

Rapid Automatised Naming Deficits and Reading Fluency of Dyslexic Pupils in Calabar Education Zone

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Abstract

This study examined influence of rapid automatised naming deficits on reading fluency among dyslexic pupils. To achieved the two objectives that were set, descriptive cross-sectional survey design was adopted. Population of the study were pupils identified with dyslexia, from which 120 participants were selected using purposive and stratified random sampling techniques. Data were collected using CTOPP-2, GORT-5, and TOWRE-2, alongside teacher checklist and demographic questionnaire. Validity was ensured through standardised instruments and expert review, while reliability coefficients exceeded .80. Collected data were coded, screened and analysed using multivariate general linear model and one-way ANOVA at .05 level of significance. Findings indicated that rapid naming in letters (Wilks' $\Lambda = .849$, $p < .001$) and objects (Wilks' $\Lambda = .896$, $p = .006$) significantly influenced reading fluency, while digits and colours showed no significant effect. Significant differences were observed in reading rate ($F = 89.13$, $p < .001$, $\eta^2 = .604$), accuracy ($F = 44.48$, $p < .001$, $\eta^2 = .432$), and prosody ($F = 31.46$, $p < .001$, $\eta^2 = .350$) across deficit levels. Based on the findings, the it was concluded that rapid automatised naming operates as differentiated construct in relation to reading fluency. It was also recommended that fluency interventions and structured screening based on naming deficits should be an annual routine.

Keywords: Rapid Automatised Naming, Reading Rate, Reading Accuracy, Prosody, Dyslexia.

Introduction

Reading fluency continues to occupy a central place in literacy research because it marks transition from learning to read toward reading to learn. Fluency reflects not only accuracy but also speed and ease with which text is processed, and it is closely linked with comprehension outcomes in school settings. Large-scale assessments consistently show that many pupils in sub-Saharan Africa

fail to reach expected fluency benchmarks by late primary school, even when basic decoding appears present (Piper et al., 2018). In Nigeria, similar patterns have been reported, where pupils often read slowly, with frequent hesitation, and limited automaticity despite years of formal instruction (Oyetunde *et al.*, 2016; Adebayo & Marian, 2017). This situation raises concern because slow, effortful reading constrains comprehension, reduces engagement with text, and may accumulate into broader academic difficulty. In Calabar Education Zone, classroom observation and regional report suggest that such patterns persist, although systematic empirical documentation remains limited.

Closer examination indicate that fluency difficulty is not evenly distributed across learners. Pupils with dyslexia often show pronounced difficulty in achieving automatic word recognition; even when they receive comparable instruction. Dyslexia has been widely associated with deficit in phonological processing, particularly in ability to map sounds onto print (Snowling & Hulme, 2021). However, emerging evidence suggest that phonological explanation alone may not fully account for persistent fluency problems. Some pupils achieve acceptable decoding accuracy yet continue to read at markedly slow rates, which raises question about additional underlying constraints (McGrath, et al., 2020; Ziegler et al., 2020). This pattern appears in both clinical and school-based samples, where improvement in accuracy does not translate into fluent reading (Torgesen et al., 2001).

Why does this problem remain persist despite sustained instructional efforts? One reason may lie in how reading difficulty is conceptualised and addressed in practice. Instructional approached in many contexts, including Nigeria, place strong emphasis on phonics and decoding accuracy, treating fluency as a by-product rather than a target in its own right (Stevens, Walker, & Vaughn, 2017; Wanzek et al., 2018). While such focus improves letter-sound knowledge, it may not sufficiently develop speed of lexical access or automaticity. Empirical studies suggest that gains in decoding do not consistently produce gains in reading rate, particularly among pupils with dyslexia. In addition, structural constraints such as large class size, limited diagnostic tools, and multilingual learning environments may further complicate identification of specific fluency deficits (Akubuilu, *et al.*, 2015). These factors together may explain why reading difficulty persists even where intervention is present.

