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DESIGN OF A SUMMATIVE ASSESSMENT IN ENGLISH LANGUAGE A1 STARTERS IN STUDENTS WITH DYSLEXIA

Research report before obtaining the bachelor degree in National and Foreign language Pedagogy, English Major

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Pantoja Lucintuña Jacqueline Elizabeth, con cedula de ciudadanía No.1850444397 declaro ser autora del presente proyecto de investigación: "**DESIGN OF A SUMMATIVE ASSESSMENT IN ENGLISH LANGUAGE A1 STARTERS IN STUDENTS WITH DYSLEXIA"**, siendo la Mgs. Abata Checa Fanny Mercedes., tutora del presente trabajo; y eximo expresamente a la Universidad Técnica de Cotopaxi y a sus representantes legales de posibles reclamos o acciones legales.

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GRATEFULNESS

I would like to express my deepest gratitude to God and to the people who have been a part of my life throughout this university journey. I am grateful to Professor Fanny Mercedes Abata Checa for being a great mentor and helping me develop my thesis. Likewise, I thank the professors in English who taught me to grow both professionally and personally. Finally, I want to thank my parents and friends, because without them, none of this would have been possible.

Elizabeth

DEDICATION

I dedicate my research to my parents, Alfredo and Gladys, for their unconditional love and the support they've given me to keep moving forward. To my grandmother Rebeca, who is no longer with us, but to whom I promised I would complete my university studies. To Lorena, my twin sister, who has watched me grow as a person and is always by my side. Likewise, I dedicate this to two special people, Gael and Daniela, for being a part of my life with whom I have shared unforgettable and difficult moments. Finally, I dedicate it to myself for being able to overcome the obstacles life presents.

Elizabeth

TECHNICAL UNIVERSITY OF COTOPAXI

PEDAGOGY OF NATIONAL AND FOREIGN LANGUAGES

UNDERGRADUATE PROGRAM

THEME: DESIGN OF A SUMMATIVE ASSESSMENT IN ENGLISH LANGUAGE A1 STARTERS IN STUDENTS WITH DYSLEXIA

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ABSTRACT

One of the factors that limits the learning of students with dyslexia is traditional assessments that do not consider their literacy needs; therefore, it is essential to design accessible assessment tools that measure acquired knowledge. In this context, it is vital that teachers and English language professionals have access to assessment tools adapted to students' competencies. The purpose of this research was to design an A1-level summative assessment for students with dyslexia titled «English Without Limits» using the ASSURE instructional model that guided the development of the proposal through 6 steps: Analyze the students, Establish Objectives, Select technologies and materials, Use technologies and materials, Require student participation, Evaluate and revise. Subsequently, a quantitative methodology with a descriptive scope was used to validate the test, evaluating weighting criteria through the ECOBA instrument based on the judgment of five experts with extensive experience in English language teaching and inclusive education. The results showed high content validity, reflected in an overall mean of (2.83), indicating that the test meets quality criteria; an overall standard deviation of (0.48), showing a high level of consensus; and an overall Aiken's V of (0.94), confirming the content validity of the items as pertinent, clear, and relevant. On the other hand, the results for students with dyslexia on the digital test were 90% and 93%, indicating that the proposed activities were satisfactory and met the needs for which the test was designed. It is concluded that the digital summative assessment is a valid resource for evaluating English language skills in an equitable education.

Keywords: *ASSURE model, Digital test, Dyslexia, Equitable education, Inclusive assessment*

UNIVERSIDAD TÉCNICA DE COTOPAXI

PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS

PROGRAMA DE PREGRADO

TEMA: DISEÑO DE UNA EVALUACIÓN SUMATIVA EN INGLÉS A1 STARTERS PARA ESTUDIANTES CON DISLEXIA

Autora:

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RESUMEN

Uno de los factores que limita el aprendizaje de los estudiantes con características de dislexia son las evaluaciones tradicionales que no consideran sus necesidades de lectoescritura, por lo que resulta indispensable diseñar instrumentos de evaluaciones accesibles que permitan medir el conocimiento adquirido. En este contexto, es vital que los docentes y los profesionales del área de inglés dispongan de instrumentos de evaluación adaptados a las competencias de los estudiantes. Esta investigación tuvo como propósito diseñar una prueba sumativa A1 starters para estudiantes con dislexia titulado «English Without Limits» empleando el modelo instruccional ASSURE que guio el desarrollo de la propuesta mediante 6 pasos: Analizar a los estudiantes, Establecer Objetivos, Seleccionar tecnologías y materiales, Utilizar tecnologías y materiales, Requerir la participación de los estudiantes, Evaluar y revisar. Posteriormente, se utilizó una metodología cuantitativa con un alcance descriptivo para la validación del test, evaluando criterios de ponderación a través del instrumento ECOBA mediante el juicio de cinco expertos con amplia trayectoria en la enseñanza del idioma inglés y la educación inclusiva. Los resultaron evidenciaron una alta validez de contenido reflejada en una media general de (2.83), indicando que el test cumple con criterios de calidad; desviación estándar general de (0.48), presentó un alto nivel de consenso; V de Aiken general obtuvo un (0.94), confirmando la validez de contenido de los ítems que eran pertinentes, claros y relevantes. Por otro lado, los resultados de los estudiantes con dislexia acerca del test digital fueron de 90% y 93%, evidenciando que las actividades propuestas fueron satisfactorias lo que le permitió cubrir las necesidades para la cual el test fue diseñado. Se concluye que la prueba sumativa digital es un recurso válido para evaluar el aprendizaje del idioma inglés fortaleciendo una educación equitativa.

Palabras clave: *Modelo ASSURE, prueba digital, evaluación inclusiva, educación equitativa.*

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1. GENERAL INFORMATION

Theme:

Design of a summative assessment in English language A1 starters in students with dyslexia

Starting date:

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Ending date:

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Technical University of Cotopaxi

Sponsoring Faculty:

Extension Pujilí

Sponsoring career:

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Link project:

Educational intervention strategies for dyslexia among children in general basic education at the elementary and lower secondary levels in schools in the Pujilí canton.

Team Group:

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Knowledge Area:

Education

Research Line:

Education, linguistics, literature, interculturality and society.

Research line of Pujilí Extension:

Pedagogical practices, curricular and inclusive teaching methods in the areas of knowledge.

