Designing A Measure For Arabic Language Skills Using Blackboard: A Statistical Study Applied To Non-Arab-Speaking Students

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Abstract:
This study aimed to develop a linguistic measurement tool to evaluate Arabic proficiency among non-Arabic-speaking students, focusing on speaking, listening, and communication skills. The tool also sought to explore potential variations in proficiency by ethnic origin (Asian, African, and European). A quantitative research approach was employed, using a custom-developed tool to assess Arabic language skills. The study was conducted at the Islamic University of Medina, Saudi Arabia, with a random sample of 50 non-Arabic-speaking students from 15 nationalities. Data were collected through a linguistic assessment, which measured students' performance in speaking, listening, and communication tasks. The findings revealed significant ethnic variations in linguistic proficiency across the assessed skills. The tool's difficulty level was appropriate for evaluating students' language abilities, with listening skills proving most challenging. Students particularly struggled to infer content from unfamiliar expressions, resulting in a difficulty rate of 72%. Speaking skills also posed challenges, particularly in determining the timing for introducing new ideas and in accurately pronouncing adjacent letters, with a 70% difficulty rate. Communication skills were less complex, with a 44% difficulty rate in exchanging ideas and responding to criticism. The study concluded that linguistic proficiency in Arabic among non-Arabic-speaking students varies by ethnic origin, with distinct challenges in listening and speaking. The developed measurement tool proved effective in assessing these skills and can be used to identify targeted language support needs among non-Arabic-speaking students in academic settings. Further research is needed to refine the tool and investigate additional factors that influence language acquisition.

Keywords: Measurement; Arabic Language; Speaking Skills; Listening Skills; Communication Skills; Blackboard

INTRODUCTION

Mastery of a language requires proficiency in basic skills such as listening, writing, reading, and communication. To assess the acquisition of these skills, it is essential to design measurement tools that are tailored to the specific nature of each skill, with a set of standards guiding the design process. According to Teo et al. (2022), there are numerous challenges associated with designing linguistic scales for online use. Technological advancements have played a crucial role in evolving the educational process, necessitating the development of compatible assessment tools. With the global education system significantly impacted by the COVID-19 pandemic.

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From the studies on the use of Blackboard technology, it can be concluded that there are both advantages and disadvantages to using Blackboard in the language learning process. Additionally, there are unique challenges when using this technology to teach Arabic to non-Arab students, given that Arabic is a rich language with numerous terms that are similar in writing but differ in pronunciation and meaning. Arabic also contains letters that do not exist in other languages. At the Islamic University of Medina, where a large number of non-Arab students study Arabic, additional challenges have emerged in using this technology for teaching and evaluating students according to these skills. A significant number of students from various ethnic backgrounds have struggled, to varying degrees, with mastering Arabic language skills. This study addresses a critical gap in language education, specifically in assessing the Arabic language proficiency of non-Arab students in an online learning environment. While there is a considerable body of research on language learning and assessment tools, limited attention has been given to the unique challenges faced by non-Arab students learning Arabic, particularly when using platforms like Blackboard. Arabic, with its distinct phonetic, grammatical, and orthographic complexities, presents unique challenges for learners from diverse linguistic and cultural backgrounds. The novelty of this study lies in its development of a measurement tool tailored to assess key language skills listening, speaking, and communication through an online platform, considering the linguistic and cultural diversity of the student population at the Islamic University of Medina.

This study answers how effectively can a customized measurement tool assess the Arabic language proficiency of non-Arab students using Blackboard? Are there significant differences in Arabic language proficiency among non-Arab students based on their ethnic origins (Asian, African, and European)? What specific challenges do non-Arab students face in acquiring Arabic language skills in an online environment? The significance of this research lies in its potential to provide empirical evidence on the effectiveness of technology-mediated language assessment tools for Arabic language learners. It also contributes to the understanding of how ethnic background influences the acquisition of Arabic, offering insights into the linguistic challenges faced by students from different regions. This research will be valuable not only for improving language assessment practices at the Islamic University of Medina but also for enhancing language education strategies in other contexts where Arabic is taught as a foreign language. The study's findings are expected to inform the development of more effective, culturally responsive teaching and assessment strategies for non-Arabic-speaking students. Thus, this study aims to design a measurement tool to assess the Arabic language skills of non-Arab students in the Faculty of Arabic Language at the Islamic University of Medina through Blackboard. The study will also examine whether there are significant differences in the level of linguistic understanding among non-Arab students, depending on their ethnic origins.

