



## A Web-based Tool to Assess Language Learning

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### Abstract

*Given the rapid development of Information and Communication Technologies and the increasing number of students, many higher education institutions are moving towards the use of the Internet for the delivery of their courses both on campus and at a distance. This has prompted educators, testing experts and test developers to look at ways of applying Information Technology to the assessment of students' learning.*

*In this respect, our objective in this paper is to present a web-based tool for the assessment of English learning. This internet-based assessment system, which is based on multiple choice questions, gives students an opportunity to assess their English grammar skills. In fact, once logged in, each learner is given a random selection of questions covering English grammar. At the end of the quiz, the student gets his score as well as the list of questions he has been asked together with feedback information as to whether his answers are true or false. More importantly, the learner gets an idea about the grammatical areas that he masters and those that need improvement.*

*An analysis of this assessment tool, so far tested by more than 4000 English learners worldwide, has revealed that this web-based application is an efficient and powerful means to measure students' performance and enhance their learning. In actual fact, this tool enables students to have an idea about their strengths, weaknesses, and gaps in knowledge and, thus, provides them with the information needed to improve their learning. Similarly, the tool gives teachers the feedback necessary to detect students who need help and to identify which parts of the curriculum have to be modified or improved. In this way, the proposed testing system serves two assessment functions: summative and formative.*

### 1. Introduction

Given the outstanding development of Information Technology in the last few years, higher educational institutions worldwide are increasingly moving towards the use of the Internet for the delivery of their courses both on campus and at a distance [1]. The Internet actually provides significantly different and interesting possibilities for computer-mediated communication and learning from other forms of educational technologies [2].

The increasing use of computers in educational institutions has prompted educators, testing experts and test developers to look at ways of applying Information and Communication Technologies to students' assessment. This is so because it has been found out that assessments designed for traditional face-to-face instruction are inappropriate and often ineffective when transferred to an online environment.

In this respect, our objective in this work is to present a web-based tool which we designed for the assessment of English learning. The remainder of this paper is organized as follows. In Section Two we define assessment as a teaching tool. In Section Three we present our web-based assessment tool. In Section Four we give a brief conclusion.

### 2. Assessment as a Teaching Tool

Assessment is described as that part of the learning process which is made use of to help teachers find out what students are learning and how they are learning it. It is the process of identifying, collecting and interpreting information on students' progress. In this way, assessment provides instructors with concrete clues about the learners' achievement of learning outcomes.

Assessment is of two types: formative and summative. Formative assessment entails sampling students' learning and provides feedback, be it oral or written, in order to guide the learning process. In all instances, feedback rather than grading is the ultimate objective. This type of assessment gives

the instructor the opportunity to modify the teaching strategy and learning experience so as to meet the learning outcomes.

By contrast, summative assessment is used to summarize the student's learning over a period of time. It is not designed to give immediate or continuous feedback, but rather to give an overview of what has been learned to a specific point.

Bearing this in mind, it is quite clear that formative assessment is generally favored over summative assessment. This is so because students an opportunity to have an idea about their strengths and areas requiring improvement as they proceed through a given course and provides teachers with pertinent information concerning the students' progress and the effectiveness and efficiency of the methods and materials used in teaching.

Therefore, since assessment plays a central role in the educational process and given the rising use of computers in education, there has been a growing interest in moving from traditional paper-based assessment to online and computer based assessment methods [3]. There are many reasons why online assessment is being adopted by many educational institutions. One of the most important reasons behind resorting to this new method of assessment is that it enables teachers to diversify assessment tasks, broaden the range of skills assessed and provides students with more timely and informative feedback on their progress. Moreover, by adopting online assessment we can meet learners' expectations for more flexible delivery. This means that students can be offered assessments independent of time and place.

Given these facts, the scientific community has witnessed the design of novel assessment tools applying Information Technology to the assessment process of students' learning. Studies have actually demonstrated that a number of web-based applications are currently being used to administer professional tests and exams. In this respect, an attempt is made in the section that follows to present a web-based tool capable of measuring students' performance and assessing their English language skills.