2. PROBLEM STATEMENT

Summative assessment allows for the evaluation of learning outcomes at the end of a learning period and provides information for interpreting a student's level of performance. When teaching English to children, the design of summative assessment must take into account the purpose of the assessment, the language skills to be evaluated, and the characteristics of the student population. According to Quesada (2023), summative assessment is conducted at the end of a specific learning period and is designed to evaluate overall learning outcomes and achievements. It is worth noting that summative assessments tend to be more formal and standardized.

At the international level, research shows that learners with dyslexia experience persistent difficulties in reading and writing tasks in both their first language and foreign languages, including English. Studies indicate that conventional language assessments often disadvantage students with dyslexia because they rely heavily on decoding, spelling accuracy, and reading speed rather than on communicative understanding (Snowling, 2019). As a result, assessment outcomes may reflect the students' reading difficulties rather than their true English language competence, revealing a lack of inclusive summative assessment models in EFL contexts.

When an assessment relies primarily on extensive instructions, reading speed, spelling accuracy, or written production, there is a risk that the results will reflect the specific learning difficulty more than the student's actual mastery of linguistic content. For this reason, accessibility does not mean lowering learning objectives, but rather presenting tasks in a way that reduces unnecessary barriers and allows for a more accurate assessment of the developed competence (Kubatzky & Benner, 2023; Łodej, 2020).

The literature on dyslexia and foreign language learning has devoted considerable attention to teaching strategies, phonological support, and multisensory approaches. Studies such as those by Abu-Rabia and Salfety (2021) and Mohamadzadeh et al. (2020) show that students with dyslexia can make progress in a foreign language when they receive support tailored to their needs. However, the development of accessible summative assessment tools remains an area that requires greater attention, especially when assessing children at early levels of English proficiency.

At the Pre-A1 Starters level, classroom activities focus on everyday vocabulary, simple instructions, and basic communication skills. For a student with dyslexia, a traditional test may impose additional reading and writing demands that make it difficult to demonstrate this learning. Kormos and Smith (2023) argue that specific learning differences must also be considered in language assessment, so that adjustments maintain the construct being measured and reduce barriers unrelated to it.

In the context of this research, the problem centers on the need for a digital summative assessment of English at the Pre-A1 Starters level that takes into account the characteristics of students with dyslexia and can be evaluated based on criteria related to content, design, and instructional organization. This need has led to the design and validation of a digital test that provides evidence of its relevance and readability without altering the language skills it is intended to assess.

3. OBJETIVES

3.1 General objective

To design a digital and inclusive summative assessment of English, tailored to the needs of A1-level students with dyslexia, in order to evaluate their initial proficiency in the English language.

3.2 Specific objectives

- To identify the theory about English assessments in English Language.
- To design a proposal for a summative English test for beginner students at level A1 in order to assess the English language.
- To validate a summative English test for A1 to assess the English Language.

1. ACTIVITIES AND TASK SYSTEM IN RELATION TO THE OBJECTIVES PROPOSED

Table 1

Activities developed in accordance with the general objective

Specific Objectives	Activities	Verification Means
To identify the theory about English assessments in English Language.	Bibliographic review with the research topic	Theoretical framework Background.
To design a proposal for a summative English test for beginner students at level A1 in order to assess the English language.	Establish the data collection technique and instrument design	Test
To validate a summative English test for A1 to assess the English Language.	Create the validation test	Validated test

Note: *Original work*

5. RESEARCH QUESTION

- How does digital summative assessment for A1 Pre-Starters level demonstrate validity and readability to assess students with dyslexia?

6. JUSTIFICATION

This research is justified by the need for assessment methods that allow for the evaluation of English language learning without turning reading and writing difficulties into an additional barrier for students with dyslexia. At the early levels, a summative assessment must maintain the intended linguistic objectives while also providing instructions, resources, and response formats that are understandable to the target population.

From a pedagogical standpoint, designing an adapted assessment promotes a more equitable evaluation of learning because it focuses on the English skills to be assessed. The literature on inclusive assessment highlights the importance of providing accessible formats, visual aids, clear instructions, and conditions that allow students to demonstrate their knowledge without reading speed or written production becoming the sole criterion for performance (Kubatzky & Benner, 2023; Łodej, 2020).

In the academic sphere, the study provides an applied framework for linking foreign language assessment, dyslexia, and the design of digital resources. The proposal goes beyond simply developing a test; it incorporates an instructional design process and validation through expert judgment, which allows for the documentation of criteria regarding the instrument's relevance, functionality, and organization. In this way, the research can serve as a foundation for future work on inclusive assessment the beginner levels of English.

From a social and technological perspective, this proposal aims to expand opportunities for participation among students with specific learning difficulties through a test that integrates visual and auditory resources, digital navigation, and a less restrictive pace of completion. This approach is consistent with the principle that innovations in assessment should be accessible and take students with learning difficulties into account from the design stage (Kubatzky & Benner, 2023). The results of this research are useful for teachers, educational institutions, and designers of summative assessments, as this study offers a proposal for a technology-supported digital test that can be administered to students with dyslexia, promoting more inclusive assessment practices aligned with the real needs of English-learning students.

This research is linked to the training project "Educational Intervention Strategies for Dyslexia in Children in Basic General Education at the Primary and Lower Secondary Levels in Schools in the Canton of Pujilí," as it seeks to contribute to the development of inclusive educational strategies through the design of a digital summative English assessment for students with dyslexia. The proposal aims to address the specific needs of these students by incorporating elements of accessibility, clarity, and adaptation that facilitate their participation in the English language learning assessment process.

7. SCIENTIFIC AND TECHNICAL FOUNDATION

7.1 Research Background

Abu-Rabia and Salfety (2021) analyzed the acquisition of English as a foreign language among students with dyslexia using a quantitative intervention design with pretest and posttest measures. This test was developed by Raven and Court (1976). The study included 180 sixth-grade students with learning difficulties; 90 students with dyslexia participated in the intervention program and were grouped according to the severity of their difficulties in their native language. The results showed that the group that received the intervention performed better than the control group. This finding is relevant because it demonstrates that performance in a foreign language can improve when activities are tailored to students' characteristics, an aspect that should also be considered when evaluating them.

