

ENGLISH SCHOOL MATE
SRI LANKA

Project ID: 2020-069

Project Proposal Report

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BSc Special (Hons) - Information Technology (Specialization in
Information Technology)

Department of Information Technology

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DECLARATION

We declare that this is our own work and this proposal does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or Institute of higher learning and to the best of our knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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The supervisor/s should certify the proposal report with the following declaration.

The above candidates are carrying out research for the undergraduate Dissertation under my supervision.

Signature of the supervisor:

Date:

ABSTRACT

A key policy of successive governments of Sri Lanka has been the teaching of English as a second language in schools. In the current context of globalization, technological advancement and the development of a modern and diversified labor market, the use of English language skills is recognized as essential. One of the main problems with the focus on the provision of English education for students in Sri Lanka, in general, is that this approach fails to consider how there is unequal access to English education across the country.

The writing section of this project is focused on improving English grammar knowledge of students using typing keyboard, screen writing and some additional English lessons in an interactive way. We will be using the technology of image processing to do this. The grade wise English pupil books will be used to implement these lessons.

We will be having exam papers for students to go through as well and the student learning progress reports will be implemented using machine learning algorithms.

Keywords: English, English Grammar, Rural Areas

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1. INTRODUCTION

English language is taught as a compulsory subject in schools in Sri Lanka, many children faced difficulties due to inadequate English education to students.

English language can divide mainly into three components like writing, spoken, listening. There are many difficulties in the English education between rural and urban province of school students. From those components, English writing category has many lacks of problems in learning and teaching methods in schools.

Even in countries where English is not the native language, people use it for business purposes and for tourism. English is used for these purposes in most countries. English is considered the business language of the world. English is the official language of the United Nations. English is also the official language of airlines and airports. Therefore English language is an essential component to live in the current world.

Students are not interested to attach with traditional learning in 21st century with the development of the technology and the internet.

Children's grammar will develop as they are exposed to lots of language. The languages we use is also important to gain knowledge in English grammar. To provide rich language learning opportunities, educators have to expand children's language, model complex language, and talk explicitly about words, phrases, and sentences.

1.1 BACKGROUND & LITERATURE SURVEY

When researching through resource for similar type systems and procedures we found several implementation of this English writing module where textual bodies are developed using Machine Learning.

- Grammar Checking System Using Rule Based Morphological Process for an Indian Language

This paper depicts a novel technique for "Hindi" language structure checking. This framework uses a full-structure vocabulary for morphology investigation and rule-based frameworks. Right now, propose a framework which utilizes a lot of rules which is coordinated against the info "Hindi" sentence which has at any rate been POS labeled. This methodology is like the insights based methodology, however all the principles are grown physically in our methodology.

Researchers: Lata Bopche, Yeshwantrao Chavan College of Engineering, Nagpur, M.S., India.

Gauri Dhopavkar, Yeshwantrao Chavan College of Engineering, Nagpur, M.S., India, Research Scholar, G.H. Rasoni College of Engineering, Nagpur, M.S., India

Manali Kshirsagar, Yeshwantrao Chavan College of Engineering, Nagpur, M.S., India

- Grammar Checking Using Pattern Matching Approach

Right now creator proposed an example coordinating methodology for syntax checking of Punjabi sentences. In the proposed approach creator utilized the

example of sentences whose length ranges from 4 to 6. A commented on corpus of around 10,000 sentences is utilized for creating the examples. Various examples are produced for sentences of various lengths.

Researchers: Leekha Jindal, Research Scholar, Sant Baba Bhag Singh University, Jalandhar

Vijay Rana, Assistant Professor, Department of Computer Science and Applications, Sant Baba Bhag Singh University, Jalandhar

- Realization of Test Paper Score Cumulating System Based on Digital Image Processing

In order to solve the problem of handwritten score cumulating in test papers, this paper studies the implementation of test paper score cumulating system based on digital image processing on MATLAB 7.0.8 (R2009a) programming platform. The whole experiment process includes image preprocessing, scoring place positioning and segmentation, character recognition based on artificial neural network and the summation of scores. The experimental results prove that the method is effective and accurate, and also shows that MATLAB is effective in the application of this method.

