Pearson | Qualifications, available at << <https://qualifications.pearson.com/en/qualifications/edexcel-international-gcses.html> >>, last accessed on 01-01-2021 at 02:36 PM.

[16] International General Certificate of Secondary Education, available at << https://en.wikipedia.org/wiki/International_General_Certificate_of_Secondary_Education >>, last accessed on 01-01-2021 at 02:38 PM.

[17] Pearson | Qualifications, available at << <https://qualifications.pearson.com/en/qualifications/edexcel-international-gcses.html> >>, last accessed on 01-01-2021 at 02:36 PM.

[18] Taguchi, Naoko, "English-medium education in the global society: Introduction to the special issue", *International Review of Applied Linguistics in Language Teaching*, vol. 52(2), pp. 89-98, June 2014.

[19] Ernesto Macaro, Samantha Curle, Jack Pun, Jiangshan An, "A systematic review of English medium instruction in higher education", Cambridge University Press 2017, vol. 51.1, pp. 36-76, 2017.

[20] James A. Coleman, "English-medium teaching in European higher education", *Language Training*, vol. 39(1), pp. 1-14, January 2006.

APPENDICES

1. Link of google sites.

<https://sites.google.com/view/mbilla-msc/home>

2. Link of google form.

<https://forms.gle/HWze9kcEYLtgKNcUA>

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