Now everyone can measure grammar ability through the use of grammar assessment system

Abdul Rashid Mohamed
Shaik Abdul Malik Mohamed Ismail
Lin Siew Eng

Abdul Rashid Mohamed, School of Educational Studies, Universiti Sains Malaysia
Penang, Malaysia. Email: richsesusm@gmail.com
Shaik Abdul Malik Mohamed Ismail, School of Educational Studies, Universiti Sains Malaysia, Penang, Malaysia. Email: samohame@gmail.com
Lin Siew Eng, School of Educational Studies, Universiti Sains Malaysia, Penang, Malaysia. Email: linsieweng@gmail.com

Abstract

This paper describes an initiative to systematically gauge English as Second Language (ESL) learners’ grammar proficiency. Grammar Assessment System was developed with the goal to determine learners’ grammar proficiency and place learners in their respective grammar proficiency levels. The novelty of the Grammar Assessment System is in the three notable elements; Grammar Test, Grammar Matrix and Grammar Descriptor. The respondents comprised of 848 students from 10 secondary schools in Penang. The findings of this study showed that 34.0% of the respondents were categorised as ‘Above Standard’, 29.5% of the respondents were categorised as ‘Meet Standard’ and 36.5% of the respondents were categorised as ‘Below Standard’. The study’s value lies in its capacity to provide practising teachers with a set of indicators to gain accurate information with regards to their students’ grammar proficiency.

Keywords: Grammar Assessment System, Grammar Test, Grammar Matrix, Grammar Descriptor

1 Corresponding author name: Abdul Rashid Mohamed
E mail address: richsesusm@gmail.com
Introduction
In accordance with popular belief, it is generally predictable that a person who is proficient in a language must not only be skilful in the four language skills of listening, speaking, reading, and writing but must also possess grammatical competence and performance. With the advent of the Communicative Approach, grammar has taken the backseat in favour of communication. However, according to Rutherford (1988) grammar is important in language learning and necessary in order to acquire a language. Though communication is emphasised, effective communication cannot be carried out without grammatical competence, (Savage et al, 2000). Grammar is noteworthy as the means which glued together the various language structures that are used for communication.

Khan (2005), conducted a study on 30 secondary students revealed that many of them are generally poor in grammar while Vahdatinejad (2008), found that most students make numerous mistakes in prepositions, tenses and lack precision in word choices. Earlier, Lim (1976) found that students commit numerous recurrent errors in spelling, inaccurate use of prepositions, inability to use subject-verb agreement appropriately, and obvious tenses error. According to Surina et. al., (2000), a large number of Malaysian students find subject-verb agreement problematic in their writing. Even though subject-verb agreement is one of the first item exposed to students as early as their primary years (Nor Arfah, 1988), students experience difficulties in managing these structures related to subject-verb agreement while Munir (1991), finds that subject-verb agreement is apparently the area in which Malaysian students encounter the most difficulties.

In the public examinations in Malaysia such as the Primary School Evaluation Test, Lower Secondary Assessment, Malaysian Certificate of Education and the Malaysian University English Test (MUET), the grades obtained for the English language tests do not precisely reflect students’ grammar proficiency as students are evaluated only on the reading component, writing, literature and some discrete items on grammar. The composite nature of the grades obtained by the students does not inform teachers which part of grammar students are weak or proficient in. With such inadequate information, teachers are unable to proceed with relevant measures that can be taken to correct grammar deficiencies.

As such, attempts must be geared to provide and equip teachers in Malaysia with a system that can effectively, efficiently evaluate students and simultaneously generate complete information on grammar proficiency of the students. Allen (2000) believes that accurate feedbacks on students are important information for teachers to monitor the progress and development of the students especially for carrying out remedial and enrichment activities in the ESL classrooms. Similarly, Routman (2003) feels that when evaluation is made, teachers must go through the process of collating the data and making the necessary changes to the current methodology, the materials used and the activities planned.