Researchers: Siyu Hu, Department of Mathematics, Taiyuan University of Technology

Hao Zhang, Department of Computer Science, Taiyuan University of Technology

Yin Chen, Department of Mathematics, Taiyuan University of Technology

1.2 RESEARCH GAP

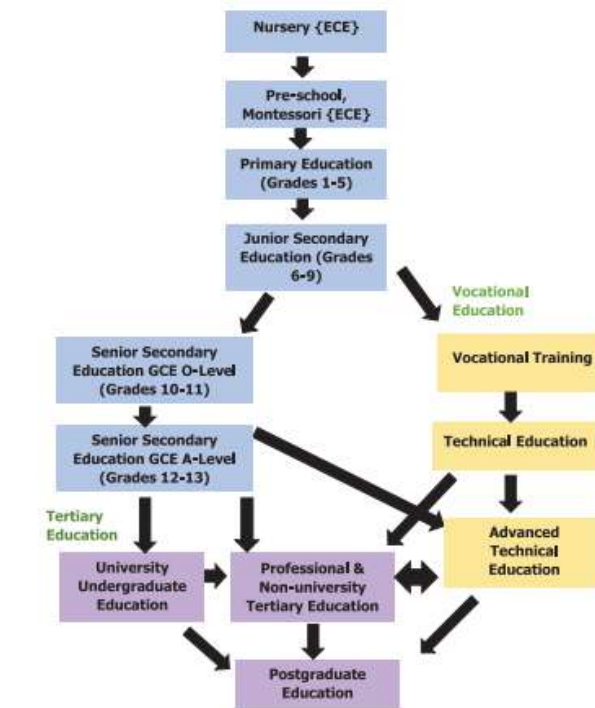
<div>Application</div> <div>Proposed</div>	Grammar Checking System Using Rule Based Morphological Process for an Indian Language	Grammar Checking Using Pattern Matching Approach	English school Mate
1. Grammar checking.	Yes	Yes	Yes
2. Lessons for English grammar using grade wise English pupil book.	No	No	Yes
3. Additional lessons for English grammar writing according to knowledge level.	No	No	Yes
4. examine papers	No	No	Yes
5. Generate student learning progress reports by using machine learning algorithms	No	No	Yes

1.3.1. Table: Research gap

2 RESEARCH PROBLEM

Nowadays knowing English language increases your chances of getting a good job in a multinational company within your home country or for finding work abroad. It's also the language of international communication, the media and the internet, so learning English is important for socializing and entertainment as well as work. So in that reason English learning is so important. English is a language. Language plays an important role in communication. The standard methods of communication are speaking or writing by a sender and listening or reading the receiver. Most communication is oral, with one party speaking and others listening. So, the spoken English category is more important from English language.

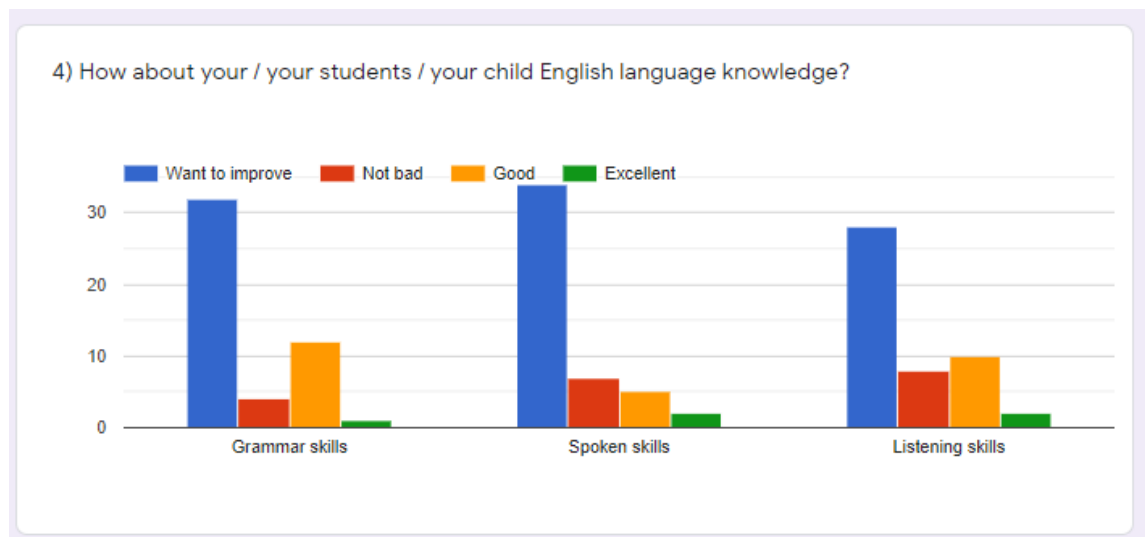
Therefore in Sri Lanka, English language has been a one of main subject in the school syllabus. In that reason everyone can start learning English from their school time. Sri Lanka's current education system has been divided as figure 2.1. According to that chart found a best time period which stage is the most suitable to start and improve the Basic spoken English properly. The stage of junior secondary education is more suitable to it because it's between primary education and senior secondary GCE O-Level. So student can improve their English education before O-Level examination.