METHOD

The methodology employed in this study was a descriptive analytical statistical approach, specifically designed to develop and assess a linguistic comprehension tool for non-Arabic-speaking students studying Arabic at the Islamic University of Medina. This choice of methodology was appropriate for several reasons, as it allowed for the in-depth analysis and evaluation of the tool's effectiveness in measuring key language skills, namely speaking, listening, and communication. The use of a descriptive approach is

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integral to this study as it provides a thorough understanding of the students' language proficiency, focusing on observable characteristics, patterns, and trends. By employing a descriptive method, researcher were able to present a clear picture of the variation in linguistic skills based on ethnic origin and to identify common challenges students faced in learning Arabic. This method facilitates the accurate representation of the population's linguistic levels and the difficulty encountered in mastering each language skill.

Furthermore, the study adopted an analytical statistical approach to assess the tool's validity and reliability. Statistical analysis is essential for ensuring the credibility and consistency of the data collected. By applying statistical techniques to measure linguistic comprehension, the study ensured that the results were not only descriptive but also supported by quantifiable evidence. The inclusion of reliability testing ensures that the scale consistently measures the intended variables, and the validity checks confirm that the tool accurately evaluates language proficiency. These aspects are crucial in guaranteeing that the findings are robust and trustworthy, especially when the data is used to generalize findings to a wider population of non-Arabic-speaking students. The study's choice to focus on linguistic comprehension across different ethnic origins (Asian, African, and European students) aligns with the objective of determining whether there are distinct linguistic challenges based on cultural and ethnic backgrounds. This aspect of the study is particularly important as it highlights the need for culturally sensitive tools that can cater to diverse student groups. By using a sample from 15 different nationalities, the research recognizes the multicultural nature of the student body at the Islamic University of Medina. This broad sample allows for a more comprehensive understanding of the variations in language comprehension and skill acquisition among students from different parts of the world. Moreover, the application of the tool to students in Islamic university is significant because these students often encounter Arabic as part of their academic curriculum. The choice of this group ensures that the tool measures relevant linguistic skills in the context of formal academic language acquisition. Additionally, the use of Blackboard technology to administer the tool is both timely and relevant. Blackboard is a widely-used learning management system, and its application in this study allows for a modern and accessible means of language assessment. By utilizing Blackboard, the study also reflects current trends in e-learning, allowing for an efficient, scalable, and user-friendly way to administer the test to a diverse student population.

RESULTS AND DISCUSSION

Technological Tools in Language Instruction: A Review of Blackboard's Role in Assessing Linguistic Skills

Many educational institutions have adopted various teaching and communication methods, with traditional face-to-face (F2F) communication often being replaced by virtual classrooms (Saleem et al., 2024). However, the emergence of this technology has introduced unforeseen obstacles and challenges related to the educational process (Assaiqeli et al., 2023). Several studies have examined the issues associated with using Blackboard, including those by Klimova (2021), Pustika (2020), Ramli et al. (2022), Rido and Sari (2018), and Saleem et al. (2024). Other studies have focused on methods for using Blackboard in language instruction, particularly in improving listening skills through online platforms (Ghonivita et al., 2021; Ordonez, 2021; Mulyadi et al., 2021). Saleem et al. (2024) also explored language teachers' perspectives on the use of Blackboard in language instruction, concluding that while the platform is widely regarded

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as a versatile tool, it requires further adaptation to meet diverse educational needs. In addition, Lee and Lee (2023) investigated the effectiveness of Blackboard in promoting collaborative learning among students, finding that its features fostered strong student interaction and collaboration, which significantly improved learning outcomes. Similarly, Zhang et al. (2024) examined the integration of Blackboard with multimedia tools, concluding that this integration enhances student engagement and promotes active learning in language classrooms.

