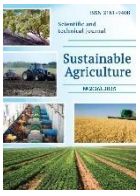
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Assessing Learners' Knowledge of Agricultural English Through Vocabulary Tests

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a r t i c l e i n f o

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agricultural English, vocabulary test, technical vocabulary, language competence, subject-specific learning, ESP, learner assessment, agricultural terminology, vocational English.

a b s t r a c t

This article investigates the effectiveness of vocabulary tests in evaluating learners' mastery of agricultural English. As agriculture-related English involves specialized terminology, the ability to accurately assess learners' vocabulary knowledge is critical for language competence in professional and academic contexts. The study explores how targeted vocabulary tests can reflect learners' comprehension, technical fluency, and readiness to operate in agricultural domains. The research highlights the role of vocabulary acquisition in developing learners' communicative competence and improving their confidence when dealing with subject-specific content. It also demonstrates how vocabulary assessment contributes to shaping personalized instruction and addressing the linguistic needs of learners in vocational education. The article concludes that systematic vocabulary testing is a vital strategy for monitoring progress, reinforcing agricultural terminology, and fostering successful language learning in specialized fields.

1. INTRODUCTION

In the field of English for Specific Purposes (ESP), especially within agricultural domains, vocabulary plays a central role in enabling learners to comprehend, communicate, and operate effectively in their area of study. An important perspective in language pedagogy is the use of vocabulary within particular contexts of use or registers. Recent corpus-based research has significantly extended our understanding of the lexical features found in academic and professional registers, revealing patterns and structures that go beyond general English usage. These insights have crucial implications for how vocabulary knowledge should be taught, learned, and assessed.

While conventional vocabulary tests often focus on isolated word meanings or recognition, they may not adequately reflect a learner's ability to apply vocabulary in meaningful, functional contexts—especially those required in specialized fields like agriculture. Assessing learners' vocabulary knowledge, therefore, requires a broader and more contextualized approach that takes into account not just lexical knowledge, but the practical ability to use terms accurately in specific communication settings.

The current study explores how vocabulary knowledge related to agricultural English can be effectively assessed among learners, particularly at the A2 and B1 levels. Vocabulary assessment in this context does not merely serve as a measurement of memory or recognition, but as a tool for understanding learners' readiness to engage with subject-specific content. It also provides valuable feedback for instructors to tailor instruction according to learners' linguistic needs.

This study argues that while traditional vocabulary tests are still valuable for diagnostic and benchmarking purposes, they should be complemented by context-sensitive assessments that better reflect the communicative demands of academic and vocational environments. By integrating subject-relevant terminology and usage scenarios, such assessments can provide a more accurate picture of learners' preparedness for real-world language tasks in agriculture-related settings.

More specifically, the following research questions will be addressed in this study:

What is assessment itself and how is it used in language assessment?

How can the knowledge of learners be accurately assessed?

What types of vocabulary tests can be effectively used to assess language learners' knowledge within the context of agricultural English?

Through these questions, the study aims to contribute to the development of more targeted and meaningful vocabulary assessment tools that align with learners' professional language needs.

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2. BACKGROUND KNOWLEDGE

In the context of language education, especially within English for Specific Purposes (ESP) such as agricultural English, assessment plays a crucial role in monitoring learners' vocabulary development and ensuring their preparedness for real-world communication. Researchers have categorized assessment based on intention, purpose, interpretation, and administration (Bachman & Palmer, 1996). Regarding intention, assessments may be informal, such as spontaneous feedback during classroom interactions, or formal, when they follow a structured and systematic format.

In terms of purpose, assessments are often divided into formative and summative. Formative assessments are conducted during the learning process to identify strengths and areas needing improvement, and to adjust instruction accordingly (Yuldashova et al., 2020). In contrast, summative assessments aim to evaluate students' learning outcomes at the end of a unit or course and are often used for grading or certification purposes (Read, 2000). Additionally, assessments can be interpreted in two ways: norm-referenced, which compares a learner's performance to that of their peers, and criterion-referenced, which measures performance against predefined learning objectives or content standards (Mochida & Harrington, 2006). As Read and Chapelle (2001) explain, while norm-referenced tests highlight student ranking, criterion-referenced evaluations focus on mastery of specific vocabulary content, which is particularly suitable for ESP contexts such as agricultural English.