At this point, attention shifts toward processes that may underlie slow and effortful reading beyond phonological awareness. Rapid automatised naming begins to appear as a plausible candidate. It refers to speed with which an individual retrieve and articulate familiar visual symbols. It has also been proposed as an index of efficiency in accessing lexical information. Early empirical work demonstrated that children with reading difficulty often perform poorly on rapid naming tasks, with slower retrieval even for simple stimuli (Araújo et al., 2019; Georgiou et al., 2008). A later study by Wolf & Bowers, (1999) extended this observation. Their finding indicated that naming speed predicts reading fluency independently of phonological skill. This suggests that slow naming may disrupt development of automatic word recognition; which in turn could affects fluency.

Yet, interpretation of this relationship remains contested. Araújo et al., (2019) report strong and consistent association between rapid naming and reading rate across age groups. Other studies, however, argue that RAN reflects broader processing speed or attentional control rather than reading-specific mechanism (Heikkilä, 2015). Cross-linguistic evidence adds further complexity. In orthographies with more regular spelling pattern, naming speed often emerged as stronger

predictor of fluency than phonological awareness, whereas in less consistent orthographies both factors contribute (Caravolas et al., 2019). Such variation raises concern about direct transfer of findings into context like Calabar, where English co-exists with local languages and where instructional conditions differ from those in most published studies.

More importantly, existing research, such as Oyetunde *et al.* (2019), Adebayo and Marian, (2017) and Akubuilu et al. (2015), rarely addresses how these relationships operate within Nigerian educational settings. Studies on reading difficulty in Nigeria tend to remain descriptive. Focus has been on prevalence or general causes without isolating cognitive mechanisms that may explain persistent fluency deficits (Agbo *et al.*, 2019 & Mangvwat et. al., 2022). As a result, it remains unclear whether slow reading observed among dyslexic pupils in Calabar reflects phonological weakness, naming speed limitation, or interaction between both. This lack of specificity limit development of interventions and may contribute to continued reliance on general instructional approaches that do not address underlying processes.

Current literature appeared to establish urgency of reading fluency problem, but it stops short of explaining its persistence within Calabar local context. It identifies potential cognitive factors, including rapid automatised naming, yet evidence remains uneven and largely external to Nigerian setting. This creates a gap between theory and practice. The present study therefore positions itself at this intersection. It seeks to examine whether deficits in rapid automatised naming are associated with reading fluency among dyslexic pupils in Calabar Education Zone. Such focus does not assume causality but rather responds to need for context-sensitive evidence that may clarify nature of persistent fluency difficulty and inform more precise instructional response.

Statement of the problem

Across many primary classrooms in Calabar Education Zone, consistent pattern is observed among pupils identified with dyslexia. They are able to recognise letters and decode simple words in some cases with reasonable accuracy; yet their reading remains slow, effortful, and fragmented. Words are processed one after another with noticeable delay. Pauses are frequent. Expression is limited. This weak fluency restricts comprehension, as cognitive effort is spent on word recognition rather than meaning. Teachers often respond by increasing phonics drills or repeated reading exercises, but improvement in speed and automaticity remains limited. As pupils move to higher classes, their difficulties become more visible. They struggle to keep pace with classroom tasks that require silent or oral reading, and over time, this may affect performance across subjects that depend on independent reading.

This persistent gap suggests that the problem is not simply one of inadequate instruction or lack of exposure to print. It points to deeper processing difficulty that has not been clearly identified in Calabar local context. Current classroom practice rarely distinguishes between pupils who cannot decode and those who decode but lack fluency. As a result, intervention remains broad and often misaligned with actual need. The specific role of rapid retrieval processes, particularly rapid automatised naming, has not been systematically examined among dyslexic pupils in this setting. Without such evidence, it remains unclear whether slow reading reflects phonological weakness, naming speed deficit, or an interaction of both. This uncertainty limits precision in identification and support. There is therefore a clear and urgent need to investigate the influence of rapid automatised naming deficits on reading fluency among dyslexic pupils in Calabar Education Zone.