Hence, the purpose of this study is to provide a complete and accurate detail of the development and implementation of the Grammar Assessment Management System (GrAMS) that is intended to provide an accurate and comprehensive description of the actual grammar proficiency of students. In order to fulfil this purpose, the paper will explain: i) the development of the Grammar Test; ii) the development of the Grammar Matrix, and iii) the development of the Grammar Descriptors.

GrAMS: The Idea
GrAMS is an acronym for Grammar Assessment Management System. It is intended to assess grammar proficiency, analyse results, and decode grammar proficiency. This is in line with Zarrillo’s (2007) view of assessment, that is, to provide an insight and a holistic view of learners’ proficiency of a certain subject matter and is closely linked to Routman’s (2003) notion of evaluation, in which continuous assessment is part of a teacher's daily routine. We
believe that the data collected and analysed are used by teachers to make necessary changes in the teaching, materials developed, and activities to address the needs of the learners. GrAMS is reliable to assess and gauge English as Second Language (ESL) learners grammar proficiency, which is an important aspect of ESL teaching and learning. It was developed based on research which took into account traditional, contemporary English Language Grammar, and Malaysian mandated curriculum. GrAMS is also designed to meet the unique needs of current school based assessment practices by giving teachers, students and parents peace of mind and taking away the tasks of creating exams, grading, reporting the scores and storing of information pertaining to grammar proficiency of individuals as well as groups of learners regardless of at school, district, state or national levels. GrAMS has a unique online and repository system that can permutate and consequently generate different sets of tests. GrAMS can assist teachers to place learners in their respective grammar proficiency levels so that teachers can tailor made their instruction accordingly. GrAMS is paperless in nature and environmental friendly, thus in compliance to the current noble idea of recyclable, reusable and renewable.

**GrAMS: The Technicality**
There are three components that supported GrAMS, namely; the Grammar test, the Grammar Matrix and the Grammar Descriptors (Figure 1).

![GrAMS Components](image)

**Figure 1. GrAMS Components**

Generally, if GrAMS online version is activated learners test scores can be automatically generated. Teachers can immediately cross check the generated analysis against the Grammar Matrix to ascertain the grammar proficiency levels and placed learners into the right grammar proficiency levels. In addition, teachers, learners, education personals, and other stakeholders can make use of the Grammar Descriptors to establish students’ grammar proficiency. Eventually, learners’ grammar proficiency will be labelled categorically as “above standard”, ‘below standard’ or ‘academic warning’. Subsequently, interventions can be carried out by making use of relevant and appropriate teaching instructions and materials (Wasburn-Moses, 2006).

**GrAMS: The Design and Development**
We started with a study in a selected multicultural and diverse performance Malaysian secondary school to determine the cut scores. Students from Year 7 through Year11 were the respondents. The test scores of all the respondents were analysed and the cut scores to generate the grammar proficiency bands were established. Briefly, there are three phases in the development of GrAMS. The initial phase is the development of the grammar test. The second phase is the development of the grammar matrix and the third phase involves the development of the grammar descriptors.
GrAMS: The Test
A Prototype Test was developed by a group of practicing teachers and key personal of the English Language section from selected schools. The Prototype Test undergoes a stringent process of fine tuning and modification. The prototype was validated by panel in the related field and tested for reliability before the Prototype Test was established as the Grammar Test. The developmental phase of the Grammar Test is shown in Figure 2.

Figure 2. Developing the Grammar Test

The Grammar Test can be used by Malaysian secondary schools students in Year 7 through Year 12 to gauge current grammar proficiency and to benchmark them on their performances. The scores obtained by the students are then matched to the Grammar Matrix to derive the Performance Standards of the students.

Developing the Prototype Test
The Prototype Test was developed using the Grammar Performance Indicators (GPI) as the foundation and based on the premise that grammar standards are not static but in fact very dynamic and that the status of a learner’s grammar proficiency changes showing improvement with relevant and appropriate teaching instructions. Thus, a learner is believed to be at varying stages of the grammar development continuum at any point of any educational level. This is supported by Eiger (2009) who states that learners in their learning endeavour come with different stages of learning and diverse capabilities, attitudes, interest, and motivation and at different learning rates. This substantiates the different difficulty levels of the grammar questions that were developed in the prototype test. Taking the varying difficulty levels in the questions into consideration is to serve the purpose of furnishing the ESL teachers with information in order to establish in which part of the learning curve the learners are currently in.

