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Developing a Framework for Integrating Multisensory Techniques into English Language Learning Curriculum for Dyslexic Learners

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Abstract

This project aims to develop a framework that integrates multisensory approaches into the English language learning curriculum for dyslexic learners in Abha, Saudi Arabia. I used Structural Equation Modeling (SEM) to examine data collected from a sample of 120 people. The objective was to ascertain the impact of multimodal approaches on English language competency. I examined the impact of student involvement and teacher effectiveness on this correlation. In addition, I investigated the potential impact of dyslexia severity on these consequences. The findings demonstrated that the use of multimodal approaches had a noteworthy effect on language competence. This effect was impacted by several other elements previously discussed. The study's results emphasize the need of implementing a comprehensive curriculum that engages many senses and can be tailored to meet varying degrees of dyslexia severity. Some suggested practices include developing an inclusive curriculum that incorporates other cultures, offering comprehensive training for educators, using adaptable teaching methods, routinely evaluating students' progress, and fostering cooperation among all parties involved. Providing assistance to individuals with dyslexia is of utmost significance, and these efforts are playing a pivotal part in accomplishing that goal. Furthermore, they are in complete accordance with the educational reform objectives outlined in the Kingdom's Vision 2030.

Keywords: Multisensory Techniques, Dyslexia, English Language Learning, Structural Equation Modeling.

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Introduction

Saudi Arabia is now implementing an educational reform as a component of its ambitious Vision 2030. A primary goal of this reform is to improve the linguistic competence of its people in the English language. This initiative is based on the worldwide acknowledgment of English as a ubiquitous language, which is crucial for global trade, scientific investigation, and diplomatic connections. As a component of this reform, the Ministry of Education in KSA has implemented many projects with the goal of augmenting English language teaching and promoting learning outcomes at all educational levels. The government is totally committed to providing Saudi citizens with the essential skills required to excel in the global economy. Their use of a progressive approach to education development is laudable. The referenced sources include the Ministry of Education, KSA, in 2023, as well as Abdullah and Rahman in 2023.

Although there has been significant improvement, there are still challenges in providing thorough and effective English language teaching, especially for learners with specific educational requirements like dyslexia. Dyslexia is a cognitive difference that affects how people hear and understand sounds and words, leading to difficulties in reading, writing, and spelling. Acquiring proficiency in a second language, such as English, may provide substantial challenges (Sparks, 2023; Elbro, Daugaard, & Gellert, 2012). The current educational institutions, although successful in other areas, do not adequately cater to the specific needs of dyslexic students, particularly in rural areas like Abha. This discrepancy emphasizes a broader problem of

unfair distribution of educational resources and specialized support, worsening the difficulties experienced by dyslexic children in rural areas (Cornell, 2022).

The Orton-Gillingham technique employs multimodal tactics that engage several senses to efficiently teach persons with dyslexia. These strategies improve the learning process by involving visual, auditory, kinesthetic, and tactile pathways (Ritchey & Goeke, 2006). Johnson and Thompson's extensive evidence demonstrates the efficacy of these methods in enhancing educational achievements for dyslexic students in English-speaking countries. The outcomes include improved reading fluency, comprehension, and spelling (Howard, 2023). Nevertheless, there is a dearth of research on these tactics in non-English dominant settings, such as the Kingdom of Saudi Arabia (KSA) (Zhang, 2023). One should consider the degree to which multimodal techniques may effectively accommodate a wide range of cultures and languages (Sehlström, Waldmann, & Levlin, 2023).

Abha is a fascinating city to explore. Abha's educational institutions are leading the way in implementing language learning reforms in the Kingdom of Saudi Arabia (KSA), as part of a nationwide initiative to improve English proficiency. However, the needs of dyslexic learners in this specific context are not being well addressed. There is a lack of research on the relationship between dyslexia and the learning of the English language in different demographic contexts within the city (Setiasih et al., 2023). Immediate action is necessary to conduct focused research in order to create and assess intervention methods that are effective and culturally and linguistically appropriate for dyslexic learners in Abha and similar locations in the Kingdom of Saudi Arabia (KSA).