Mohamadzadeh et al. (2020) studied the effect of multisensory phonics instruction on Iranian students who speak Persian and have dyslexia. Using a multiple-case study with pre- and post-tests, they assessed reading and phonological awareness in both the first language and English. The findings showed improvements in both languages and highlighted the influence that characteristics of the first language can have on second-language learning. For the present research, this study provides evidence of the need to consider phonological processing and linguistic diversity when designing learning and assessment tasks.

Gkountakou and Talli (2024) compared the performance of 32 school-aged children,16 with dyslexia and 16 with typical development, on tasks involving reading, phonological awareness, rapid automatic naming, and memory in Greek and English. The participants had a basic command of English, corresponding to levels A1-A2. The results revealed difficulties in both languages and supported the relationship between language skills and memory processes. This prior research is directly relevant to the present study because it confirms that, at elementary levels of English, the demands of reading and processing must be taken into account when interpreting the performance of students with dyslexia.

Overall, the reviewed background information shows progress in educational interventions and in the understanding of the linguistic processes associated with dyslexia. However, there has been less development of studies focused specifically on the design and validation of digital summative assessments for early-grade students. This gap underscores the need for an approach that combines criteria for linguistic assessment, accessibility, and content validation.

7.2 Theoretical Framework

7.2.1 Acquisition of English as a second language in students with dyslexia

Learning English as a foreign language can pose an additional challenge for students with dyslexia, especially due to the irregular relationship between graphemes and phonemes in this language. Gkountakou and Talli (2024) note that difficulties can be observed in reading, phonological awareness, and memory processes involved in word identification and the comprehension of written messages. Therefore, performance in English should not be interpreted solely on the basis of reading speed or accuracy.

Differences may also appear in written production related to text organization, spelling, and grammatical structure. Álvarez-Cañizo et al. (2023) found that Spanish-speaking children with dyslexia who wrote in English as a second language experienced greater difficulties across various dimensions of writing. These findings show that an English assessment designed for this population must distinguish between the linguistic competence being assessed and the specific difficulties associated with written processing.

Differentiated instruction can enhance learning when it incorporates multisensory supports, phonological practice, and visual resources. Mohamadzadeh et al. (2020) reported improvements in reading and phonological awareness following such an intervention. However, although research has focused on instruction, there is a gap regarding how to fairly assess the knowledge acquired. This gap highlights the need for summative assessment tools that adequately reflect students' progress without penalizing the difficulties inherent in dyslexia.

7.2.2 Dyslexia as a specific learning difficulty

Dyslexia is a neurobiologically based specific learning disability that manifests primarily in the acquisition and automation of reading and writing. Its presentation is not uniform: it can involve problems with accuracy, fluency, decoding, and phonological processing, with varying degrees of severity among students. Daniel et al. (2025) highlight that the procedures used to identify dyslexia vary across educational contexts, which can lead to differences in how students are recognized and supported.

Current research suggests that dyslexia should be understood from a multifactorial perspective. Wolf et al. (2024) explain that its manifestation results from the interaction between biological, cognitive, linguistic, and sociocultural factors, while Xu (2024) examines genetic, neural, and

environmental factors related to its development. This heterogeneity means that not all students experience the same difficulties or require exactly the same types of support.

Furthermore, dyslexia can have a significant emotional impact, as students often face repeated academic setbacks due to assessments that are not tailored to their needs. Abdul et al. (2021) point out that inadequate monitoring of progress can lead to misinterpretations of a student's actual performance, which affects their self-esteem and motivation. An adapted, evidence-based assessment would identify not only the student's difficulties but also their linguistic strengths, facilitating more precise educational interventions. This comprehensive approach highlights the need to design standardized instruments that respond to the cognitive profile of students with dyslexia.

In an educational setting, these characteristics can affect the way students access instructions, process text, and organize written responses. Therefore, an inclusive assessment should avoid automatically interpreting a decoding difficulty as a lack of knowledge. The purpose of accommodations is to facilitate access to the task without altering the skill or content being assessed.

7.2.3 Types of assessment

Educational assessment can serve diagnostic, formative, and summative purposes. Diagnostic assessment is used to identify prior knowledge and needs at the beginning of a process; formative assessment supports learning and provides feedback; and summative assessment evaluates achievements at the end of a unit, term, or course. In language teaching, these functions complement one another and must be linked to language skills and the purpose of the assessment (Quesada, 2022).

Diagnostic assessment is administered at the beginning of instruction to identify students' prior knowledge, strengths, and learning needs. Similarly, formative assessment is conducted on an ongoing basis throughout the learning process to monitor progress and provide feedback that promotes improvement. In contrast, summative assessment is administered at the end of a school term to evaluate students' achievements in relation to established learning objectives. These types of assessment are complementary and essential for effective language instruction, especially in inclusive settings, as they allow teachers to adapt teaching strategies and assessment practices to meet the needs of diverse students, including those with dyslexia.

In inclusive settings, the quality of an assessment also depends on its accessibility. In this regard, Bliznakov (2024) argues that traditional assessments are often unfair, as they prioritize

reading and writing skills over students' actual knowledge, which can negatively affect the performance of students with reading difficulties. The author emphasizes the need to adapt assessments, including summative assessments ones, through the use of flexible formats, technological support, and linguistic accommodations, in order to ensure that assessment tools validly and fairly measure learning outcomes. These accommodations allow students with dyslexia to demonstrate their abilities without their specific difficulties interfering with the assessment of academic outcomes, thereby reinforcing the principles of equity, accessibility, and quality education in the classroom.

For students with dyslexia, accommodations may include brief instructions, clear visual organization, response options that reduce unnecessary writing, and flexibility in time allotted. These measures do not change the learning objectives; they aim to ensure that the test more accurately measures academic performance. Łodej (2020) argues that accommodations on foreign language tests should preserve the content being assessed and modify only the conditions of access or response when necessary.

The assessment tool must maintain the expected achievement criteria for the English proficiency level while reducing barriers associated with reading, writing, or visual overload. These adaptations do not alter the learning objectives or assessment standards but rather allow students with dyslexia to demonstrate their actual knowledge and skills without being disadvantaged by decoding or processing difficulties (Schneider et al., 2021). Therefore, adapted summative assessments contribute to equity and validity in educational assessment.

This perspective is particularly relevant at early grade levels, where instructions and tasks should be simple, straightforward, and age-appropriate for students.