The administration of assessment refers to its scale and delivery mode. It may be classroom-based (small scale) or part of a nationwide system (large scale), depending on institutional goals (Laufer & Goldstein, 2004). In the classroom, vocabulary tests can be designed to address subject-specific terminology, aiding learners in developing functional communicative competence in agricultural fields (Yuldashova, 2024).

When evaluating language programs, three types of evaluation are generally recognized: formative, illuminative, and summative (Schoonen & Verhallen, in press). As Richards (cited in Read, 2004) notes, formative evaluation helps identify what aspects of the program are effective and which ones require revision. Illuminative evaluation seeks a deeper understanding of the teaching and learning processes without necessarily aiming for immediate changes. It focuses on how different program components function in practice (Schoonen & Verhallen, in press). On the other hand, summative evaluation assesses the overall effectiveness, efficiency, and impact of a language program, and is widely used by educators and policymakers to determine whether a program meets its intended goals (Read, 2000).

In the assessment of learners in agricultural English, it is essential to integrate vocabulary tests that are not only valid and reliable but also context-sensitive. According to Read (2004), vocabulary knowledge should be assessed at multiple levels—recognition, recall, usage, and depth—to ensure comprehensive evaluation. Tools such as the Yes/No test (Mochida & Harrington, 2006) have shown promise in assessing receptive vocabulary knowledge. Furthermore, as Djorayeva and Yuldashova (2022) emphasize, interactive methods can significantly enhance learners' engagement and vocabulary acquisition in subject-specific learning, including agriculture.

Vocabulary assessment in agricultural English should align with learners' linguistic and professional needs. A combination of formative, summative, and context-rich evaluations offers a balanced approach to measuring progress and guiding instruction. As suggested by Bachman and Palmer (1996), effective assessment requires clarity of purpose, appropriate test design, and a focus on functional language use—principles that are vital for vocabulary testing in specialized fields such as agriculture.

Evaluation. In discussing about language program evaluation, presented three types of evaluation:

- Formative
- Illuminative
- summative evaluation.

Formative evaluation, as Richards pointed out, is utilized to find out the aspects of a program that are working well, not working well, and issues that need to be addressed.

Illuminative evaluation, according to Richards, is employed to find out how different aspects of a program are implemented and this type of evaluation is one way to seek to have "a deeper understanding of the process of teaching and learning that occur in the program, without necessarily seeking to change the course in any way as a result" .

Summative evaluation, the kind of evaluation most teachers and administrators are familiar with, is concerned with determining the effectiveness, efficiency, and to some extent the acceptability of a language program.

Assessment, moreover, can be conducted by either speaking or writing. Therefore, one more category of assessment may be added to those provided: mode (oral or written).

Table 1.

The categories and types of assessment

Category of Assessment	Type of Assessment
Mode	**Oral**
	Written
Intention	**Informal**
	Formal
Purpose	**Formative**
	Summative
Interpretation	**Norm-referenced**
	Criterion-referenced
Administration	**Classroom-based**
	Large scale

3. METHODOLOGY

A. Research Design

The research design applied in this research was Quasi-experimental which applied the non-equivalent Control Group Design with Pre-test and Post-test. In order to determine the results of scientific work, experimental tests are conducted on a regular basis for a pre-selected group, as well as entrance and exit tests at the beginning and end of the quarter, as well as for other groups, which did not conduct experiments at all. "Input" and "output" tests are performed and the results are compared.

B. Participants

The main subject of the research was identified as students who are studying in the educational process and have B1 level of English proficiency and their participation in the educational process. The researcher selected group students to cover the content of this research paper and conduct experimental work. The reason for their selection was that the students were enthusiastic, hardworking, and open-minded, so they were rated as suitable subjects to conduct this experiment.