Problem of the Study

Saudi Arabia has initiated substantial reforms in its education system with the aim of enhancing English language acquisition. This is a component of their Vision 2030 strategy, which recognizes the significance of English language ability for achieving economic and academic success in the contemporary worldwide society. Nevertheless, it is crucial to acknowledge that these improvements have not been able to adequately address the distinct requirements of dyslexic learners. This is due to the fact that dyslexic learners have unique difficulties when it comes to acquiring new languages, which is directly linked to their condition. Dyslexia is a common challenge faced by several pupils in Abha, as well as in other locations. Dyslexia is a neurodevelopmental disorder that impairs an individual's ability to read, write, spell, and sometimes do mathematical tasks. The effectiveness of using multimodal approaches for instructing dyslexic individuals in English-speaking situations is well acknowledged. Nevertheless, there is a dearth of study and use of these techniques in the Kingdom of Saudi Arabia (KSA), particularly in regions that are not prominent metropolitan hubs. The disparity I am alluding to is especially evident in Abha. Abha is a city characterized by its heterogeneous population and a significant number of schools actively participating in a nationwide initiative to enhance English proficiency. The absence of targeted assistance, intervention methods, or scholarly investigation focused on integrating multimodal approaches into English language instruction for dyslexic students in Abha is a significant omission within the framework of the national educational reform. This omission weakens the inclusiveness and efficacy of these endeavors.

Questions of the Study

1. How do multisensory techniques influence the English language acquisition of dyslexic learners in the city of Abha, KSA?
2. What are the specific challenges and barriers to implementing multisensory techniques within the English language learning curriculum for dyslexic learners in Abha?
3. What framework can be developed to effectively integrate multisensory techniques into the English language curriculum for dyslexic learners in Abha, and how does this framework compare to existing teaching methods in terms of efficacy?

Significance of the Study

This research is very significant as it addresses a major issue in the ongoing educational reform initiatives in the Kingdom of Saudi Arabia (KSA). More precisely, the study examines the inclusion and assistance of dyslexic students in the process of acquiring the English language. The objective of the study is to enhance the academic achievements of dyslexic students in Abha by incorporating multimodal approaches into the English language curriculum. This will provide them an equitable opportunity to capitalize on the country's emphasis on English fluency. The findings and methodology of this research might serve as a model for other regions in the Kingdom of Saudi Arabia. This has the potential to significantly influence national educational policies and practices, leading to greater inclusivity. Furthermore, this study enhances our comprehension of the use of multimodal methods in situations where English is not the predominant language. This resource provides essential perspectives for educators, policymakers, and researchers who have an interest in treatments for dyslexia and language acquisition. To summarize, this research emphasizes the need of adapting educational approaches to meet the diverse requirements of all students. This is in line with the overarching objectives of Vision 2030, which seeks to develop a highly proficient workforce capable of competing in the global economy.

Terms of the Study

The research was conducted at Abha, Kingdom of Saudi Arabia, over a duration of 18 months. The objective was to integrate multimodal methods into the English language learning curriculum for dyslexic learners. Initially, we dedicated a period of three months to doing preliminary tasks, which included completing the study design, obtaining ethical permissions, and choosing participants. Subsequently, we carried out a data collecting phase lasting five months to assess the participants' initial proficiency in the English language and the prevailing instructional approaches being used. The primary objective of the intervention was to enhance the proficiency of dyslexic learners in the English language. This included using multimodal methodologies for a duration of six months. Over the course of the next two months, we performed an analysis to assess the efficacy of the intervention. We used statistical software to assess the numerical data and utilized qualitative analytic methods to scrutinize the open-ended replies. The research concluded with a month devoted to disseminating and promoting the findings. The objective was to provide important perspectives on the utilization of multisensory approaches in non-English dominant environments. Implementing this measure will provide assistance in promoting inclusive education policies that are in line with Saudi Arabia's educational objectives outlined in Vision 2030.

Limitations of the Study

Several limitations should be taken into account while examining this research, since they may impact our comprehension and interpretation of its findings. First and foremost, it is crucial to acknowledge that the study's emphasis on Abha might provide challenges when attempting to generalize the findings to other areas within the Kingdom of Saudi Arabia or to situations where English is not spoken and have distinct cultural and educational backgrounds. Furthermore, it is crucial to acknowledge that instructing dyslexic students utilizing multisensory methodologies and a tailored curriculum necessitates educators to complete comprehensive training and have enough access to resources. Nevertheless, some educational environments may lack immediate access to these materials. In addition, the study's emphasis on quantitative data may not completely include the distinct experiences and outcomes of individual learners. This emphasizes the need of carrying out further qualitative research in order to get a more thorough comprehension. Lastly, it is crucial to take into account that educational policies and practices are always evolving in response to Vision 2030. This implies that there might be other aspects and variables that have not been considered within the existing research paradigm.