2.1 figure: The stages of education in Sri Lanka

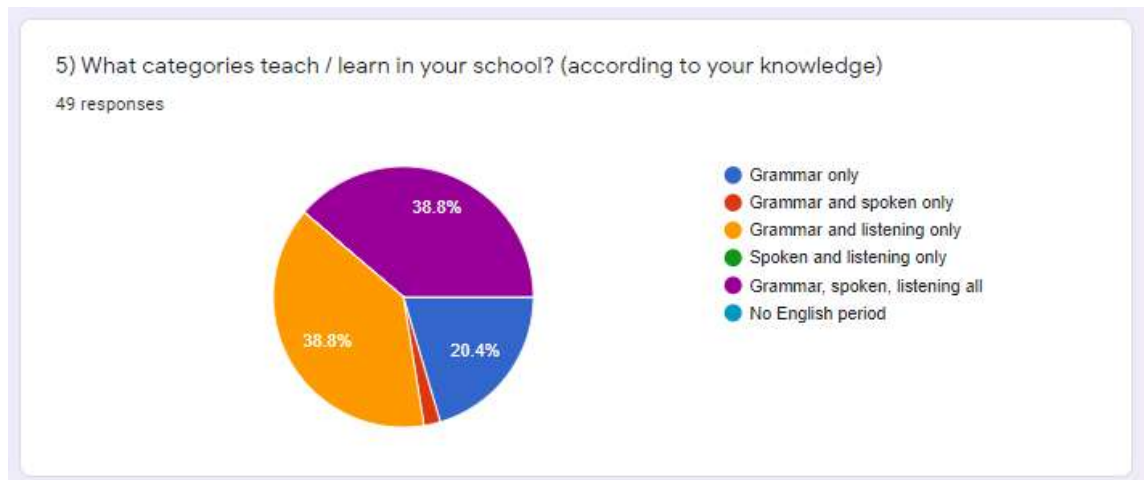
Sri Lanka has the highest basic literacy rate in South Asia, and its education system has continued to improve despite 26 years of civil war. However, the country still has a long way to go regarding literacy in the broader sense especially in rural areas and the estate sector, the low rates of digital literacy, financial literacy, and English literacy are alarming. This gap between urban and rural areas brings harsh consequences. It hinders the development of rural Sri Lanka and denies rural communities access to advanced education, higher-paid jobs and a better quality of life.

We did an analysis through English teachers, students of grade 6 to 9 and their parents, teachers of any other subjects using a Google question form. According to that form we found out most of the responders think that written English category must improve in schools both urban and rural provinces. In case we found there is a problem and we need to bring some way to improve written English of students. The 2.2 figure show this result as a chart.



2.2 figure: lack of knowledge in English Grammar writing category

According to the figure 2.3, there are 38.8% of teachers who had taught all three categories and there are 38.8% teachers who had taught only grammar and listening lessons and 20.4% teachers had taught only grammar lessons. Finally there are few other teachers who had taught only grammar and spoken lessons. According to those results we can come to a conclusion that even though most of the teachers teach grammar English in schools students and parents are not satisfied with the teaching of most of the schools.



2.3. Figure: Teaching percentages of those three categories of English (Grammar, Spoken, Listening)

Finally we decided there is a problem with teaching grammar English at the schools of rural provinces than urban provinces. We think it's because of the lack of teachers and the unqualified teachers. Also it's proof from the document of Educational Inequalities in Sri Lanka.

3 OBJECTIVES

3.1 MAIN OBJECTIVES

In this proposed system have some objectives to complete.