Purpose of the study

The purpose of this study was to examine the influence of rapid automatised naming deficits on reading fluency among dyslexic pupils in Calabar Education Zone. This study specifically sought to determine:

1. the extent to which rapid automatised naming deficits in letters, digits, objects, and colours significantly predict reading fluency components, namely reading rate, reading accuracy, and prosody, among dyslexic pupils in Calabar Education Zone.
2. whether there are significant differences in reading fluency (reading rate, accuracy, and prosody) among dyslexic pupils grouped by levels of rapid automatised naming performance (low, moderate, high deficit categories) in Calabar Education Zone.

Research questions

1. To what extent do rapid automatised naming deficits in letters, digits, objects, and colours predict reading fluency components (reading rate, reading accuracy, and prosody) among dyslexic pupils in Calabar Education Zone?
2. Are there significant differences in reading fluency (reading rate, accuracy, and prosody) among dyslexic pupils based on levels of rapid automatised naming deficits (low, moderate, high) in Calabar Education Zone?

Research hypotheses

1. H_{01} : Rapid automatised naming deficits in letters, digits, objects, and colours do not significantly predict reading fluency components (reading rate, reading accuracy, and prosody) among dyslexic pupils in Calabar Education Zone.
2. H_{02} : There are no significant differences in reading fluency (reading rate, reading accuracy, and prosody) among dyslexic pupils based on levels of rapid automatised naming deficits (low, moderate, high) in Calabar Education Zone.

Method

A descriptive cross-sectional survey design was adopted for this study. This design was considered appropriate because it allowed collection of data from identified dyslexic pupils across different grade levels at a single point in time, and also enabled examination of both predictive and group-based differences in reading fluency outcomes. The study was conducted in Calabar Education Zone of Cross River State, Nigeria.

This study's population were pupils identified with dyslexia within Primary 3 to Junior Secondary School 2. Identification was carried out using an adapted version of the British Dyslexia Association (BDA) Dyslexia Screening Checklist. The instrument was administered to classroom teachers to rate observable indicators of dyslexia. Pupils who met the established cut-off criteria were considered eligible for inclusion. A sample of 120 dyslexic pupils was drawn using a combination of purposive and stratified random sampling techniques. Purposive sampling was first used to identify pupils who met dyslexia criteria, after which stratified, random sampling was used to ensure representation across school location, grade level, and gender.

Data were collected using a set of standardised and structured instruments. Rapid automatised naming deficits were measured using subtests adapted from the Comprehensive Test of Phonological Processing, Second Edition (CTOPP-2), specifically the RAN letters, digits, objects, and colours tasks, with performance recorded in seconds. Reading fluency was measured using the Gray Oral Reading Test, Fifth Edition (GORT-5), which provided scores for reading rate,

accuracy, and prosody through timed passage reading. The Test of Word Reading Efficiency, Second Edition (TOWRE-2), was also used to complement fluency measurement under timed conditions. In addition, a structured demographic questionnaire captured background variables, while a brief observation protocol was used to document behavioural indicators such as hesitation and tracking difficulty during task administration.

Content and construct validity of the instruments were ensured through reliance on established standardised tools with documented psychometric properties. The adapted dyslexia checklist was subjected to expert review by two specialists in literacy education and educational psychology to ensure contextual relevance. Reliability of the instruments was established using internal consistency measures and test–retest procedures. A pilot study conducted outside the study area yielded acceptable reliability coefficients, with values exceeding 0.80 for major scales, indicating high consistency.