Literature review and Previous studies

According to theories of multisensory learning, simultaneous engagement of many senses throughout the learning process might enhance memory retention and comprehension. This is particularly advantageous for those with dyslexia, as proposed by Orton (1937) and supported by later research (Shaywitz et al., 1990). In recent studies, neurological research has yielded more data to bolster these views, revealing that the brain's learning pathways are highly dependent on the integration of several senses (Wolf, 2007).

Dyslexia is a cognitive condition characterized by difficulties in properly and fluently recognizing words, as well as impairments in spelling and decoding skills. Individuals with dyslexia may have challenges while attempting to acquire a second language (Lyonet al., 2003). Research in the Kingdom of Saudi Arabia (KSA) has highlighted the need for using tailored educational methods to tackle these issues (Al Otaiba & Fuchs, 2006). The Orton-Gillingham method is a pedagogical paradigm that uses multimodal techniques to assist individuals with dyslexia in their learning process. The concept has been extensively adopted and has a lengthy history (Berninger et al., 2006). Studies have reviewed several multisensory approaches and found that these strategies consistently have a favorable effect on the reading abilities of dyslexic pupils in English-speaking nations (Torgesen et al., 2001).

English language proficiency has become a top goal in the Kingdom of Saudi Arabia (KSA) as stated in Vision 2030. Nevertheless, research on the use of multisensory approaches, which might be attributed to the difficulties arising from language and cultural disparities, is still emerging. English-speaking nations have discovered that the use of multimodal approaches is efficient. Nevertheless, there is little study about the efficacy of these strategies in non-English-speaking environments (Zygouris et al., 2018), like as the Kingdom of Saudi Arabia (KSA), particularly in locations like Abha. A dearth of research on English language learning techniques tailored for dyslexic learners in this particular location has been noted (Abed & Shackelford, 2022).

Methods

The research used Structural Equation Modeling (SEM) to establish and verify a complete framework for incorporating multisensory approaches into the English language learning curriculum for individuals with dyslexia. This decision was made because of the intricate nature of the interactions involved in this process. I used a sophisticated statistical methodology to examine the data. This methodology enabled me to examine both the immediate and indirect consequences, as well as the interplay between many factors. As an example, I examined the correlation between test results, hours of exposure, dyslexia severity, and perceived efficacy.

Study Design and Data Collection

The research used a longitudinal approach, whereby data was gathered at many time points to elucidate temporal changes and enhance comprehension of the cause-and-effect linkages outlined in the framework. Data was gathered at three different time points throughout the study: at the start of the study period (pre-intervention), in the middle of the study period (mid-intervention), and at the conclusion of the research period (post-intervention). I successfully used this method to simulate the learning process and assess the long-term efficacy of the multimodal approaches. Data was gathered via the administration of standardized English language competency tests and comprehensive questionnaires to the participants. The surveys included measures to assess participants' perceptions on the efficacy of the instructional techniques and their individual learning encounters. Furthermore, we took meticulous care to document supplementary information on each participant's exposure to the multisensory approaches, including the duration in hours and the precise material they were exposed to.

Instrumentation and Validation

The primary instruments used in this investigation were a standardized assessment of English language ability and a survey that inquired about participants' demographic details, dyslexia diagnosis, and educational encounters. The selection of the proficiency exam was cautious, since it is renowned for its precision and reliability in evaluating language skills across diverse learners, including those with dyslexia. The questionnaire included scales derived from already validated instruments, with novel questions tailored expressly for this research. Prior to using them, we ran a pilot test with a comparable cohort to ensure the clarity and relevance of the questions. The reliability of these scales was validated by the use of exploratory factor analysis and the computation of Cronbach's alpha, indicating a robust level of internal consistency.

SEM Analysis Procedure

We used Structural Equation Modeling (SEM) to examine the relationship between the intervention (multisensory approaches) and mediator factors (e.g., engagement and motivation), as well as the impact of these variables on the outcome variable (English language competency). The study started with the specification of the model, which included establishing the predicted routes based on theoretical underpinnings. Next, we ensured that the model was identified in order to facilitate statistical resolution. Additionally, we ensured that there was a enough amount of data accessible to accurately calculate the pathways inside the model.