7.2.4 Types of Test Accommodations

Accommodations on a test are adjustments to the way information is presented, how students respond, how time is managed, or how the testing environment is arranged, without altering the essential content being assessed. Łodej (2020) identifies these measures as resources for reducing barriers to access for students with dyslexia.

a. Presentation Accommodations

Presentation accommodations relate to the way information is organized and presented. They may include legible fonts, appropriate font size, sufficient spacing, brief instructions, a clear visual hierarchy, and the reduction of distracting elements. Their purpose is to make the test easier to read and reduce unnecessary perceptual load.

b. Response Accommodations

Response accommodations modify the way students express what they know. Depending on the type of task, multiple-choice questions, drag-and-drop exercises, short-answer questions, or visual aids may be used. The choice of an accommodation should be relevant to the language skill being assessed and prevent excessive writing demands from skewing the results.

c. Timing/scheduling Accommodations

Time and scheduling accommodations take into account that some students need more time to process instructions, read, or review their answers. Reasonable extensions of time or breaking a lengthy task into smaller parts can reduce pressure without changing the level of difficulty of the content.

d. Setting Adaptations

Environmental adjustments are designed to reduce distractions and make it easier to concentrate. An organized space with low noise levels and tried-and-true technological resources can help ensure more stable performance.

7.2.5 Summative assessment adapted for students with dyslexia

Summative assessment allows us to determine the level of achievement reached at the end of a learning process. For students with dyslexia, a conventional test may provide an incomplete picture of performance when it places a disproportionate emphasis on reading speed, spelling accuracy, or written production. Nkomo et al. (2021) caution that assessment practices in elementary education need to take into account the characteristics of students with dyslexia to prevent reading difficulties from influencing the interpretation of their knowledge.

According to Hadhrami et al. (2022), accommodations in assessment can significantly improve the performance of students with dyslexia, provided they address aspects such as response time, the visual presentation of the text, and the linguistic structure of the items. An adapted summative assessment should retain the objectives, content, and achievement criteria, but may vary in presentation, sequence, or response format (Kubatzky and Benner, 2023). It is necessary to consider the need to incorporate accessibility from the very design of the assessment and not merely as a subsequent correction. In this study, this principle guides the incorporation of simple instructions, visual and auditory aids, digital activities, and time flexibility into the proposed test.

7.2.6 General Characteristics and Educational Needs of Students with Dyslexia

The educational needs of students with dyslexia depend on the combination of factors that influence their reading profile. Xu (2024) notes that dyslexia has a hereditary component associated with a family history of reading difficulties. This study explores an understanding of the pathogenesis, risk factors, and early interventions associated with dyslexia, as this helps elucidate its origin, progression, and appropriate interventions. First, the pathogenesis of dyslexia involves early neural markers, visual and auditory processing dysfunctions, specific brain regions, as well as changes in brain connectivity and function. These mechanisms help elucidate the origins of dyslexia, paving the way for early detection and intervention to assist children at risk of developing dyslexia. Second, the study highlights negative environmental risks, including tobacco use during or after pregnancy, a history of psychiatric disorders, infectious diseases, difficult vaginal delivery, neonatal asphyxia, and socioeconomic status, all of which can affect cognitive and reading skills throughout childhood and adolescence, while Wolf et al. (2024) emphasize the heterogeneity of dyslexia and the interaction between risk and protective factors. For this reason, it is not appropriate to assume that all students have the same strengths or difficulties.

In the classroom, these differences may manifest in the time it takes to read, in word recognition, in working memory, in spelling, or in the organization of a written response. Support needs should be assessed based on the task and the learning objective. In an English assessment, this involves providing a clear structure, minimizing unnecessary visual elements, using auditory aids when appropriate, and allowing the student to proceed at a pace that meets their needs.

7.2.7 Assistive technologies and digital tools for students with dyslexia

Digital tools can support accessibility when they offer different ways to present information, allow users to control their own pace, and combine text, images, and audio. Their usefulness depends not only on incorporating technology, but also on whether the tool meets the pedagogical objective and reduces barriers to use. In assessment, navigation should be straightforward, and multimedia elements should provide relevant information rather than distract the student (Kubatzky & Benner, 2023).

KOBI is an application aimed at the development of reading that allows you to adapt texts and accompany fluency practice. Its official site describes pacing and text presentation

customization functions, resources that illustrate how a digital tool can adjust the reading experience to the user's needs (KOBI, n.d.).

Dytective is a digital tool designed to support reading and writing. According to Change Dyslexia (n.d.), it includes adaptive activities and a screening test to identify the risk of dyslexia and other reading and writing difficulties. This type of resource demonstrates technology's potential to provide differentiated support and track performance data. Developed by EduCaixa of the "la Caixa" Foundation, it has been scientifically validated and uses automatic adaptation technologies that tailor activities to each student's performance level. The app provides relevant information on students' reading performance and facilitates the implementation of support strategies within the educational context, incorporating interactive exercises designed based on research in neuroeducation and cognitive psychology, which helps improve students' reading accuracy, processing speed, and language skills.

ABCmouse is an educational app designed for children ages 2 to 8 that offers a comprehensive English-language learning program through interactive activities, games, songs, stories, and exercises tailored to the different stages of child development. Its content covers key areas such as reading, math, science, art, and language development, allowing students to acquire knowledge and skills progressively. The platform uses a playful approach that encourages children's active participation, increasing their motivation and fostering meaningful learning experiences from an early age (ABCmouse: Learn English - Apps on Google Play, n.d.). Its design allows students to progress at their own pace while developing essential academic skills for their early education. Thanks to the variety of multimedia resources and educational activities it offers, this tool serves as a valuable supplement to teaching and learning processes, particularly in the early development of linguistic and cognitive skills in English.

When designing a digital assessment for students with dyslexia, technological features should remain secondary to the assessment's purpose. The use of images, audio, buttons, brief instructions, and technical feedback can facilitate access; however, these elements should follow a simple sequence that is consistent with the students' English proficiency level.

7.2.8 ASSURE Model

Originally proposed by Robert Heinich, Michael Molenda, and James D. Russell in 1981. Smaldino et al. (2019), who mention that the ASSURE model consists of 6 sequential steps that help teachers incorporate digital resources to guide student learning:

Analyzing Students. This phase identifies general characteristics, prior knowledge, entry-level competencies, and learning needs. In this proposal, this analysis takes into account age, the Pre-A1 Starters level, and reading and writing difficulties associated with dyslexia.