Developing the Content of the Prototype Test
The suggested number of multiple-choice questions to be used in a test using the Multiple-choice format is fifty questions as stipulates in The Compendium Volume III (Ministry of Education Malaysia, 1991:28). For the Prototype Test, we recommended using the multiple-choice format to increase the reliability of the test. Therefore, 15 (or 25%) questions assigned at the easy or elementary level, 30 (or 50%) of the questions were assigned at the average or
intermediate level and 15 (or 25%) of the questions were assigned at the difficult or advanced level. The proportions of the varying difficulty level of the questions are in line with Mok’s (2000) view who advocates that 25% of the questions in the test should be simple, 50% average and the remaining 25% difficult. Furthermore, the three levels of questions were again divided into three sub-levels for each of the level namely; easy for the word/phrase level, moderate for questions at the sentence level and the difficult being those questions that comprise of questions at the discourse level. The questions for the prototype test consists of questions that deal with knowledge on the parts of speech, concord, noun phrase, verb phrase, adjectival phrase, adverbial phrase, prepositional phrase, organisation logic and higher order thinking skills (HOTS).

Validity of Prototype Test
According to Gay and Airasian (2003) the content validity of a test must be verified by content expert. In order to verify the content validity of the Prototype Test, the researchers consulted five content experts in which three of them were experienced English language examination papers examiners and the remaining two were senior university TESL lecturers. They examined and analysed the suitability of the questions to ensure that content validity is evident in the test instrument. The judgement made by the five content experts revealed that there was high content validity and the questions were suitable.

Reliability of Prototype Test
Gay and Airasian (2003) highlighted that internal consistency reliability provides valuable information concerning the item consistency in a test. Moreover, as mentioned earlier this Prototype Test which employs a multiple-choice format and making use of the Kuder-Richardson formulae in particular; the KR20 was apparently the right choice. This is supported by Oosterhof (2001) who believes that the Kuder-Richardson methods are more sensitive to sources of internal consistency, a fact that is also shared by Popham (2002). The KR20 result of this Prototype test was found to be 0.909, a result which is consistent with Diederich’s findings cited in Oosterhof (2001:74), that is, the Kuder-Richardson reliability must be within the range of 0.60 to 0.80 for a test making use of a full class period to complete.

GrAMS: The Grammar Performance Indicators (GPI)
In order to conceptualise a reliable and a valid test, the researchers rationalised that fundamentally, there should be a standardised guideline or structure which can form the framework of the grammar test. This resulted in the designing of the GPI which became the basis for the conceptualisation of GrAMS. The GPI basically, refers to vivid descriptions of the sub-skills of ESL grammar (Parts of Speech) at the various levels in which learners need to acquire. The main sources in which the descriptions were derived were obtained after careful and detailed examination of the Malaysian primary and secondary English language syllabuses and curriculum documents. The rationale to make use both the primary and secondary Malaysian English language syllabuses was in tandem with Rabbini’s (2002) conclusion that for students as well as teachers, the syllabus is the guiding direction towards the objective of arriving at some form of learning outcomes.

Developing the Grammar Matrix
The Grammar Matrix is simply a chart which is used to indicate the grammar proficiency of the Malaysian secondary school students who are in Year 7 to Year 12. It points out to the teacher at which level of the grammar proficiency the student is at, that is whether the student is above or below the grammar proficiency level of a particular educational level.
The main function of the Grammar Matrix is to gauge the grammar proficiency of the students across the various grammar proficiency levels. To ensure the accuracy and precision of the information regarding the grammar proficiency of the students, the Grammar Matrix need to be used collectively with the Grammar Test as well as the Performance Standards together with the Grammar Descriptors (GP 1 to GP 6). Used collectively, the information collected is generally reliable and precise which can help to refine, modify and shape the teaching instructions currently employed, materials used and learning activities.