Next, we need to estimate the model by using the covariance matrix of the observed data. We shall use maximum likelihood estimate techniques for this purpose. I assessed the adequacy of the model by using several indicators, including the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The process of model testing and refining was conducted via iterative cycles. This process included modifying the model and then reevaluating it, taking into account fit indices and theoretical considerations. The objective was to get the optimal alignment for the model.

Reporting and Interpretation

The findings from the SEM study were presented in a comprehensive manner. This included presenting details on the calculation of path coefficients, their statistical significance, and the general adequacy of the model in relation to the data. The comprehensive investigation has verified that the use of multimodal approaches may enhance the English language competency of dyslexic learners. Additionally, it offered valuable insights into the key components that lead to this enhancement.

Results

Table 1: Factor Loadings and Construct Reliability

Construct	Item	Factor Loading	Cronbach's Alpha	Composite Reliability
MST	MST1	0.71	0.85	0.88
	MST2	0.75		
SE	SE1	0.79	0.88	0.90
	SE2	0.82		
TE	TE1	0.78	0.86	0.89
	TE2	0.80		
ELP	ELP1	0.85	0.90	0.92
	ELP2	0.88		
DS	DS1	0.81	0.87	0.91
	DS2	0.83		

Table 1 displays the data that demonstrate the validity of our measurement model, as confirmed by the confirmatory factor analysis. All of the factor loadings in this research exceed the suggested criterion of 0.7, indicating that the observed variables accurately reflect their respective latent constructs. The latent components examined in this research include multisensory methods (MST), student engagement (SE), teaching efficacy (TE), English language proficiency (ELP), and dyslexia severity (DS). Furthermore, we performed reliability assessments for each construct, including Cronbach's alpha and composite reliability, and determined that all of them above the threshold of 0.7. Our constructions' internal consistency ensures their reliability and correct measurement. This instills confidence in our later structural equation modeling (SEM) investigation.

Table 2: Model Fit Indices

Fit Index	Value	Benchmark
RMSEA	0.06	≤ 0.08
CFI	0.95	≥ 0.90
TLI	0.94	≥ 0.90
SRMR	0.04	≤ 0.08

The fit indices shown in Table 2 demonstrate that our structural model is a good match for the data. The RMSEA score of 0.06 is much lower than the usually accepted criterion of 0.08. This indicates that the discrepancies in the model are negligible and satisfactory. The model correctly captures the actual data, as shown by the high values of CFI and TLI, both above 0.90. Furthermore, the SRMR value of 0.04 indicates a strong fit of the model, with little disparities between the observed correlations and the model's predicted correlations.

Table 3: Path Coefficients and Significance

Path	Standardized β	SE	Critical Ratio (CR)	p-Value
MST → SE	0.45	0.06	7.50	< 0.001
MST → TE	0.38	0.05	7.60	< 0.001
SE → ELP	0.25	0.05	5.00	< 0.01
TE → ELP	0.30	0.04	7.50	< 0.01
MST → ELP (Direct)	0.15	0.04	3.75	< 0.05
MST × DS → ELP	-0.10	0.03	-3.33	< 0.05

Table 3 in our structural equation modeling (SEM) model provides precise data on the magnitude and statistical significance of the relationships between variables. The research demonstrates that the use of multimodal approaches has a favorable influence on both student engagement and instructional efficacy. The standardized betas of 0.45 and 0.38 demonstrate a robust correlation, and the p-values below 0.001 validate the statistical significance of this correlation. The correlation between student involvement and instructional effectiveness and English language competency indicates that these elements have a favorable influence on the learning process. The correlation between the use of multimodal approaches and the level of competency in the English language is significant. Nevertheless, the impact is diminished when the beta value reaches 0.15. Consequently, the combination of engagement and effectiveness enhances the influence of multisensory approaches, resulting in a more significant impact. It is worth mentioning that the severity of dyslexia has a substantial and adverse effect. As the degree of dyslexia grows, the impact of multimodal strategies on enhancing competence diminishes significantly.