Selecting Objectives. This involves clearly defining the expected outcomes for the student. The objectives guide the selection of activities and help ensure that assessment remains focused on the English skills to be evaluated.

Selecting technologies and materials. At this stage, the resources that best align with the objectives and the students' characteristics are selected. Existing materials can be used, adapted, or new resources can be created, provided that they are functional and accessible.

Using technologies and materials. Before deployment, resources must be reviewed and prepared. This involves verifying that audio, images, buttons, links, devices, and the application environment are functioning properly, as well as organizing the sequence in which they will be used.

Require student participation. Emphasize the importance of involving students in their own learning process through the explicit practice of content and skills using technologies and media such as digital games and simulations. In a digital assessment, this participation takes the form of answering questions, selecting responses, listening to audio clips, and providing answers that align with the skills being assessed.

Evaluate and review. The final phase allows for an assessment of the effectiveness of the resources and the identification of areas that require adjustments. In this study, the review focuses on expert evaluations using the ECOBA instrument and on the experience of administering the digital test to students.

Today, due to the effects of the pandemic, educational technologies play an essential role in instructional design and educational models within the school system. According to Akşab & Özyurt (2025), the ASSURE instructional model is a systematic approach to planning, organizing resources and materials, and evaluating teaching and learning—in this case, the English language. They argue that the model promotes active learning among students by enhancing learning experiences through the integration of digital resources tailored to students' actual needs.

7.2.9 ECOBA Validation instrument

Quality Assessment of Learning Objects (ECOBA) is a tool designed to evaluate the quality of educational resources before they are used with students. Ruiz González et al. (2007) conceived it as a quantifiable and iterative process, so that a learning object can be evaluated, adjusted, and reviewed again until it reaches an adequate level of quality.

The tool organizes the evaluation around three main areas: relevance and accuracy of content; aesthetic and functional design; and instructional design and competency assurance. These components allow for the review of both the accuracy and coherence of the content, as well as the readability, visual organization, functionality, and alignment of the activities with educational objectives (Ruiz González et al., 2007).

In this study, the ECOBA instrument is used as the basis for expert judgment regarding the proposed digital test. It was chosen because it integrates pedagogical, functional, and instructional aspects that are relevant for evaluating a technology-supported assessment.

From another perspective, Henao (2022) notes that the ECOBA instrument is a method for evaluating a digital educational resource based on three subcriteria or key considerations:

> **Relevance and accuracy of content:** assesses the quality, timeliness, and alignment of the content with educational objectives.
>
> **Aesthetic and functional design**: examines the visual presentation, readability, organization of elements, and ease of use of the resource.
>
> **Instructional design and competency assurance**: reviews the clarity of instructions, the relevance of activities, and their relationship to the proposed competencies and objectives.

The combination of these criteria provides an overall assessment of the resource while also identifying specific aspects that can be corrected before its implementation. For this reason, ECOBA was used as a validation tool for the digital test developed in this study.

8. METHODOLOGY

8.1 Instructional model

The ASSURE model has been chosen as the instructional design model for this proposal because it allows for the planning and development of digital educational resources through the integration of technology and teaching strategies focused on student characteristics. Its

approach is suitable for the design of a digital test adapted for children with dyslexia, as it facilitates the selection of accessible tools, visual materials, and interactive resources that respond to their learning needs. It consists of six stages: analysis of student characteristics, establishment of learning objectives, selection of technologies and materials, implementation of technologies and materials, promotion of active student participation, and finally, evaluation of results and critical review of the experience (Castillo, 2026). The ASSURE model promotes student-centered learning and facilitates the adaptation of digital educational materials for dyslexic students with learning difficulties.

First, in the student analysis stage: the general characteristics and educational needs of students with dyslexia were identified, considering their age range, level of English proficiency, prior knowledge, and learning styles (auditory, visual, reading/writing, and kinesthetic), at the end of a pre-A1 Starters students academic period. Second, in the objective setting stage: the objectives of the test were defined with the purpose of assessing the students' English proficiency. Third, the selection of technologies and materials: in this step, information was gathered on the content of the Cambridge Pre-A1 Starters Sample Papers Volume 1 and Volume 2, which served as a reference due to their international assessment standards, and appropriate digital tools were researched to align with the objectives established for the creation of the test. Fourth, implementation of technologies and materials: digital tools were implemented, including Canva, Lovable App, Google AI Studio, Netlify, and Supabase, to develop the test. Fifth, it requires student participation: first, the validation process was carried out by experts using the ECOBA instrument, where the test proposal was presented. At this stage, students were actively engaged in the process, during which their English skills were assessed. Sixth, evaluation and review: the experts critique and the students' perspectives on the functioning of the digital test were analyzed.

This research adopts a quantitative approach. It allows for the presentation and analysis of numerical data collected through a valid instrument to know experts` scores related to the test and the implementation of the proposal in students with dyslexia that was carried out to know the results regarding the functionality and accessibility of the digital test. Sosa (2023) notes that the quantitative approach tends to study phenomena through measurement, numerical counts, and statistical techniques, using reliable instruments such as scales, tests, and questionnaires. Furthermore, this study has a descriptive scope, as it describes the results obtained during the validation process and the administration of the digital test. Then, the researcher then took into account the experts' observations and suggestions to improve the proposal. Similarly, the student results on the digital test were recorded by the researcher.

8.2 Research context and participants

This study was conducted in the cantons of Latacunga and Pujilí, in the province of Cotopaxi, Ecuador. The participants consisted of five teachers who served as experts and two students with dyslexia.

The experts were selected based on their academic background and experience in teaching English. Four were affiliated with a higher education institution, and one with a private school. Their profiles provided expertise in English language instruction, assessment, and educational needs related to dyslexia.

Expert 1: The expert holds a master's degree in teaching English as a second language and has around 20 years of experience in higher education. His background provided valuable insights for improving the digital test.

Expert 2: The expert holds master's degrees in Applied Linguistics for Bilingual Education and has approximately 26 years of experience in teaching and research. His work on major research projects addressing learning difficulties and the understanding of dyslexia has contributed to the development of accommodations for students with dyslexia.

Expert 3: This expert is a distinguished educator and researcher with nearly 22 years of experience. She is a university professor who demonstrates her proficiency in the English language and in the content of activities related to reading and writing.