However, the use of Blackboard for assessment has been met with challenges. Hassan and Jabeen (2024) explored its role in online language course assessments and concluded that, while Blackboard offers efficient grading tools, it presents limitations in assessing speaking and writing skills. Ahmed and Rahman (2023) also focused on the adaptability of Blackboard in large-scale language programs and found that, while the platform improved accessibility, instructors faced challenges in effectively managing student participation. Furthermore, Tran et al. (2024) emphasized the role of Blackboard in facilitating synchronous learning environments, concluding that real-time communication features, such as chat and video tools, significantly enhance the learning experience by promoting timely feedback and interaction. Biletska et al. (2021) highlighted the role of technology in teaching foreign languages and the development of language skills amid technological advancements. Alzubi (2024) discussed students' opinions on Blackboard technology, reporting it as an effective tool for both teaching and assessing English language skills. Teo (2022) studied the anticipated challenges in assessing English listening skills online. A body of research has expanded to elucidate Blackboard's role in teaching all language skills, with Figueiredo et al. (2016) emphasizing the importance of teachers' awareness of the four basic language skills needed to linguistically engage with students of diverse ethnic origins.

The Necessary Language Skills for Non-Arabic Speaking Students Using Blackboard Technology

Non-Arabic speaking students in higher education institutions often face linguistic challenges when learning the Arabic language. Besides the linguistic intuition required for language acquisition, students may encounter difficulties with listening and speaking skills—both essential for interacting with course instructors. Language skills in distance education, particularly through Blackboard, can be more challenging since students have fewer opportunities for direct interaction and inquiry. Moreover, assessing a student's acquisition of these skills may differ from the methods used in traditional, face-to-face education.

1. Listening Skills of Non-Arabic Speaking Students

   Language serves as a medium of communication between humans, enabling the exchange of meanings through specific linguistic structures. Listening is a fundamental skill for language mastery, encompassing the ability to understand spoken content, differentiate between words and linguistic compounds, analyze meaning, and comprehend the overall message. Speaking is another essential skill, involving the ability to convey meaning accurately and in accordance with grammatical rules. Mastering both listening and speaking skills facilitates effective communication between students and teachers, thereby achieving the goals of the educational process. The listening skill involves several key elements:

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Content: Includes the nature of the audio material, the difficulty level of listening, and its suitability for the listener.

Sender: Encompasses the clarity of the speaker's voice, their ability to convey meaning, the absence of speech defects, and the pace of speech.

Listener: Involves the listener's attention, concentration, hearing quality, and interest in the content being listened to.

For effective listening, these elements must be well-coordinated to ensure successful communication. A deficiency in any of these elements can result in poor communication. Good listening requires distinguishing between rapid listening, which aims to grasp the general meaning without detail, and in-depth listening, which involves analysis. It is also important to differentiate between mere eavesdropping and concentrated listening, which is a more complex process involving the observation of the speaker's gestures, pauses, and body language. Teachers must ensure that students are actively engaged in listening to facilitate the full acquisition of this skill.

2. Speaking Skills of Non-Arabic Speaking Students Using Blackboard Technology

Conversation is a crucial means of communication, often defined as a free, spontaneous discussion between two individuals on a particular topic. Taimah (1989) suggests that conversation skills can be categorized into three main levels:

a. Beginner Level: Involves the ability to communicate simple expressions, such as inquiring about someone's well-being, greeting, and farewelling. At this level, students can express likes and dislikes, apologize, extend invitations, and engage in simple conversations that do not require complex linguistic structures.
b. Intermediate Level: Involves the ability to express feelings, participate in everyday conversations, understand surrounding dialogues, and communicate effectively without fear of ridicule. Students at this level can participate in longer conversations.
c. Advanced Level: Involves the ability to use language effectively and flexibly for social purposes, speak confidently with others, and adapt language to suit different situations without linguistic restrictions hindering social or personal interactions.

Speaking is one of the most critical skills in the educational communication process. Without it, effective communication cannot occur. It is evident that non-Arabic speaking students face greater challenges in developing speaking skills compared to their peers. This skill requires the ability to form grammatically correct sentences and phrases, as well as mastery of letter pronunciation, especially given that some Arabic letters and structures do not exist in other languages. In fact, the speaking skill of non-Arabic speaking students is linked to four fundamental aspects: linguistic accuracy, idea organization, effective communication with listeners, and the student's personality (Al-Shanti, 2003).

