

A Simultaneous Testing Format for both Receptive and Productive Vocabulary Knowledge

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I. Introduction

Various confounding factors have long made it more difficult to test knowledge of EFL students' productive vocabulary as compared to receptive vocabulary (Fitzpatrick, 2007). In order to address this, the author developed the multiple choice 'hidden letters' format to provide testing for productive knowledge in a different way than previously established tests. In addition to this, a 'progressive hints' mode is offered on the LingoLabOnline website in which a secondary receptive knowledge format is presented if the test-taker's answer is incorrect for the initial 'hidden letters' format. This allows the teacher to see from the results of a single test if a learner has a productive or receptive knowledge of the target vocabulary items.

II. Background

Vocabulary learning is a key component of EFL study, often cited as being of primary importance since it is arguably the primary conveyor of meaning in language (Nation, 1990). To learn vocabulary effectively and efficiently for communicative purposes, it is important to distinguish between vocabulary needed as 'productive' vocabulary (ready for spontaneous use by the learner in speaking and writing) and 'receptive' vocabulary (which the learner understands the meaning of, but cannot use productively). As productive vocabulary knowledge requires more time and effort to accumulate than receptive vocabulary knowledge (Webb, 2008), it is important to be clear about the purposes for which any given vocabulary is required, and prioritize it suitably to be learned as either receptive or productive

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vocabulary. To aid the process of guiding students in acquiring both passive and active vocabulary, it is necessary for teachers to monitor students' progress via distinct tests which can measure their current knowledge of both receptive and productive vocabulary.

While vocabulary tests focusing on receptive knowledge can easily use common multiple choice testing formats, trying to test productive knowledge of vocabulary is more problematic. As outlined by Nation (1990:31), there are multiple dimensions of vocabulary knowledge which contribute to the 'depth' of knowledge for any given expressions, which can be summarized as follows: usage (frequency and appropriateness); context (grammar patterns and collocations); meaning (concept and associations); and form (spoken and written). However, it is not realistic to try to measure students' productive ability of a large number of words for all these aspects of word knowledge. Therefore, it is more practical to simply consider 'production of the L2 word form from a core meaning cue' as the pragmatic minimum criterion for productive knowledge, rather than attempting to measure vocabulary depth in ways that also account for usage and context. Even with this simpler criterion, formats that require test-takers to produce a target word in the L2 face several common issues:

- i) There may be multiple possible answers for a given question, which if given do not discount the possibility that the test-taker also knows the target word.
- ii) If a student's answer is misspelled, a question arises as to how it should be graded.
- iii) Even for native speakers, due the limited context of a provided prompt, it can be challenging to recall the target item. For instance, a native speaker may still find it challenging to do a crossword puzzle with target items that are well *within* their range of productive vocabulary. They may be unable to answer questions from the narrow prompt provided, without further letter clues that can help them to successfully search for the target item in their mental lexicon.

III. Using the Hidden Letters Multiple Choice Format to Test for Productive Knowledge

The 'hidden letters' format is an approach that the author has developed on the website LingoLabOnline to provide testing of productive vocabulary in a way that mitigates these issues to a large extent. It is a multiple choice test format in which the target word and all distractor words are displayed with just the first and last letters shown, and each inner letter represented by a dot (e.g. 'bird' is shown as 'b..d'). This is enough information to clarify and distinguish choices without actually

showing the complete word choices themselves, which could then be recognized rather than necessitating the recall required active vocabulary.

While the well-known Productive Vocabulary Levels Test (Laufer & Nation, 1999) offered a format that addressed some of the issues mentioned, it has been criticized (Edmonds, Clenton & Elmetaher, 2022) for possibly priming the answer too strongly by providing multiple initial letters as an answer-restricting hint in the question (Example: ‘Ann intro ____ her boyfriend to her mother’). The LingoLabOnline hidden letters format mitigates this by having the target answer as just one of many options in a multiple choice format, and by just indicating the first and last letters of these options. While the usual number of choices provided in a multiple choice test usually ranges from 3 to 5, the number provided in the LLO format is 12. This greatly reduces the chance of test takers getting lucky, or arriving at their answer due to process of elimination, and arguably results in a more precise indication of the actual state of their knowledge. (e.g. If a test taker takes a multiple choice test with 4 options, they have a 25% chance of answering correctly even with zero knowledge of the target answer. Therefore their final score really represents a known rate of up to 25% lower than their actual score, as opposed to just 8.25% lower in the case of 12 distractors).