Data collection was carried out in selected schools following approval from relevant authorities. Pupils were assessed individually in quiet rooms within school premises to minimise distraction. Standard administration procedures for CTOPP-2, GORT-5, and TOWRE-2 were strictly followed. Teachers assisted in completing the dyslexia identification checklist, while the researcher administered all performance-based assessments and recorded observations in real time. Data preparation was done through coding of all responses and entry into MS-Excel before importing it to SPSS 27 statistical software. RAN scores were recorded as time in seconds for each task, while reading fluency scores were computed based on standard scoring procedures for rate, accuracy, and prosody. Data were screened for completeness, outliers, and normality before analysis.

Data analysis was conducted using both descriptive and inferential statistics. Multivariate multiple linear regression was used to determine the extent to which rapid automatised naming component deficits predicted reading fluency components. One-way analysis of variance (ANOVA) was used to examine differences in reading fluency across levels of RAN deficit. All hypotheses were tested at 0.05 level of significance. Ethical standards were strictly observed throughout the study. Approval was obtained from school authorities and relevant educational bodies. Informed consent was secured from parents or guardians of participating pupils. Participation was voluntary, and pupils were assured of confidentiality and anonymity. All assessments were conducted in a supportive and non-threatening environment to ensure comfort and fairness.

Result

Hypothesis one

The first hypothesis examined whether rapid automatised naming deficits in letters, digits, objects, and colours significantly predict reading fluency components among dyslexic pupils in Calabar Education Zone. This hypothesis draws from the assumption that naming speed may influence efficiency of word recognition, yet such influence may not be uniform across stimulus types. Given the multidimensional nature of both predictors and outcomes, multivariate general linear modelling was employed to assess joint effects, while parameter estimates were used to clarify direction and magnitude of individual contributions. Results of the analysis are presented in Tables 1, 2, and 3.

Table 1: Descriptive Statistics of Study Variables (N = 120)

Variable	Mean	Std. Deviation
Reading Rate (WPM)	117.59	20.10
Reading Accuracy (%)	91.19	7.62
Prosody	2.35	1.01

Table 2: Multivariate Effects of Rapid Automatised Naming (RAN) Components on Reading Fluency Outcomes

Predictor	Wilks' Λ	F	df	Error df	p-value	Partial η^2	Observed Power
RAN Letters	.849	6.687	3	113	.000	.151	.971
RAN Digits	.977	0.885	3	113	.451	.023	.238
RAN Objects	.896	4.374	3	113	.006	.104	.861
RAN Colours	.995	0.179	3	113	.911	.005	.082

Table 3: Regression Coefficients for Rapid Automatised Naming Components Predicting Reading Fluency Measures

Predictor	Dependent Variable	B	SE	t	Sig.	95% CI	η^2_p	Observed Power
RAN Letters	Reading Rate	-1.27	.35	-3.62	.00	[-1.96, -0.57]	.10	.95
	Reading Accuracy	-0.49	.15	-3.29	.00	[-0.78, -0.19]	.08	.91
	Prosody	-0.06	.02	-2.89	.00	[-0.09, -0.02]	.07	.82
RAN Digits	Reading Rate	-0.44	.33	-1.33	.19	[-1.09, 0.22]	.01	.26
	Reading Accuracy	0.05	.14	0.35	.73	[-0.23, 0.33]	.00	.06
	Prosody	-0.00	.02	-0.18	.86	[-0.04, 0.03]	.00	.05
RAN Objects	Reading Rate	-0.83	.33	-2.54	.01	[-1.48, -0.18]	.05	.71
	Reading Accuracy	-0.37	.14	-2.72	.01	[-0.65, -0.10]	.06	.77
	Prosody	-0.05	.02	-2.68	.01	[-0.09, -0.01]	.05	.76
RAN Colours	Reading Rate	-0.18	.30	-0.61	.55	[-0.78, 0.42]	.00	.09
	Reading Accuracy	-0.06	.13	-0.47	.64	[-0.31, 0.19]	.00	.08
	Prosody	0.00	.02	0.16	.88	[-0.03, 0.04]	.00	.05