### 3. Proposed Assessment Tool

The web-based assessment tool we designed to assess English learning is based on multiple choice questions in which the learner has to choose the correct answer from a list of possible answers. Note, however, that the first version of this online tool examines only grammar skills. Consider the following illustration.

<p><b>15. I don't really want to go to the cinema tonight ..... I can't afford it.</b></p> <p><input type="radio"/> because</p> <p><input type="radio"/> in addition</p> <p><input type="radio"/> although</p> <p><input type="radio"/> therefore</p> <p><b>16. Are you serious? How can you turn ..... an offer like that?</b></p> <p><input type="radio"/> down</p> <p><input type="radio"/> out</p> <p><input type="radio"/> back</p> <p><input type="radio"/> over</p> <p><b>17. The design stage typically lasts ..... two months</b></p> <p><input type="radio"/> during</p> <p><input type="radio"/> about</p> <p><input type="radio"/> in</p> <p><input type="radio"/> while</p>
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Figure1: A sample of grammar questions

The figure above shows a sample of the 65 grammar multiple choice questions that the test taker is asked during the online quiz.

Multiple choice questions are used in e-learning environments as a way of supplementing or even replacing current assessment practices [4]. The expanding use of this assessment method has been driven by wider changes in the education environment such as the rising number of students, reduced resources, and the increased availability of computer networks [5]. Compared to paper-based multiple choice questions, the use of online computer-assisted assessment can significantly reduce the burden associated with testing large student cohorts [6].

Since the present assessment tool is an internet based system, it can be accessed at times and places more in tune with students' needs. Whether he is in a school lab or at home, the registered student can log in by entering his name and password, then proceeds to answer each question on the quiz. Once the quiz is over, the learner gets his score together with the feedback as to whether his answers are correct or wrong. More importantly, the test taker is given at the end of the quiz information about aspects that he masters and those that need improvement. Consider the following figure.

Chapter	Units	% of correct answers
Chap 1	Articles	80.00 %
Chap 2	Prepositions	60.00 %
Chap 3	Tenses	60.00 %
Chap 4	Relative pronouns	80.00 %
Chap 5	Conditionnal	60.00 %
Chap 6	Quantifiers	60.00 %
Chap 7	Comparative and Superlatives	100.00 %
Chap 8	Modals	20.00 %
Chap 9	Conjunctions	60.00 %
Chap 10	Passive voice	60.00 %
Chap 11	Reported speech	0.00 %
Chap 12	Phrasal Verbs	20.00 %
Chap 13	Gerund and Infinitive	60.00 %

Figure 2: A student's level of mastery of different areas of English grammar

As the figure above shows, the test taker is good at articles, relative pronouns as well as at comparatives and superlatives but he is bad at models, reported speech and phrasal verbs. As such, the tool helps both the learner and teacher identify areas that need further clarification or discussion in a fairly quick and efficient manner.

The tutor can, of course, add, modify or delete questions and units. He can also specify the number of questions that are to be displayed. As for the learner, he may take as many tests as he likes. Yet, he will never be asked questions he answered correctly. Given that assessment questions are drawn from a large pool, each student is given a random selection of new questions as well as those he previously answered wrongly.

From the foregoing discussion, it is quite clear that our web-based assessment tool is efficient in encouraging and facilitating students' learning. In fact, it serves two main functions: it gives students a description of their level of attainment (summative assessment) and provides both teachers and learners with the information which is to be used as feedback to adjust the teaching and learning activities in which they are engaged (formative assessment) [7].



#### 4. Conclusion

In this paper we presented a web-based tool for the assessment of English learning. We have clearly seen that this assessment tool, which incorporates an array of functionalities, has various practical benefits. In fact, it enables learners to obtain a rating of their English grammar skills and provides both teachers and students with the relevant information to improve and enhance their teaching and learning strategies.

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