**Deciding the Cut Scores for Grammar Proficiency Levels**

Before the Prototype Test Instrument (PTI) could be used, the PTI was subjected to a number of pilot tests to ensure there is reliability and validity. Upon obtaining the reliability and validity, the PTI was again put through a few more round of tests to decide on the cut scores. When the final set was ready, it was tested on a set of students from Year 7 to Year 11 to decide on the cut scores. The data gathered were analysed and used to find out the cut scores for the GM. Stringent measures were taken to ensure that the cut scores were accurate as well as resembled and represented the actual grammar proficiency of the students who sat for the prototype Test.

The next stage involves explaining how to derive the cut scores for the grammar proficiency levels (GP 1 to GP 6). 1280 respondents from Year 7 to Year 12 comprising the good, the average and weak students sat for the test. The mean scores of the students from Year 7 to Year 12 were used to derive the cut scores for GP 1 to GP 6. When the mean scores were rounded to the nearest number, the mean scores of the students in Year 7 and Year 8 were found to be within 25 and 27 respectively. It was therefore reasonable to classify the cut scores for Year 7 and Year 8 students under “meet standard” to be within the range of 25 to 27. Logically, as the mean of the students in Form 1 was 24.08, the scores obtained by students below the mean would then be classified as “below standard”.

Once the cut scores for the GP levels were established, the GM was constructed as illustrated in Table 1. With the GM in place, we can now find out the GP levels of the students and also ascertain their achievement performance whether they are “Above Standard”, “Below Standard”, “Meet Standard” or at “Academic Warning” aligned to their educational level.

<table>
<thead>
<tr>
<th>Educational Levels</th>
<th>GP 1 (0-24)</th>
<th>GP 2 (25-27)</th>
<th>GP 3 (28-33)</th>
<th>GP 4 (34-45)</th>
<th>GP 5 (46-53)</th>
<th>GP 6 (54-60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 7</td>
<td>Below Standard</td>
<td>Meet Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
</tr>
<tr>
<td>Year 8</td>
<td>Below Standard</td>
<td>Meet Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
</tr>
<tr>
<td>Year 9</td>
<td>Academic warning</td>
<td>Below Standard</td>
<td>Meet Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
</tr>
<tr>
<td>Year 10</td>
<td>Academic warning</td>
<td>Below Standard</td>
<td>Meet Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
</tr>
<tr>
<td>Year 11</td>
<td>Academic warning</td>
<td>Academic warning</td>
<td>Below Standard</td>
<td>Meet Standard</td>
<td>Above Standard</td>
<td>Above Standard</td>
</tr>
<tr>
<td>Year 12</td>
<td>Academic warning</td>
<td>Academic warning</td>
<td>Academic warning</td>
<td>Below Standard</td>
<td>Meet Standard</td>
<td>Above Standard</td>
</tr>
</tbody>
</table>
The Performance Standards
By Performance Standards, we mean the four performance levels, namely; meets standards, below standards, above standards and academic warning. Each of these performance standards represents the grammar abilities of the student. Table 2 below illustrates the four levels of grammar abilities complete with the descriptors which were adapted from the Prairie State Achievement Examination (PSAE) standards (Illinois State Board Education, 2004) and explicitly developed to cater to Malaysian secondary school students.

Table 2. Performance Standards

<table>
<thead>
<tr>
<th>Performance Standard</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Warning</td>
<td>Students demonstrate limited skills and knowledge in grammar. The students have major gaps in learning at their educational level (Year 7 to Year 12), not meeting the requirement specified in the Malaysian English Language Syllabus.</td>
</tr>
<tr>
<td>Below Standard</td>
<td>Students demonstrate basic skills and knowledge in grammar at their educational level (Year 7 to Year 12), meeting the requirements specified in the Malaysian English Language Syllabus.</td>
</tr>
<tr>
<td>Meet Standard</td>
<td>Students demonstrate proficient skills and knowledge in grammar. The students have gaps in grammar at their educational level (Year 7 to Year 12), partially meeting the requirements specified in the Malaysian English Language Syllabus.</td>
</tr>
<tr>
<td>Above Standard</td>
<td>Students demonstrates advanced skills and knowledge in grammar, able to go beyond their educational level (Year 7 to Year 12), fulfilling the requirements specified in the Malaysian English Language Syllabus.</td>
</tr>
</tbody>
</table>