Table 4: Indirect and Total Effects

Effect Type	Path	Standardized β	p-Value
Indirect	MST → SE → ELP	0.11	< 0.05
Indirect	MST → TE → ELP	0.11	< 0.05
Total Effect	MST → ELP	0.37	< 0.001

Table 4 displays the indirect and total impacts that are included in the model. The significant influence of using multimodal approaches on enhancing English language competence is seen in the heightened student involvement and instructional efficacy. This underscores the pivotal significance of these components in the process of acquiring knowledge. The use of multisensory strategies in enhancing English language

competence has been shown to have a substantial influence, as shown by a beta value of 0.37, underscoring the efficacy of this intervention. The results indicate that the use of multimodal approaches may enhance the acquisition of language skills. Nevertheless, the whole advantages of these strategies are only evident when they concurrently enhance engagement and instructional efficacy.

Discussion

The results of this research contribute to our understanding of the relationship between MST and English language proficiency (ELP). The correlation between MST and ELP offers empirical support for long-standing educational beliefs. These views, advocated by trailblazers such as Teitelbaum (1997), highlight the need of using several senses while instructing those with dyslexia. The Orton-Gillingham method has been significant in emphasizing the significance of using many senses to augment learning Orton, J. L. (1966). Regarding Abha, students in that area have the chance to partake in a diverse array of sensory encounters that are intrinsic to the indigenous culture. In order to implement these strategies, educators may include conventional narratives, local melodies, and visual artistic expressions into language instruction. This would enhance the educational experience by making it more engaging and culturally significant.

The study's analysis using structural equation modeling (SEM) not only emphasizes the direct influence of mastery-based learning (MST) on English language proficiency (ELP), but also reveals its indirect effects on other factors such as student engagement (SE) and teaching efficacy (TE). I agree with Vygotsky and Cole's theory of social development, which emphasizes the significance of social interaction in the process of cognitive growth (Vygotsky & Cole, 1978). Abha offers several pragmatic methods to implement this concept. An example of this is to include cooperative classroom exercises that integrate English language acquisition with interpersonal engagement. One way to do this is by using group-oriented language games or projects that accurately depict the principles and narratives of Saudi culture. Implementing such a strategy has the potential to enhance student involvement, so making the process of learning English more significant and applicable to the students' social environment.

The results of the SEM analysis further emphasize the significance of instructional effectiveness. To completely maximize the advantages of MST, instructors must possess a comprehensive understanding of how to proficiently use these tactics. Professional growth has immense significance in this particular environment. Teachers must possess the appropriate pedagogical resources and a comprehensive comprehension of how to proficiently modify these methodologies for pupils with dyslexia. An effective approach to advancing in this field is to arrange educational seminars for teachers in Abha. These seminars would provide instructors the chance to get hands-on experience in using multimodal teaching materials and methodologies. The sessions will be facilitated by specialists in the field of special education and language acquisition, as recommended by Berninger & Richards (2002). Furthermore, when educators collaborate to establish a community of practice, they may establish a network of support where they exchange their experiences and most effective methodologies. This contributes to the guarantee of sustainable and ongoing enhancement of instructional approaches.

Flexibility is crucial while using MST tactics, since research indicates that the efficacy of these strategies may be influenced by the degree of dyslexia. Designing curriculum requires a careful and deliberate approach, taking into account the distinct requirements and preferences of each learners. This refers to modifying the intensity and kind of sensory stimuli to align with their unique characteristics. Teachers in Abha might use diagnostic evaluations to tailor the MST tactics they utilize, ensuring that each student receives the appropriate degree of involvement and assistance for their learning (Lyon et al., 2003).

Continuous evaluation and feedback, which are included into the framework, will provide instructional modifications and monitor progress. Evaluation is conducted in a cyclical manner to ensure that instructional methods can adjust to the requirements of pupils. In practical terms, this may include using formative assessment techniques that provide immediate feedback on students' comprehension, enabling instructors to promptly adapt their instructional approaches.

For the effective incorporation of MST into the curriculum, it is essential for stakeholders to engage in collaboration. Active participation from parents, educators, and the wider community is crucial in the educational process. An effective approach to do this in Abha is to establish collaborative alliances with cultural and educational institutions within the vicinity. These collaborations may assist in bolstering educational endeavors and provide invaluable assets. Moreover, developing multilingual materials that may be used in domestic settings might also yield advantages. Finally, establishing spaces for frequent conversation between the school and community people helps promote transparent communication and cooperation.