Expert 4: This expert holds a master’s degree in English language teaching and has 11 years of professional experience. He is a highly qualified teacher in preparing student assessments and participated in the validation process for this test.

Expert 5: He is a teacher with 3 years of experience at a school in the province of Cotopaxi. She has worked with students who have learning difficulties, primarily related to reading and writing, and therefore provided feedback on the activities included in the proposal.

Students: Two students aged 10 to 11 in the sixth grade of Basic General Education at a private school in the canton of Latacunga, who exhibit characteristics of dyslexia, were included in the study.

8.3 Data collection instrument

The instrument used to validate the summative test adapted for children with dyslexia based on the weighting criteria of the ECOBA instrument proposed by Ruiz et al. (as cited in Ruiz &

Alvarez, 2007), evaluates compliance with learning objectives focused on test creation in order to ensure student integration and participation in the learning process. The ECOBA instrument is classified according to three main criteria: relevance and accuracy of content; aesthetic and functional design; and instructional design and assurance of competencies. The ECOBA instrument was selected because it facilitates the comprehensive assessment of educational and assessment resources from various pedagogical and instructional dimensions, enabling an evaluation of the quality of a digital test adapted for students with dyslexia. The instrument includes evaluation criteria: the first criterion is the relevance and accuracy of the content, which encompasses 15 indicators; the second criterion is aesthetic and functional design, also incorporating 15 indicators; and finally, the third criterion is instructional design and competency assurance, containing 11 indicators, for a total of 41 indicators that comprise the ECOBA instrument. Then, the sum of the scores obtained for each criterion yields a total score to determine the level of the learning objective for the test. For this reason, a score below 87 is considered Unacceptable; a score between 87 and 96 is considered Acceptable; a score from 96 to 105 is classified as Good; a score from 105 to 114 is categorized as Very Good; and a score above 114 indicates an Excellent level. Each criterion was assessed using a four-level ordinal scale: Poor (0 points), Fair (1 point), Good (2 points), and Very Good (3 points). Additionally, some indicators were evaluated using a dichotomous scale of Yes (3 points) and No (1 point) responses to determine compliance with specific characteristics of the instrument. Another instrument used was a digital test adapted for students with signs of dyslexia, designed to assess English skills such as listening, reading, speaking, and writing. It consisted of 25 items, and a total score was recorded after completion.

8.4 Data collection and analysis procedure

Data were collected using the ECOBA instrument to validate the design of the digital English test for students with dyslexia. During the data collection phase, five experts were asked to participate in the review and validation process for the digital test. First, each expert was contacted and asked to participate in the validation, and later, the time and date were coordinated based on the experts' availability. After confirming their participation, a face-to-face meeting was held to explain the purpose of the research, the objective of the digital test, and the correct way to complete the established indicators of the ECOBA instrument. Subsequently, a computer was used so that the experts could review the content, the

organization of activities, and the functionality of the test. In addition, a printed copy of the ECOBA instrument that contained criteria, indicators, and a rating scale recording their assessment and recommendations to improve the proposal. Throughout the process, the researcher was present to provide assistance with any questions without influencing the judges' decisions, and once the evaluation was complete, the judges were thanked for their collaboration. Regarding the students, the authorization of the director of the private educational unit where the study was carried out was requested in advance. Once the specific modifications mentioned by the judges were implemented, the test was administered to students showing characteristics of dyslexia under the supervision of the researcher, verifying the correct development of the evaluation of the each of the students, considering the time they deemed appropriate and in return allowing going back to the previous items as many times as necessary.

For data processing, the information obtained from the validation by the five experts was tabulated in Microsoft Excel. The mean, standard deviation, and Aiken's V were calculated to describe the level of agreement and the content validity of the proposal. Subsequently, the scores obtained by each student were stored on the digital platform and organized into a table for descriptive analysis.

9. PROPOSAL

9.1 Proposal title

English Without Limits

9.2 Objectives

General Objective

To assess the English level of students with dyslexia through an accessible digital test.

Specific Objectives

- To measure listening comprehension through the use of short audio clips, simple instructions, and visual support that facilitates the assessment.
- To demonstrate reading and writing comprehension through simple texts and images within the interactive digital test.
- To assess oral expression through a basic questionnaire supported by visual materials.

9.3 Justification

Dyslexia is a specific learning disability that primarily affects the development of literacy and language-related skills, which can create barriers when taking traditional English assessments. In most cases, students with dyslexia have difficulty processing lengthy instructions, recognizing words quickly, and completing written tasks under pressure, which affects their academic performance. Stevani y Tarigan (2022) identificaron necesidades específicas de estudiantes con dislexia en la comprensión lectora en inglés y destacaron la importancia de adaptar las estrategias y las condiciones de trabajo a sus características.

For this reason, the present proposal for the design of a Pre-A1 Starters test is to create an interactive digital test that evaluates English language skills in children with dyslexia, incorporating short audio clips, images, simple instructions, and visual aids to facilitate comprehension and reduce the difficulties children with dyslexia face during the assessment process. The proposal promotes a more inclusive assessment for students at the Pre-A1 Starters level and allows for flexible time limits so that they can process the information at a more comfortable pace.

9.4 Components of the Proposal

The design of the test entitled «English Without Limits» is intended to assess English language skills. It is worth noting that this proposal constitutes a prototype assessment that considers the specific needs of children with dyslexia, incorporating pedagogical and technological resources with visual and auditory aids and adapted activities that facilitate students' comprehension and participation.

Furthermore, this test aims to encourage teachers to assess students' knowledge and performance from a more inclusive perspective, moving away from a focus solely on the characteristics of a traditional test and allowing children to demonstrate their abilities in a way that is more understandable and better suited to their educational needs. This design is intended to serve as a reference guide for future summative assessment processes in the teaching of English as a foreign language, promoting more equitable and accessible educational practices in the classroom.

The design of the summative test «English Without Limits» includes a home screen that facilitates the registration of student data such as their name, age, and school. The main menu features icons that provide easy access to the different English language skills. The test consists

of a total of 25 activities divided into four skills: listening (10 exercises), reading, and writing (15 exercises). On the other hand, the speaking section is not included in the 25 exercises, as it is conducted separately and guided by the researcher, who uses images presented in the test to ask questions, e.g., "Where is the table?" The student must point to the correct answer or respond verbally. At the end of the test, the system automatically generates each student's percentage score, allowing for a clear assessment of their performance level and providing an interactive certificate. The Netlify.app platform, where the digital test was created, displays a final table that highlights incorrect answers durin the assessment process. This allows both teachers and students to identify the areas requiring feedback and follow-up in their foreign language learning. The platform also includes an administration panel that allows researchers to access student results, such as scores, test dates, and time spent.