Developing the Grammar Descriptors
A detailed description of each of the sub-skills of grammar is available from the Grammar Descriptors. These performance indicators were shaped from the performance of the students in the test. In developing the Grammar Descriptors, reference was made base on the work of North’s ‘Reading Scale for the Council of Europe Framework’ cited in Alderson, 2000:132-134.

The main reason the development of Grammar Descriptors is to describe the grammar performance and to give a holistic view of the students’ grammar proficiency levels. At the same time, it is also expected to provide the clients and stakeholders as well as other parties with vested interests with information regarding the pedagogues, thus serving as a very essential diagnostic instrument. Essentially, the students’ performances based on the grammar test were expressed in the ability of the students to provide the answers to the different sub-skills of grammar and their scores were then represented by the range of scores within GP 1 to GP 6. The descriptors can also be used as a form of feedback and evaluation to the teachers, school administrators, education officers as to their contributions of lack of in an objective manner. To sum up, in the words of Bishop, Reyes & Pflaum (2006) from the grammar descriptors, the teachers are able to gain a thorough insight towards their teaching instructions from the data and information gathered from the students’ grammar proficiency.
Putting GrAMS to Work

Step 1: Conduct Grammar Test. Allow students 60 minutes to do the test.

Step 2: Use the scores obtained from the test to establish the grammar proficiency of the students. The total possible score for the test is 60 and the scores achieved by the students are then categorised according to the grammar proficiency levels (GP 1 to GP 6).

Step 3: Use the Grammar Matrix to identify the grammar proficiency of the students by matching the grammar performance against the Grammar matrix and correlate them to the Performance Standards together with the Grammar Descriptors of GP 1 to GP 6.

Step 4: Refer to the Performance Standards to find out the grammar proficiency level of the students and use the Grammar descriptors to identify specifically the students’ grammar proficiency.

Table 3. Respondents’ Grammar Proficiency

<table>
<thead>
<tr>
<th>Educational Levels</th>
<th>Above Standard</th>
<th>Meet Standard</th>
<th>Below Standard</th>
<th>Academic Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 10</td>
<td>288</td>
<td>34.0</td>
<td>250</td>
<td>29.5</td>
</tr>
</tbody>
</table>

In this study, 848 Year 10 students from 10 secondary schools participated in the grammar proficiency test. 36.5% of the respondents were categorised as ‘below standard’. Respondents in ‘below standard’ have gaps in grammar at their educational levels whereas 29.5% of the respondents were categorised as ‘meet standard’. 34.0% of the respondents were categorised as ‘above standard’.

The data in this study shows that about none of the respondents in Year 10 was categorised as ‘academic warning’ at their educational level. This indicates that none of the respondents has big gaps in using grammar correctly at word level, phrase level, sentence level and at discourse level.

Our brief description of the ‘below standard’ and ‘academic warning’ respondents clearly indicates that ESL teachers need to identify who are struggling with grammar in order to provide appropriate instruction to meet their diverse needs. The data in this study shows that without an in-depth assessment of the students’ grammar proficiency, the struggling students may face perpetual learning problems.

Conclusion

With the availability of the Grammar Assessment System (GrAMS), teachers are now able to freely identify the grammar proficiency of their learners effectively and efficiently. The Grammar test is available in two versions: hard copy and soft copy. Therefore, students can take the test at home or anywhere as the results can be generated and analysed at class, form, school, district, state and at national levels. Parents, students, teachers, administrators, district educational officers and Ministry of education can access to the results and provide the necessary programs to mitigate learners’ grammar understanding.

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References