Note: Reading Rate: $R^2 = .482$ (Adj. $R^2 = .464$), $p < .001$; Reading Accuracy: $R^2 = .361$ (Adj. $R^2 = .339$), $p < .001$; Prosody: $R^2 = .324$ (Adj. $R^2 = .301$), $p < .001$

Table 1 provides descriptive statistics for reading fluency components. Reading rate was moderately high, though variation remain substantial, suggesting uneven fluency across pupils. Reading accuracy shows relatively higher central tendency with narrower spread, which may indicate clustering toward upper performance levels. Prosody, however, reflect lower mean and wider dispersion, pointing to persistent difficulty in expressive reading. The result suggest that fluency difficulty is more evident in qualitative aspect of reading than in surface accuracy.

Table 2 presents multivariate effect of RAN components on reading fluency outcome. Result from the analysis indicate that RAN Letters (Wilks' $\Lambda = .849$, $p < .001$) and RAN Objects (Wilks' $\Lambda = .896$, $p = .006$) exert significant multivariate effect, while RAN Digits and RAN Colours do not. This pattern suggest that not all naming processes contribute equally to reading fluency. The significant effect observed for letters and objects may reflect their closer alignment with

orthographic and lexical processing demand, whereas digits and colours may engage less directly with reading-related mechanisms.

Table 3 further clarified these relationships at the univariate level. RAN Letters show consistent negative coefficient across reading rate, accuracy, and prosody. This indicates that slower naming is associated with reduced fluency performance. A similar pattern is observed for RAN Objects, though with slightly weaker effects. In contrast, RAN Digits and RAN Colours do not demonstrate significant contribution across any of the fluency measures. The direction of coefficients remains largely negative, reinforcing the expectation that increased naming time corresponds with poorer reading outcomes. Results of the statistical analysis do not support the null hypothesis in its entirety. Rather, results appear to indicate a differentiated pattern in which certain components of rapid automatised naming significantly predict reading fluency, while others do not. This partial effect signifies that RAN should be considered as a multi-component construct rather than a uniform predictor in dyslexic learners' context.

Hypothesis two

The second hypothesis examined whether differences exist in reading fluency among dyslexic pupils based on levels of rapid automatised naming deficits. This hypothesis assumes that variation in naming speed may correspond with variation in reading performance across groups. To test this, one-way analysis of variance was employed, followed by Bonferroni post hoc comparisons to identify specific group differences. Results are presented in Tables 4 and 5.

Table 4: Analysis of Variance for Reading Fluency across RAN Deficit Levels

		Sum of Squares	df	Mean Square	F	P-value	η^2
Reading Rate (WPM) - Words per minute	Between Groups	29032.33	2	14516.16	89.13	.00	.604
	Within Groups	19054.66	117	162.86			
	Total	48086.99	119				
Reading Accuracy - Percentage of correctly read words	Between Groups	2985.59	2	1492.79	44.48	.00	.432
	Within Groups	3927.00	117	33.56			
	Total	6912.59	119				
Prosody - Reflects phrasing, intonation, smoothness	Between Groups	42.42	2	21.21	31.46	.00	.350
	Within Groups	78.88	117	.67			
	Total	121.30	119				

Table 5: Post Hoc Comparisons of Reading Fluency across RAN Deficit Levels (Bonferroni Adjustment)

Variable	Comparison	MD	SE	p-value	95% CI
Reading Rate (WPM) - Words per minute	Low vs Moderate	23.51*	2.88	.00	[16.53, 30.50]
	Low vs High	41.99*	3.15	.00	[34.35, 49.64]
	Moderate vs High	18.48*	2.77	.00	[11.75, 25.21]
Reading Accuracy - Percentage of correctly read words	Low vs Moderate	6.15*	1.31	.00	[2.98, 9.32]
	Low vs High	13.41*	1.43	.00	[9.94, 16.88]
	Moderate vs High	7.27*	1.26	.00	[4.21, 10.32]
	Low vs Moderate	0.63*	0.19	.00	[0.18, 1.08]
	Low vs High	1.58*	0.20	.00	[1.09, 2.07]