3. Blackboard Technology and Listening Skills for Non-Arabic Speaking Students

When considering listening skills in the context of teaching through Blackboard, it becomes clear that this is a more complex skill. It requires greater focus, including literal comprehension, interpretation, analysis of linguistic structures, and inference of direct and indirect meanings. Galloway (1993) suggests that the key determinants for acquiring listening skills in a distance education setting include the listener's

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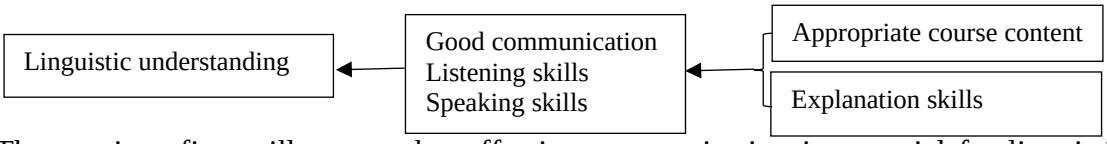
vocabulary, personal characteristics, and training in listening. A new determinant can be added: the quality of listening conditions and communication.

4. Blackboard Technology and Speaking Skills for Non-Arabic Speaking Students
   Using Blackboard technology in the teaching process requires additional speaking skills, such as the need for clear voice projection, the ability to choose the appropriate time to communicate, and the capacity for positive interaction.

A Measure of the Level of Linguistic Understanding Among Non-Arabic Speaking Students

Assessing students' levels of linguistic understanding is crucial for ensuring the quality of the educational process. Achieving this requires good communication between teachers and students, which hinges on the students' proficiency in speaking and listening skills. Therefore, any measure of linguistic understanding must evaluate the extent to which students have mastered these two skills to ensure comprehension. This measure integrates both speaking and listening skills to achieve linguistic understanding. Direct communication between the student and the teacher is essential for emotionally engaging the student with the subject matter, allowing them to follow the teacher's movements, voice, and style. The requirements for linguistic understanding can be illustrated in Figure 1.

Figure 1: Requirements for Students' Linguistic Comprehension



The previous figure illustrates that effective communication is essential for linguistic comprehension. Ideally, this communication occurs directly between the student and the professor. However, in many instances, direct communication is not possible, necessitating the use of distance education technologies such as Blackboard. Given this technology, the measure of linguistic comprehension must account for differences in students' personal characteristics and their psychological readiness to study using these methods. Creating a valid measure of linguistic comprehension requires integrating principles from measurement science, educational sciences, and linguistics, ensuring their collaboration is seamless.

1. Steps to Design a Linguistic Scale
   To design a linguistic scale, the following steps should be taken:
   a. Define the objective of the scale: Before designing any scale, it is crucial to clearly define its objective. Often, a scale may serve multiple objectives, which is acceptable as long as these objectives do not conflict.
   b. Identify the skills to be measured: Accurately identifying the skill to be measured is essential for developing a reliable scale. Measuring an irrelevant skill can detract from the scale's primary purpose and reduce its validity.
   c. Adhere to a consistent approach: It is important to follow a specific approach when building the scale. Switching between approaches without a clear rationale can compromise the scale's effectiveness.
   d. Define the primary and secondary axes of the scale: This step is crucial for the scale's quality, as it outlines the main and sub-dimensions, ensuring the scale is both complete and comprehensive.

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e. Determine the type of scale to use: The type of scale whether nominal, interval, ordinal, quantitative, or otherwise hould be chosen based on the content or skill being measured.
f. Design the scale's statements: Properly designing the scale's statements is key to achieving its objectives. The statements should follow rules similar to those used in questionnaire design, including ensuring that each statement has a clear purpose, matches the required response style, is linked to the main and sub-skills being measured, and does not overlap with other statements in terms of the skills measured. The statements should be ordered by relative importance and graded according to difficulty.
g. Define the scope of the scale's application: The scale should be designed with the intended respondents in mind. For example, a scale meant to assess language skills in non-Arabic speaking students should not be applied to Arabic-speaking students. After completing the scale design, its validity must be confirmed by conducting a pilot survey to identify any flaws. The reliability and accuracy of the scale's statements should be assessed, and the scale refined into its final form.