C. Instruments

In order to develop the assessment with vocabulary tasks for students selected as an experiment, lessons were conducted using vocabulary activities to check learners' knowledge on the process. Materials of this study encourage teachers to use different test techniques such as vocabulary tests in order to enhance vocabulary knowledge of learners through assessment. The present study also can help teachers to decide upon which of this method is more useful.

D. Methods

Descriptive-analytical (observational) method in the process of highlighting the essence and significance of scientific work, comparative method in order to compare the results of experimental work and find a clear solution; prognostic (expert assessment, generalization of independent assessments), pedagogical experimental and mathematical methods (statistical data processing) were used to provide evidence based on exact figures in the future application of the results and analysis of its initial results as well as illuminating parts of the discovery and the result.

E. Data Collection and Analysis

A qualitative research approach was employed by the researcher

through the use of observation sheets, which were specifically designed to capture detailed insights from the entire lesson sessions. Additionally, a structured needs assessment was conducted to identify learners' preferences, expectations, and attitudes regarding the implementation of group work in the classroom. To evaluate progress in reading skills, both pre-tests and post-tests were administered— the pre-test at the beginning of the instructional phase and the post-test upon its completion.

Experimental classes served as the basis for the study. Before administering the tests, the researcher first observed several sessions of these experimental classes to gather comparative data for later analysis. The results collected from these procedures are visually represented in a diagram. The analysis indicates that students' vocabulary development needs are closely tied to the improvement of their language skills. A significant demand for vocabulary acquisition stems from the necessity to comprehend spoken communication and textual materials effectively.

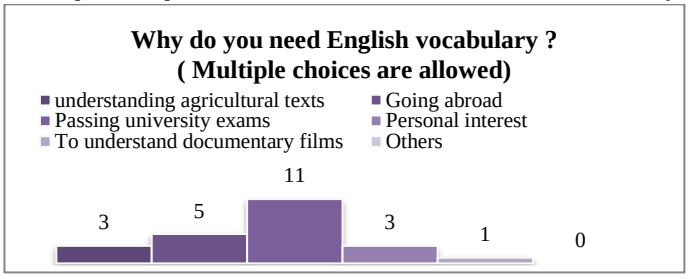


Figure 1. Students' needs for Learning and developing English vocabulary knowledge in Agricultural sphare.

The bar graph illustrates the various reasons why first-year students in the agricultural field believe English vocabulary is necessary. Participants were allowed to select multiple responses, highlighting the diverse motivations behind their vocabulary learning.

The most prominent reason, chosen by 11 students, is "Passing university exams". This indicates a strong academic motivation, suggesting that many students perceive English vocabulary as essential for academic success and meeting curriculum requirements.

"Going abroad" is the second most common reason, selected by 5 students. This shows a moderate interest in international opportunities, such as exchange programs, internships, or future work prospects in foreign countries, where English proficiency—particularly vocabulary—is crucial.

Interestingly, "Understanding agricultural texts", which is directly related to the students' field of study, was selected by only 3 students. This relatively low number may imply that students either lack awareness of the importance of English in agricultural literature or are not yet exposed to discipline-specific materials requiring advanced vocabulary.

Another 3 students reported that they need English vocabulary "To understand documentary films", reflecting a desire to access global multimedia content, which may indirectly support their language development.

Only 1 student selected "Personal interest" as a reason for vocabulary learning, indicating that intrinsic motivation is less common at this stage of their education. Notably, no students selected the "Others" category, suggesting that the provided options sufficiently captured the main purposes.