Proposed Framework

A robust curriculum that incorporates multisensory approaches is crucial for children with dyslexia to have a favorable learning experience. For a curriculum of this kind, it is necessary to include activities that engage learners in visual, aural, kinesthetic, and tactile experiences. This technique aligns with the ideas of Orton-Gillingham by using several senses. Orton (1937) asserts that this approach highlights the need of using many senses concurrently to improve learning results. When implementing this, it involves using visual aids, auditory stimuli, physical actions, and engaging exercises specifically crafted to facilitate language acquisition. The exercises, developed in collaboration with educational professionals in Abha, must include the language and cultural intricacies specific to the area. This entails integrating regional languages and cultural components to enhance the relevance and appeal of the activities (Maunsell, 2020).

The efficacy of multimodal approaches is contingent upon the quality of their delivery. Therefore, it is crucial to possess thorough teacher training programs. These programs aim to provide a thorough comprehension of the ideas behind multimodal approaches and their practical use in educational settings (Berninger & Richards, 2002). It would be beneficial if the practical component demonstrated how to adapt these strategies to provide more effective assistance to dyslexic children with varying requirements. In Abha, instructors often encounter pupils with diverse levels of English proficiency and different degrees of dyslexia severity. In order to successfully educate these kids, educators must undergo training that equips them with the ability to customize their teaching methods based on the individual requirements of each learner. An effective approach to do this is by arranging workshops where seasoned special education experts may interact and exchange their expertise. Attending frequent professional development workshops is crucial for staying abreast of the newest teaching approaches and innovations.

The effectiveness of the framework is heavily influenced by the active involvement of students. In order to properly include dyslexic students, it is crucial to use unique educational approaches that surpass conventional teaching techniques. Herrmann (2013) posited that the use of cooperative learning activities and interactive sessions in the classroom might significantly enhance student engagement. When formulating tailored learning objectives, we ensure that they are congruent with individuals' multisensory learning preferences. By doing so, we can more effectively cater to the distinct learning preferences and requirements of every person. In relation to Abha's circumstance, it may include using materials that are accessible in both languages to assist pupils who lack proficiency in English. This would foster a more comprehensive and all-encompassing educational atmosphere.

The suggested framework supports the use of differentiated education, which involves using tactics that may be adapted to cater to the unique requirements of persons with dyslexia. The framework should include criteria for modifying the strength of multisensory therapies in accordance with evaluations of dyslexia severity (Lyon et al., 2003). Therefore, the curriculum designers in Abha would need to devise a range of activities that actively involve various senses. These activities should be modifiable for diverse pupils, enabling instructors to provide a more customized and efficient learning experience.

The system depends on ongoing evaluation and feedback channels. Teachers may enhance their instructional approaches by using techniques that allow them to assess student progress in real-time. By doing so, they may modify their approach to more effectively cater to the distinct educational requirements of every student. Kovaleski et al. (2022) emphasize the significance of evaluations that take into account several dimensions, including academic advancement, student welfare, and English language proficiency.

Constructive and timely feedback has significance for both students and instructors. It facilitates the ongoing enhancement of instructional methods and student abilities.

It is crucial to highlight that the framework places great importance on the collaboration between instructors, parents, and learners. Establishing a relationship is crucial for fostering a supportive learning environment that recognizes and addresses the unique problems and possibilities of dyslexic students. Abha offers a range of methods to assist dyslexic students, including community involvement projects, parent-teacher organizations, and programs that provide support from other students.

Recommendations

According to the findings of this research, it is advisable for educational stakeholders in Abha to collaborate in order to include multimodal strategies into the English language curriculum for dyslexic learners. Collaboratively, we are developing an educational program that is culturally appropriate and stimulates numerous sensory experiences. In addition, we provide extensive training programs for educators to ensure their thorough comprehension and successful implementation of these instructional techniques. To cater to the specific requirements of dyslexic pupils, it is crucial to include adaptable instructional approaches and evaluative techniques that are sensitive to their demands. It is imperative that we persist in doing research to comprehend the enduring consequences of these activities, and actively support policies that align with Vision 2030's educational objectives. Through collaboration, educators in Abha have the chance to enhance the academic experience and outcomes for dyslexic learners. This will establish a learning atmosphere that is all-encompassing and empowering.

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