2. The Proposed Measure of Arabic Language Skills for Non-Arabic Speaking Students
This study proposes a measure of linguistic comprehension that consists of three main components:
   a. Measuring Listening Skills: This section assesses the student's ability to:
      1) Distinguish between correct and incorrect interpretations of the listened text.
      2) Differentiate between factual and fictional content.
      3) Connect the audio text to previously encountered texts.
      4) Distinguish between opinions and facts.
      5) Differentiate between the prescribed text and extraneous conversations.
      6) Utilize the audio text effectively.
      7) Infer the natural sequence of events from the audio text.
      8) Summarize the text and identify its key points.
      9) Infer meaning even when some expressions are not fully understood.
      10) Identify contradictions within the text.
      11) Recognize humor and explicit language in the text.
      12) Identify important points through tone of voice.
   b. Measuring Speaking Skills: this section evaluates the student's ability to:
      1) Communicate effectively in conversation, ensuring that sentences are coherent and meaningful.
      2) Identify the appropriate moment to speak and introduce new ideas.
      3) Comprehend sentences and dialectical speech.
      4) Condense sentences without losing essential content.
      5) Correctly pronounce adjacent letters.
      6) Carefully select words.
      7) Differentiate between similar-sounding letters.
   c. Measuring Mutual Communication Skills in the Context of Blackboard Technology: this section assesses the student's ability to:
      1) Engage actively with peers and professors through listening and speaking.
      2) Participate in discussions with the course professor and classmates via Blackboard.
      3) Exchange ideas and respond to feedback.

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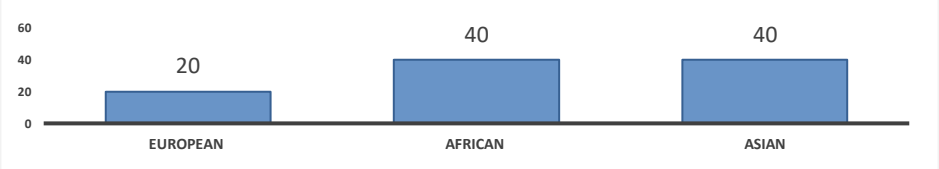
4) Respond promptly to questions posed by the professor.
5) Use technology efficiently to grasp lesson content.
6) React automatically to ongoing discussions.

Applied Study and Results of the Linguistic Scale

The study reviewed the comprehension skills of non-Arabic speaking students using Blackboard technology, dividing these skills into listening, speaking, and mutual communication. The following sections outline the steps taken to apply the scale to the study sample and measure its validity and reliability.

1. Exploratory Sample: to ensure the scale's clarity, ease of understanding, and linguistic integrity, it was distributed to a pilot sample of 10 non-Arabic speaking students enrolled in a grammar course via Blackboard. The students provided feedback on certain linguistic terms, which were subsequently revised and clarified. The students confirmed that the questions were clear and accurately reflected the intended content.
2. Sample and Study Population: accurately defining the study population and sample is crucial for the validity of the applied study. Failure to do so can lead to inaccurate results. This study focuses on non-Arabic speaking students enrolled in grammar, morphology, and rhetoric courses at the College of Arabic Language. A sample of 50 students was selected, representing the three main ethnic groups at the Islamic University: Asian, African, and European. The small number of students of American origin at the university led to their exclusion from the sample. Figure 2 presents the number and percentage of students in the sample according to their ethnic origins

Figure 2. Number and Percentage of Students in the Sample by Ethnic Origin



3. Validity and reliability: the proposed measure being honest and reliable makes their confidence in this measure and confirms its validity to measure what it was designed to do. In order to verify the extent of the validity of the proposed measure, reliance was placed on the honesty of the arbitrators, as the measure was presented to 4 arbitrators in the statistics specializations. Education and Arabic Language, who supported the validity of the scale for its purpose, with some reservations, which centered on some linguistic errors, rearranging some of the tests, the presence of more than one test measuring the same skill, and modifying some questions. All necessary modifications have been made. After modification, the scale was reviewed by the arbitrators again, who approved the validity of the scale for application. In order to verify the internal validity and reliability of the scale, reliance was placed on:
   a. Correlation coefficients between the phrases and the sub-axis:
      1) The correlation coefficients for the listening skills axis statements ranged between (0.82-0.88) and were all significant at α=0.05.
      2) The correlation coefficients for the speaking skills axis statements ranged between (0.79-0.91) and were all significant at α=0.05.
      3) The correlation coefficients for the communication skills axis statements ranged between (0.85-0.89) and were all significant at α=0.05.