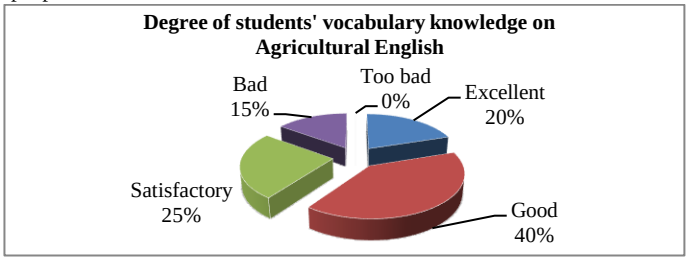


Figure 2. Students vocabulary knowledge after assessment
Analysis of Vocabulary Test Results for Agricultural English Learners

The pie chart illustrates the degree of students' vocabulary knowledge on Agricultural English, as assessed through a dedicated vocabulary test. The results reveal a mixed distribution of competency levels among the learners:

- Proficient Learners (Excellent & Good): A significant portion of the student population demonstrates a solid grasp of Agricultural English vocabulary. 20% of the learners achieved an "Excellent" rating, indicating a strong and comprehensive understanding of the terms tested. A further 40% were categorized as "Good," suggesting a competent level of vocabulary knowledge suitable for basic communication and comprehension within the field. Together, these categories represent 60% of the cohort, indicating a positive baseline level of vocabulary mastery.

- Developing Proficiency (Satisfactory): 25% of the students were assessed as "Satisfactory." This suggests an acceptable level of vocabulary understanding, but one that may require further reinforcement and practice to achieve higher levels of fluency and accuracy. These students possess a foundational knowledge but may struggle with more nuanced or specialized terms.

- Areas for Improvement (Bad & Too Bad): A notable proportion of the student body requires targeted intervention. 15% of the students were rated "Bad," indicating a deficiency in their Agricultural English vocabulary. Encouragingly, 0% were categorized as "Too Bad," suggesting that even the weakest learners possess some degree of familiarity with the subject matter. Nevertheless, the 15% group presents a clear need for focused vocabulary development activities.

Implications for Instruction

The test results highlight several key implications for instructional practice:

- Targeted Vocabulary Instruction: Given the diverse skill levels, a differentiated approach to vocabulary instruction is recommended. The 15% of students rated "Bad" require targeted and intensive vocabulary support, potentially through remedial activities or supplementary resources.

- Contextual Learning: Emphasizing contextual learning is crucial. Students must be exposed to Agricultural English vocabulary within authentic scenarios and applications to foster deeper understanding and retention.

- Continued Reinforcement: While the "Good" and "Excellent" students demonstrate strong vocabulary skills, continuous reinforcement and exposure to new terms are essential to maintaining and expanding their knowledge base.

- Assessment for Learning: Regular vocabulary assessments should be integrated into the curriculum, allowing instructors to track student progress and adapt their teaching strategies accordingly..

4. RESULTS

The test results show that learners showed high results in mastering vocabulary within their topics by organizing training using vocabulary tests in assessment, as well as a variety of vocabulary tasks through different approaches in the assessment process. The application of different types of interactive methods through the consolidation of learners' knowledge was demonstrated in the research process.

After calculating the result of the students score, the mean score and standard deviation of both types learning classes can be presented in the following figure:

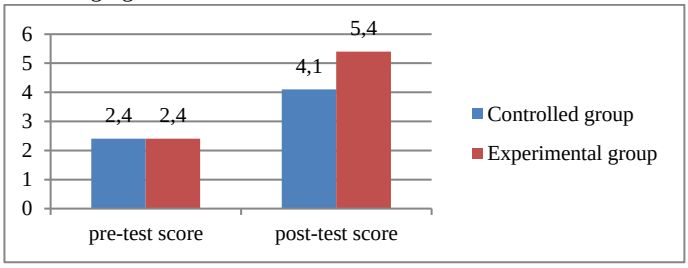


Figure 3. Results of Two groups

The bar graph depicts the pre-test and post-test scores of both a controlled group and an experimental group, assessing their vocabulary knowledge in Agricultural English. These scores provide a basis for evaluating the effectiveness of an intervention applied to the experimental group.