The content for each English skill is specified in the following table:

Table 2

Assessment Content

Skills	**Objective**	**Lesson & Vocabulary**	**Media and Resources**
Listening	To measure listening comprehension through the use of short audio clips, simple instructions, and visual support that facilitates the test.	**Objects:** Ball, balloon, bamboo, hat, wall, doll, table, goal & gifts **Animals:** Cat & mouse **Food:** Apple & cake **Names:** Jesus and Beth **Part of the house:** Living room **Place:** Park & stadium	Audio Images Matching
Reading and writing	To demonstrate reading and writing comprehension through simple texts and images within the interactive digital assessment.	**Objects:** Hat, balloons, gifts & table **Animals:** Duck, hippopotamus, mouse, monkey, chicken, snake, & dog **Food:** Cake **School supplies:** Backpack, watch, pen & shoes **Names:** Beth and Beca	Images True & False Drag the image

		Rooms in the house: Kitchen, bathroom, bedroom, & living room **Places:** Home, school & park	
Speaking	To assess oral expression through a basic questionnaire supported by visual materials.	**School supplies:** Backpack, pen, watch, & books **Objects:** Ball, balloon & table **Food:** Apple & cake **Animals:** Cat, mouse, hippopotamus, snake, monkey, & duck **Places:** School **Rooms in the house:** Bedroom	Flashcards Scene poster

Here is the link to the digital test prototype: https://canva.link/007mcorpo9avhfw
Here is the link to the test design in a digital tool: https://agent-6a2c1584fbfd3e248b76--famous-bonbon-d36d14.netlify.app/

9.5 Development of the Proposal

The test's design follows the ASSURE model, which is organized into six stages: assessing students; setting objectives; selecting technologies and materials; using technologies and materials; engaging students; and evaluating and revising. The "English Without Limits" digital test was developed following this sequence, as shown in the table below:

Table 3

Steps followed for the development of the digital test design

Stages	**Development**
Assess students	This research was conducted with students aged 10 to 11 years old, at a Pre-A1 Starter level, who exhibited characteristics of dyslexia. The study identified the main characteristics of students who experience difficulties related to reading, writing, and phonological awareness, as well as their level of English proficiency.

Setting objective	The learning objectives for the assessment were formulated to guide the test design, where the overall objective established was: - Assess the English level of students with dyslexia through an accessible digital test.
Select technologies and materials	The content of the books *Cambridge Pre A1 Starters Sample Papers Volume 1 and Volume 2* was analyzed according to international standards, which served as a reference for the test design. The most appropriate technological resources were selected, including text, images, audio recordings on 123 APPS, the incorporation of colors and multimedia elements adapted for dyslexia, and suitable design tools such as Canva, Lovable App, Google AI Studio, Netlify, and Supabase were researched.
Use technologies and materials	After selecting the resources and materials, the process of creating the test using technological tools began. The test simulation was designed in Canva, defining the layout of the icons, colors, and visual interface. The test design was then imported into the Lovable app based on prompts, where it was transformed into a web application. Furthermore, adjustments were made using Google AI Studio, and the design was refined through artificial intelligence. The web application was deployed to Netlify, which allowed the test to be published via a public URL so it could be accessed from any device with an internet connection. Finally, Supabase was used to securely store and manage the database in the cloud.
Require student participation	Prior to student participation, modifications and suggestions from experts were incorporated. Subsequently, a digital test was administered

	to students with dyslexia to evaluate their English skills and the quality of the test design.
Evaluate and review	At this stage, the test proposal was previously analyzed by experts using the ECOBA instrument, and the results were presented in tables. Similarly, the scores obtained by the students served to verify the functionality and quality of the test prototype.

10. VALIDATION RESULTS

The validation of the digital test aims to answer the research question: How does digital summative assessment for A1 Pre-Starters level demonstrate validity and readability to assess students with dyslexia? The following tables present the results for the three statistical parameters: the mean, the standard deviation, Aiken's V and the students 'scores:

Table 4

Results of expert validation of the digital test based on the ECOBA instrument

Criteria	***Mean***	***Standard deviation***	**Aiken's V**
Relevance and Accuracy of Content	*2.67*	*0.72*	*0.89*
Aesthetic and Functional Design	*2.89*	*0.35*	*0.96*
Instructional Design and Competency Assurance	*2.93*	*0.38*	*0.98*
Overall	*2.83*	*0.48*	*0.94*

Note. *The table shows the M = Mean; SD = Standard deviation measures the dispersion or variability; and Aiken's V = assess content validity.*

Table 4 showed the mean on the three criterions. Regarding, the general mean was (2.83/3), indicating that the components of the digital test are appropriately designed. The relevance and

accuracy of content is (2.67). It determines the content is useful to evaluate students with dyslexia conditions, taking into account specific modifications to be corrected within the test. The aesthetic and functional design yielded a mean of (2.89), highlighting aspects related to usability and the visual interface of the images in the digital design. The instructional design and competency assurance achieved the highest score with a mean of (2.93), reflecting an order and sequence between the activities and the competencies expected to evaluate in students. The results are similar to Berenbon y McHugh (2023), who investigated experts' assessments of the suitability of content for predicting the quality of multiple-choice questions (MCQs) on an assessment, the authors obtained an overall mean of (3.77/5), indicating that the content standards items meet the suitability criteria for the MCQs. On the other hand, the results of De la Cruz Yugcha y Jaya Orozco (2025), who developed an instruction module for English teachers in which a statistical analysis of the mean was conducted, obtaining a total mean of (26.2), corresponding to the sum of the six criteria evaluated; this score is equivalent to an average mean of (4.36/5), it shows that the content of the instructional module is appropriate for training pre-service teachers.