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b. Correlation coefficients between the axes and the overall axis: The results showed the following:
   1) The correlation coefficients between the listening skills axis and the overall axis reached 0.78, which is significant at α=0.05.
   2) The correlation coefficients between the speaking skills axis and the overall axis reached 0.81, which is significant at α=0.05.
   3) The correlation coefficients between the communication skills axis and the overall axis reached 0.85, which is significant at α=0.05.

   From the previous results, it can be said that there is consistency between the statements of the axes and the sub-axes, and there is also consistency between the sub-axes and the overall axis, and thus the scale enjoys internal validity. The reliability of the scale, The Alfa Ckernbach scale and the split-half scale. Their values ranged between (0.67-0.72) and (0.65-0.70), respectively, and all of them are all significant at α=0.05.

4. Results of applying a measure of the level of linguistic understanding among students who are not fluent in Arabic at the Islamic University:
   In light of achieving the validity and reliability of the proposed scale, the scale was applied to 50 non-Arabic speaking students from the Islamic university who studied using Blackboard technology. Thirty scores were set for each test of the scale, and the results of applying the scale can be summarized through the tables (1-3).

Table 1. The Linguistic Comprehension Level Scale (Listening Skills Axis)

No	Objective	Test	Average score	Number of correct answers	Number of wrong answers	Difficulty rate *
1	Distinguishing between correct and incorrect understanding of the text being listened.	Listen to a recorded text and determine the meaning of specific paragraphs	22	40	10	0.2
2	Differentiate between real text and fictional text.	Answer 10 questions related to a recorded text using single-word responses.	21	38	12	0.3
3	Linking the audio text with other previous texts.	Listen to an explanation of a topic from the course that includes anecdotal examples, and identify these examples.	20	37	13	0.26
4	Distinguishing between opinions and facts.	Listen to two texts under a single title and identify the main theme.	18	29	21	0.42
5	Distinguishing between the prescribed text and external conversations.	Listen to a text that discusses students' opinions on a specific topic, with comments from the professor clarifying scientific facts, and identify these facts	27	42	8	0.16
6	Using audio text	Listen to a text from the course professor's explanation and student	19	31	19	0.38

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		interventions, and identify the topic of the text.				
7	Inferring the natural sequence of events according to the audio text.	Listen to a text from different parts of the course and describe its application in another part.	20	31	19	0.38
8	Summarizing the text and extracting its main points.	Listen to a text and identify its key consequences.	17	17	33	0.66
9	Inferring content when not understanding some expressions.	Listen to the text, create a main title for it, and identify its primary points.	19	20	30	0.6
10	Identifying contradictions in the text.	Listen to the text, identify any strange words, and determine their meanings.	16	14	36	0.72
11	Identifying comic and explicit text.	Listen to a conflicting text and identify the points of conflict	18	20	30	0.6
12	Identifying important points in the text through tone of voice.	Listen to a text that mixes plain and comic elements, and separate the different types.	16	18	32	0.64
13	Understanding text as the speaker's speed changes	Listen to a text with varying speeds, focusing on the general points emphasized by changes in volume, and identify these points.	24	32	18	0.36

* Difficulty rate = (number of wrong answers / total number of answers)

Table 1 it can be noted that, the difficulty rates of the tests ranged between (72% and 16%), which indicates the gradual difficulty of the scale so that it measures all levels of students. Also, there was no test with a high degree of difficulty such that 80% or more for students were unable to answer it, and there was no test with a low degree of difficulty. The test, “Listening to the text and its inclusion of strange words and asking the student to determine the meaning of the text,” was the most difficult test, as its difficulty rate reached 72%. The test, “Listening to a text and determining the consequences resulting from it,” came in second place in difficulty. Its difficulty rate reached 66%. The test was: “A text is heard that includes a discussion of the students’ opinions on a specific topic, and the subject teacher comments on clarifying the scientific facts, and the student is asked to identify these facts.” It is the easiest test, as its difficulty rate reached 16%. The test, “Listening to a recorded text and determining the meaning of some paragraphs,” ranked next, with a difficulty rate of 20%. The average of the students' answers ranged between 16 and 27 degrees, which indicates the presence of a gradation in the students' scores and indicates that the scale achieves moderation in the distribution of its scores.