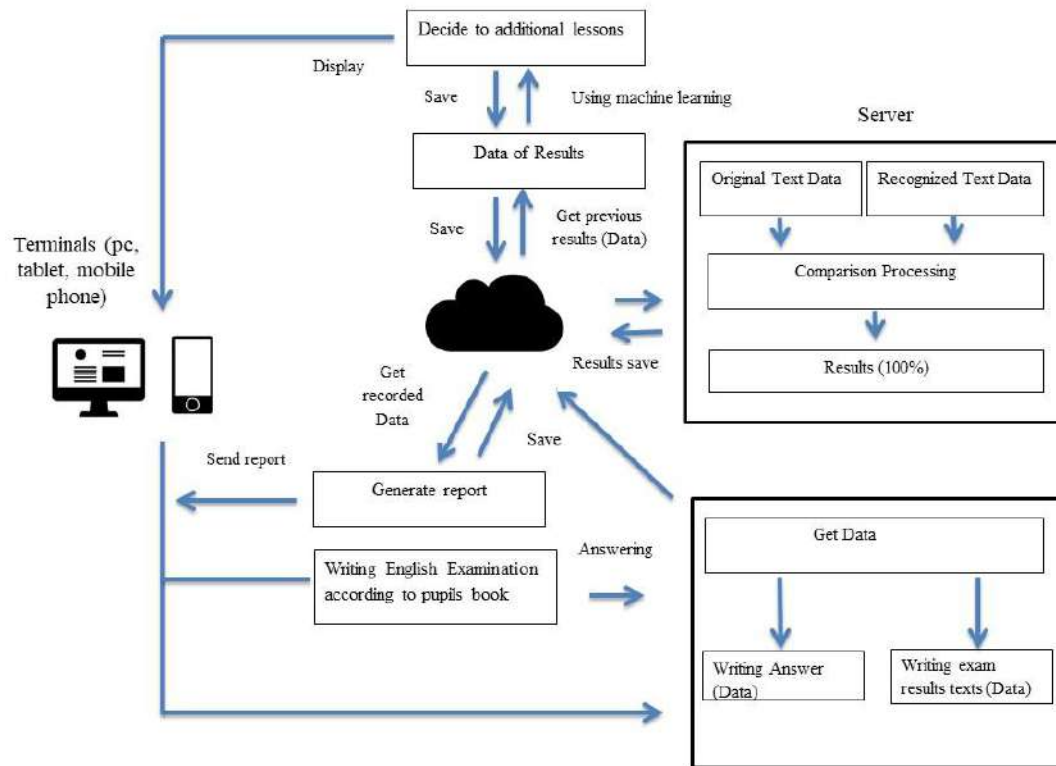
- The English writing module wants to improve the English spoken ability who between grades 6 and grade 9 students to high than present abilities.
- This module mainly focuses to student's grammar writing to improve.
- The module target to cover every writing grammar lessons of their English pupil book grade wise.
- If the writing knowledge is not up to the standards the system will assign extra lesson.
- Finally generate a report using examination results and activity results.

3.2 SPECIFIC OBJECTIVES

- Both mobile version and pc version will be developed.

4 METHODOLOGY

The English writing module mainly uses Image processing. The special feature of this module is that it allows the user to write answers to questions and exam papers using the touch screen feature of terminals which in turn is evaluated inside the system through image processing. The system will be developed with various grammar lessons and exams based on grade 6, grade 7, and grade 8 and grade 9 pupils' books provided by the education department of Sri Lanka. The evaluation process is planned to be implemented based on machine learning techniques. A comparison algorithm is proposed to develop which will compare the correct answers with the answers provided by the user. The system will also generate a report based on the weekly progress of the user. It will also be capable of suggesting different additional lessons based on the evaluation process. This will also be done using machine learning techniques.



4.1. Figure: Architecture diagram of English writing module

5 TOOLS AND TECHNOLOGIES

- Android
- Java
- Python

6 REFERENCE

[1]. Grammar Checking System Using Rule Based Morphological Process for an Indian Language, Lata Bopche, Yeshwantrao Chavan College of Engineering, Nagpur, M.S., India, Gauri Dhopavkar, Yeshwantrao Chavan College of Engineering, Nagpur, M.S., India, Research Scholar, G.H. Rasoni College of Engineering, Nagpur, M.S., India, Manali Kshirsagar, Yeshwantrao Chavan College of Engineering, Nagpur, M.S., India

[2]. Grammar Checking Using Pattern Matching Approach, Leekha Jindal, Research Scholar, Sant Baba Bhag Singh University, Jalandhar, Vijay Rana, Assistant Professor, Department of Computer Science and Applications, Sant Baba Bhag Singh University, Jalandhar

[3]. Realization of Test Paper Score Cumulating System Based on Digital Image Processing, Hao Zhang, Department of Computer Science, Taiyuan University of Technology, Yin Chen, Department of Mathematics, Taiyuan University of Technology