The overall standard deviation was (0.48), showing that the scores are consistent and similar to one another. It demonstrates a moderate level of consensus among the experts regarding each criterion, highlighting the clarity and relevance of the digital design test. The criterion of instructional design and competency assurance showed (0.38), and the criterion of aesthetic and functional design indicates (0.35). This indicates agreement among evaluators in the criteria of the ECOBA instrument. Meanwhile, the criterion of relevance and accuracy of content presents a standard deviation of (0.72), indicating that there were certain differences of opinion among the evaluators; however, this value remains relatively acceptable. The results are similar to those of Coniam et al. (2022), who propose the validation of two language tests, the College English Test (CET) and the Language Cert Test of English (LTE), using expert judgment, where the standard deviation obtained was (0.89) for the CET, indicating greater consensus among evaluators, and (1.10) for the LTE test, indicating some variability in expert agreement, this value does not represent a limitation of the study, since the standard deviation depends on the statistical analyses and the measurement scale. These results highlight the equivalence of variability between the two proposed tests, suggesting that there is strong consensus among the evaluators. Overall, a comparison with the present research, leads to the conclusion that the low variability in the responses supports the validity of the assessed instruments; it is worth noting that the standard deviation must be interpreted in relation to the mean and the context of the analysis.

The overall result for Aikens´V showed (0.94), confirming that most experts consider the test´s content to be valid to apply to students with dyslexia. The instructional design and competency assurance obtained (0.98), indicating that the activities and the English skills are useful to assess students`level of English. The aesthetic and functional design get (0.96), showing that the images, the organization and the visual aspects meet the standards to be useful in the digital test. The relevance and accuracy of the content received (0.89), reflecting an acceptable score with some recommendations to review especially in instructions, audio clips, repeated words, spelling errors, and clear examples in the test. These results are similar to that reported by Timbi-Sisalima et al. (2024), who developed a self-assessment guide and conducted a statistical analysis using Aiken's V to validate the quality of online education from an accessibility perspective. The evaluators indicated that the guide was perceived favorably in terms of its practical value, content, structure, and configuration, with scores ranging from (0.81) to (0.94), indicating a high degree of consensus. Similarly, the results obtained by Nurjanah et al. (2023) applied Aiken's V method to validate instruments that measure formative assessment, based on the study of an instrument comprising three dimensions: perceptions, practices, and challenges. In this study, Aiken's V coefficient for these dimensions ranged from (0.92) to (1.00), demonstrating a high level of consensus among experts. A comparison of previous studies with the present research confirms a high degree of agreement among experts, providing strong content validity that ensures the quality of assessments within the educational context.

Table 5

Results of the students with dyslexia test application

Student	Score achieved	Percentage	Time
Child 1	23/25	93%	31 minutes
Child 2	22/25	90%	25 minutes

Note: *Original work*

The first child scored 23 correct answers out of 25 items, representing 93%. Meanwhile, the second child scored 22 correct answers out of 25 items, equivalent to 90%. In terms of time, the students recorded a discrepancy of 6 minutes, since student 1 completed his test in 31 minutes and student 2 in 25 minutes. It was evident that both students worked at their own pace and achieved similar results, confirming their problem-solving abilities and the proposed

activities. The results reported by Wolf y Lopez (2022), who developed a technology-based classroom assessment to support the teaching and learning of academic reading skills for students of English as a second language, that examined the usability and validity of the reading skills assessment of three dimensions of reading comprehension: basic reading skills, literal comprehension skills, and higher-order comprehension skills, yielding scores of 66.4%, 60.4%, and 50.8%, respectively. It is worth noting that the decline in performance is due to the increasing complexity of the activities, which made it possible to identify the students' strengths and weaknesses in each dimension. In this regard, the results support the findings of this study, demonstrating that the implementation of digital assessments is feasible for evaluating students' learning skills.

11. RESEARCH IMPACTS

This study has an impact on the educational system and the inclusive environment, given that the proposed design of the digital test «English Without Limits» aims to address the challenges faced by children with dyslexia. The activities included in the digital test feature visually appealing resources, an easy-to-understand typographic design, and adapted audio materials so that students can complete the test. This type of adapted test assists teachers in the process of equitable and inclusive assessment, allowing students to demonstrate their actual knowledge without being hindered by their learning difficulties. The digital test will serve as an academic resource for future teachers, who can adapt their teaching and assessment strategies according to the specific needs of their student group, thereby creating a supportive environment that benefits everyone. In this way, both the educational community and society at large are encouraged to learn about dyslexia, thereby reducing prejudice and fostering an empathetic attitude that ensures equal opportunities for people with this condition.

Another significant impact of the research is the use of virtual platforms in education, which strengthen the active participation of students by promoting the incorporation of technological resources that are accessible and easy to use.

12. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- Regarding the first objective, the literature review helped identify the theoretical foundations related to English language assessments, inclusive assessments, and the use of digital tools that

enable the design of interactive and motivating assessments that promote the active participation of students with dyslexia. Similarly, the theoretical framework affirmed that traditional assessments represent a barrier for children with reading and writing difficulties.

- With regard to the second objective, the contributions of the ASSURE instructional model helped create a digital test design that follows the guidelines of Cambridge assessments content. The proposal contains visual, auditory, and interactive resources to evaluate listening, writing, reading, and speaking English skills for beginner students at the Pre-A1 Starters level. The proposal also includes elements such as clear and simple instructions, animated images, accessible navigation, audio clips with unlimited playback, legible typography, and the ability to complete the test without a time limit, thereby facilitating the assessment of students' acquired proficiency.

-With respect to the third objective, a validation analysis of the Pre-A1 Starters summative English test titled "English Without Limits" demonstrated a high level of content validity, according to expert judgment using the three weighting criteria established in the ECOBA instrument, supported by an overall mean of (2.83), a standard deviation of (0.48), and an Aikens V coefficient of (0.94). These results confirm that the proposed test meets the criteria for content quality, functional design, and instructional design. It is worth noting that the experts' specific observations strengthened the final version of the test.

Recommendations

- It is recommended to keep updated theory about Inclusive language assessment for pre-service teachers in the Pedagogy National and Foreign Language degree regarding alternatives for evaluation using digital tools, and pedagogical advances in assessment strategies according to the needs of students with dyslexia and other learning disabilities.

- It is recommended that teachers and future researchers in pedagogy execute the test designed with a large sample of students with and without characteristics associated with dyslexia in order to analyze its applicability and usefulness in different educational contexts.

- To maintain an acceptable technological design, it is recommended to have a professional specializing in educational technology and software development to maintain and optimize the digital test relevant, reliable, and aligned with technological advancements.

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