Pre-test Scores:

As illustrated in the graph, the pre-test scores for both the controlled and experimental groups are nearly identical, hovering around 2.4. This suggests that, prior to the intervention, both groups possessed a comparable level of initial knowledge of Agricultural English vocabulary. This provides a valid basis for comparing the effects of the subsequent intervention.

Post-test Scores:

A clear divergence in performance is evident in the post-test scores:

- Experimental Group: The experimental group demonstrates a substantial increase in vocabulary knowledge, with the average post-test score rising significantly to approximately 5.4. This indicates that the intervention implemented with this group was highly effective in boosting their understanding and command of Agricultural English terminology.

- Controlled Group: In contrast, the controlled group, which did not receive the intervention, experienced a much more modest improvement. Their post-test score increased only to approximately 4.1. This suggests that while some degree of vocabulary acquisition occurred without the intervention (likely through regular classroom instruction), the level of improvement was considerably less pronounced than that observed in the experimental group.

5. DISCUSSION

The observed difference in post-test scores between the experimental and controlled groups suggests that:

- Intervention Effectiveness: The intervention implemented with the experimental group was demonstrably effective in improving their Agricultural English vocabulary. The marked increase in post-test scores for this group strongly implies that the intervention's design, delivery, and content were well-suited to enhancing vocabulary acquisition.

- Need for Targeted Instruction: The relatively lower post-test scores in the controlled group highlight the importance of targeted and specialized vocabulary instruction in Agricultural English. While regular classroom learning contributes to vocabulary development, specific interventions can significantly accelerate the learning process and lead to more substantial gains.

Implications for Future Research and Practice:

These findings have several implications for future research and practice in Agricultural English language education:

- Further Investigation of Interventions: The intervention that was used in the experimental group warrants further investigation. Detailed analysis of the intervention's components and their specific contributions to vocabulary gains would be valuable.

- Tailoring Interventions to Learner Needs: Future research could explore tailoring interventions to meet the specific needs of different types of learners.

- Application to Other Contexts: The success of the intervention in this study suggests that it could be adapted and applied in other Agricultural English learning contexts.

The results provide compelling evidence for the effectiveness of a targeted intervention in enhancing Agricultural English vocabulary acquisition among agricultural students. These findings underscore the importance of employing evidence-based strategies and specialized instructional approaches to meet the unique language needs of learners in this field.

Assessment is an essential component of any education system and holds particular significance in the context of teaching English as a foreign language. When it comes to Agricultural English, vocabulary plays a crucial role, as understanding and using specialized terms is fundamental for effective communication in this field. One of the most challenging aspects for test developers is creating vocabulary assessments that accurately reflect learners' knowledge, since vocabulary is a core element of language competence. It forms the basis for both comprehension and production in a second language, especially in specialized domains such as agriculture.

Vocabulary tests are vital tools for measuring learners' command of Agricultural English terminology. These tests help students expand their vocabulary repertoire, which is necessary for mastering technical language and communicating accurately about agricultural concepts and practices. However, designing vocabulary assessments that are practical, authentic, reliable, and valid remains a significant challenge for many educators, as most classroom teachers are not extensively trained in test construction. Therefore, carefully crafted vocabulary tests are key to effectively assessing learners' knowledge in Agricultural English and supporting their language development in this specialized field.

6. CONCLUSION

In conclusion, vocabulary testing serves as an effective indirect method for assessing learners' knowledge, particularly in specialized fields such as Agricultural English. These tests provide valuable insights into students' language proficiency by evaluating their ability to recognize and use domain-specific vocabulary. Among various assessment formats, the study highlights the use of selected-response (Multiple Choice) and constructed-response tasks as the most appropriate for measuring vocabulary knowledge at different levels. The findings indicate that vocabulary-based assessments not only help in accurately gauging learners' understanding but also contribute to regular monitoring of their language development. Therefore, implementing well-designed vocabulary tests is essential for effectively assessing students' knowledge of Agricultural English and supporting their progress in mastering professional terminology.

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