IV. A ‘Progressive Hints’ Mode to Measure Both Productive and Receptive Knowledge

The LingoLabOnline site originally provided completely separate ‘shown’ and ‘hidden letters’ modes, but the ‘hidden letters’ mode was altered in 2023 to provide a ‘progressive hint’ mode when setting quizzes with single-word vocabulary. In this mode, the words on tiles are first displayed in ‘hidden letters’ mode (see Fig 1), but if the user makes a mistake, all of the tiles then display the full words (see Fig 2). This allows teachers to determine with a single test whether students have active, passive, or no knowledge of the target vocabulary.

LingoLab quizzes always deduct one point from each question’s score for each mistake made. Therefore, in this progressive hint mode, it may be the most useful for teachers to set the scoring as awarding up to 2 points per question, and then the teacher can easily see from the quiz results which items were answered correctly in hidden letters mode (getting 2 points), and which were initially mistaken in that mode, but subsequently correctly answered in the shown word format (getting 1 point).



Fig 1 Initial 'hidden letters' format



Fig 2 'Shown' format (if mistake made)

Note that while there are various affordances of the LingoLab quiz format, there are also some uncontrolled variables which may make it unsuitable for high stakes testing, such as the random (rather than curated and standardized) provision of distractors in the instance of the quiz provided to each test-taker. This could result in some questions posing slightly different degrees of difficulty to different test-takers - but this is arguably averaged out as the number of questions in a quiz increases.

V. The LingoLabOnline Teacher Dashboard

Features of the LingoLabOnline website (www.lingolab.online) that facilitate the creation, administration, and analysis of the tests described will now be introduced. An account can be created for free via the secure Oauth system, which just requires the user's Google account for registration and login. Note that the site was created with support from the author's personal research fund granted by Kwansai Gakuin University.

(i) Quiz creation features

Vocabulary Quizzes on LingoLabOnline are created by first creating the custom set, and then going to the quiz creation page and importing it by its ID number. The quiz is then named and items for inclusion in the test can be selected from the imported list. The test mode is chosen from the following options: ‘Shown’ (in which all options are displayed as in a regular multiple choice test); ‘Stellar’ (a game-like format in which the word is split into ‘chunks’ of several letters), and ‘Hidden’ (which provides the main mode discussed in this paper, the ‘progressive hints hidden letters’ format). Various other options can also be set here such as custom instructions, point value per question, whether to show students results on submission, and more. (N.B. More complete instructions are provided on the www.lingolab.online site itself and its ‘Help’ site)

(ii) Administering the test

To administer the test, the teacher can share a link or show a QR code for students to join with their mobile phone. Students will simply enter their name, no registration or login is required of them. During this joining stage, the teacher can monitor how many students have joined while still displaying the QR code, to ensure that the process goes smoothly.

The teacher can see test results even during the test while students are in the process of answering the questions - by simply refreshing the results page the latest per-question scores will be shown. This is very valuable for seeing the progress of students during the test, and seeing who has not joined, who has finished, who may be having trouble, and so on. This contrasts with many common online test formats such as Google Forms which do not provide this affordance, only showing completed submissions.

Another unique feature of the LLO quiz format is that the question text is rendered as an image, and as such cannot be auto-translated with in-browser translation features such as the one built into the Google Chrome browser.

(iii) Checking quiz scores

After the test the teacher can see final results on the teacher’s quiz dashboard with per-question scores and averages. These scores can be downloaded as a CSV file for further analysis and record-keeping.

VI. Conclusion

The hidden letters format and progressive hints mode on the LLO website were designed to meet a need for a way to effectively and efficiently test productive

vocabulary knowledge of EFL students. While the ‘hidden letters’ format tests for productive knowledge, the progressive hints mode allows for a comparison of productive versus receptive knowledge within the same test.

The digital format of the test affords this design possibility by dynamically hiding and then showing cues, which is clearly not possible with a paper test. Other benefits of the digital format include automatic scoring of students’ scores and display of average scores for each question, which would be a time-intensive process to calculate with a paper test.

While the LingoLabOnline ‘hidden letters with progressive hints’ format appears to be a promising new means of testing both productive and receptive vocabulary, further use and research is needed to determine not only its usability and pedagogical utility, but also its validity and reliability as a testing instrument.

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