Table 2. The Linguistic Comprehension Level Scale (Speaking Skills Axis)

No	Objective	Test	Average score	Number of correct answers	Number of wrong answers	Difficulty rate
1	Communicate in conversation so that sentences are	The student is asked to talk about a topic from the course for 2 minutes. The number of useful	25	38	12	0.24

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	understandable and have depth.	sentences in the speech must exceed 6, and 5 marks will be deducted for each error.				
2	Determine the appropriate time to talk and add a new and innovative idea.	Engage in a discussion with a group of students, and the student being tested should speak at the appropriate time, adding a new and innovative idea.	18	15	35	0.70
3	Participate positively in small group discussions.	Conduct a dialogue with a small group of students, and evaluate participation based on the number of times the student contributes to the conversation.	27	43	7	0.14
4	Shorten sentences without affecting the content.	The student is asked to deliver 10 useful sentences on a specific topic within one minute, focusing on shortening the sentences without losing content. The total number of correct sentences is recorded.	21	26	24	0.48
5	Pronounce adjacent letters correctly.	Pronounce a specific text and identify the number of errors resulting from incorrect pronunciation of adjacent letters. Deduct 3 marks for each error.	18	20	30	0.60
6	Careful choice of words.	Pronounce sentences on a specific topic, and determine the number of inaccurate words. Deduct 3 points for each inaccurate word.	21	24	26	0.52
7	Differentiating between similar letters.	Pronounce sentences on a specific topic, and identify the number of similar letters that are mispronounced. Deduct 2 marks for each error.	26	40	10	0.20

Table 2 it can be noted that, the difficulty rates of the tests ranged between (70% and 14%), which indicates the gradation of difficulty of the scale so that it measures all levels of students. There was also no test with a high degree of difficulty such that more than 80% of the students failed. For answering it, there was no test with a low degree of difficulty that all students must take. The test was "conducting a discussion with a group of students in front of the student being tested, and the student is asked to speak at the appropriate time so as to add a new and innovative idea." It is the most difficult test, as its difficulty rate reached 70% and then comes the test, ~~:~~ "Pronunciation," where a specific text and the number of errors due to incorrect pronunciation of adjacent letters, and the grade is determined so that 3 marks ~~are~~ deducted for each error." It ranked second in

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difficulty, as its difficulty rate reached 60%. The test ~~was~~ "conducting a dialogue with a small group of students and asking to participate in the conversation, with the evaluation based on the number of times participation occurred in the conversation." It is the easiest test, as its difficulty rate was 14% and the test comes in "requesting pronunciation." Sentences on a specific topic, and the number of similar letters that the student mispronounces is determined, so that 2 points are deducted for each error. The average of the students' answers ranged between 18 and 27 degrees, which indicates the presence of a gradation in the students' scores and indicates that the scale achieves moderation in the distribution of its scores.

Table 3. The Linguistic Comprehension Level Scale (Communication Skills Axis)

No	Objective	Test	Average score	Number of correct answers	Number of wrong answers	Difficulty rate
1	Participate with students and the subject teacher through listening and speaking.	A dialogue is conducted between the students and the subject professor, during which the student is asked about specific points.	25	38	12	0.24
2	Exchange ideas and respond to criticism.	In a dialogue with the subject professor, the student is asked to provide their opinion and address weaknesses in the opinions of other students.	18	15	35	0.70
3	Quick response to the subject professor's questions.	Conduct a discussion with students, pose questions, and record the time it takes for the student to fully answer each question.	27	43	7	0.14
4	Efficiency of the student's use of technology during the lesson:	Monitored during the lesson to assess their punctuality, adherence to the system without unauthorized departures, and compliance with the course instructor's instructions	21	26	24	0.48
5	Automatic response to the conversations going on around him.	Facilitate a discussion with students, assign roles,—and observe the reactions and understanding demonstrated by students when called upon.	18	20	30	0.60

Table 3, it can be noted that, the difficulty rates of the tests are between (44% and 12%), which indicates the gradation of the difficulty of the scale so that it measures all levels of students. It is also observed that no test had a difficulty level so high that more than 80% of the students were unable to answer it, nor was there a test with such a low level of difficulty that all students were able to answer it. The test was: "A dialogue is conducted between the students and the subject professor, and the student is asked about his opinion in the dialogue and the weak points in the opinions of other students." It is the most difficult test, as its difficulty rate reached 44%. Students are monitored during the lesson to assess their punctuality, adherence to the system without unauthorized

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departures, and compliance with the course instructor's instructions" It is the easiest test, with a difficulty rate of 12%. The average of the students' answers ranged between 18 and 27 degrees, which indicates the presence of a gradation in the students' scores and the scale achieves moderation in the distribution of its scores.

The results of the ANOVA test indicate a significant difference in the level of linguistic understanding among Asian, African, and European students at α=0.005. Specifically, the p-value is 0.0012 for the difference between Asian and African students, 0.0053 for the difference between Asian and European students, and 0.0215 for the difference between African and European students.

Comparison with Other Studies on Linguistic Understanding

The results from this study show a significant variation in the linguistic understanding levels of non-Arabic speaking students across various skill areas (listening, speaking, and communication). These findings align with the study by Alqahtani (2015), which found significant challenges for non-native Arabic speakers in acquiring proficiency in listening and speaking skills. Similarly, Alghamdi (2018) observed that students' speaking skills, particularly in terms of fluency and pronunciation, were often the most difficult to improve. The difficulty rates observed in this study (e.g., 72% for listening comprehension and 70% for speaking in group discussions) reflect the greater complexity of tasks requiring both language skills and cognitive engagement, a finding consistent with those of Elhassan (2017), who noted that comprehension and expression were particularly challenging in academic settings.

As noted by Wang & Ahmed (2020), the variation in linguistic understanding among different student groups (Asian, African, and European) may be influenced by factors such as cultural backgrounds, prior exposure to the Arabic language, and even the technological tools used for language learning (e.g., Blackboard). This study found a significant difference between these groups (p-value = 0.0012, p-value = 0.0053, p-value = 0.0215), which corroborates the findings of Al-Kahtani (2019), who found that non-native Arabic speakers from different regions showed distinct challenges based on their linguistic and cultural backgrounds.

The results suggest that tasks involving higher cognitive demands (e.g., determining the meaning of complex texts or speaking innovatively in discussions) tended to have higher difficulty rates. This is similar to the study by Hassan & Soliman (2016), where students showed greater difficulty in tasks that required synthesis, analysis, and active use of the language rather than passive comprehension. The easy tasks in this study (e.g., participating in group discussions and monitoring students' engagement in class) align with Boudah (2017)'s findings, where basic participation tasks were less challenging due to the lower level of cognitive load required.

The significant difficulty observed in listening and speaking tasks calls for targeted interventions in these areas. Teachers should consider more interactive and engaging methods, such as using varied listening materials (e.g., podcasts, debates) and practical speaking exercises (e.g., real-time discussions) to improve students' proficiency. Moreover, the differences observed between the groups suggest that personalized approaches, taking into account the students' cultural and linguistic backgrounds, would enhance the effectiveness of teaching strategies.

One limitation of this study is the small sample size of 50 students, which may not fully represent the diversity of non-Arabic speakers at the Islamic University. Future research

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could explore larger, more diverse student populations and longitudinal data to track improvements over time. Further research could also focus on integrating more advanced linguistic tools, such as machine learning models, to assess students' proficiency in real-time and offer more personalized feedback.

CONCLUSION

Designing a measure of linguistic understanding for non-Arabic speaking students is essential, especially in the context of using Blackboard technology for educational delivery. This study developed and applied such a measure to students at the Faculty of Arabic Language at the Islamic University. The research revealed several key findings. First, non-Arab students, particularly those who are not fluent in Arabic, face substantial difficulties in linguistic understanding when using Blackboard. These difficulties are especially evident in listening, speaking, and communication skills, indicating the need for targeted interventions in these areas. The study found that while Blackboard offers flexibility, it also poses significant barriers, particularly for students learning Arabic in a digital environment. These barriers highlight the importance of improving language proficiency through more effective instructional methods and resources. Additionally, the study showed that there are significant variations in linguistic understanding among non-Arab students based on their ethnic origins. These differences suggest that language proficiency is influenced by various cultural and educational factors. This finding emphasizes the need for personalized teaching strategies that cater to the specific needs of students from diverse backgrounds. In conclusion, this research underscores the importance of designing specialized educational tools and strategies to enhance the linguistic understanding of non-Arab students, particularly in online learning environments. Addressing the challenges identified in this study will help improve the effectiveness of digital language education and better support non-Arab students in their learning journey.

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