Prosody - Reflects phrasing, intonation, smoothness	Moderate vs High	0.95*	0.18	.00	[0.52, 1.38]
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Findings from Table 4 indicate that there are statistically significant differences in reading fluency across RAN deficit levels for all three components. Reading rate showed strong effect, $F_{(2,117)} = 89.13$, $p < .001$, with a large effect size ($\eta^2 = .604$), suggesting that a substantial proportion of variance in reading speed is associated with differences in naming deficit levels. A similar pattern is observed for reading accuracy, $F_{(2,117)} = 44.48$, $p < .001$, $\eta^2 = .432$, and for prosody, $F_{(2,117)} = 31.46$, $p < .001$, $\eta^2 = .350$. Although effect size varies, all remain meaningful, an indication that group membership based on RAN deficits consistently associated with difference in fluency performance.

Table 5 provides further clarification through pairwise comparisons. Pupils in low deficit group demonstrate significantly higher reading rate than those in moderate and high deficit groups, with mean differences of 23.51 and 41.99 words per minute respectively. Similar gradients were evident for reading accuracy; with the low-deficit group outperforming both the moderate- and high-deficit groups, and for prosody, where expressive reading declines progressively with increasing deficit level. Difference between moderate and high deficit groups also remain significant across all fluency components, though of smaller magnitude. This pattern appears to indicate a consistent and ordered decline in reading fluency as naming deficits increase. This result provides clear evidence that reading fluency differs significantly across levels of rapid automatised naming deficits. The consistency of this pattern across rate, accuracy, and prosody strengthens the conclusion that naming speed is closely associated with functional reading performance in this sample. The null hypothesis was therefore rejected because the finding indicates meaningful differences in reading fluency based on RAN deficit levels.

Discussions

Findings of this study extend current understanding of rapid automatised naming (RAN) in literacy development among pupils with dyslexia. This study revealed that the influence RAN on reading fluency appears neither uniform nor trivial. Recent literature increasingly positions RAN as multifaceted construct rather than a single processing index; particularly in dyslexic populations where processing inefficiencies are pronounced. It is indicated that naming speed somehow relies on coordinated visual, lexical, and attentional processes that in combination, contribute to automatic word recognition in children with reading difficulty (Gray and Powell-Smith, 2025; Xu et al., 2024). The present findings appeared consistent with this view, particularly in differential predictive role observed across stimulus types. The result that letters and objects emerged as significant predictors aligned with previous research, which showed that alphanumeric and visually meaningful stimuli engage processes that are directly tied to reading development in children with dyslexia (Silva et al., 2025; de Jong & Molenaar, 2025).

At the same time, absence of significant effects for digits and colours invites closer reflection, especially within a dyslexic sample. Prior studies have noted that not all RAN tasks contribute equally to reading outcomes, particularly among children with developmental dyslexia where deficits may be domain-specific rather than generalised (Guerin et al., 2024; Alhwaiti, 2024). The present pattern may suggest that for dyslexic pupils in this context, familiarity with letter-based stimuli and their direct mapping to print confers greater relevance to reading fluency than more

abstract or less text-linked categories. This supports emerging arguments that RAN should not be treated as a unitary predictor but rather as a cluster of related processes with varying functional weight, especially in populations with reading impairments (Gray & Powell-Smith, 2025; Kaltenbrunner & Döhla, 2025).

These interpretations are further reinforced by group-based differences. The observed gradient across low, moderate, and high deficit groups among dyslexic pupils reflects a systematic decline in reading rate, accuracy, and prosody. Such ordered variation is consistent with evidence that naming speed deficits are closely tied to reduced automaticity in dyslexia, which in turn constrains fluent reading performance (Baron et al., 2026; Zhao et al., 2025). What is notable here is the consistency of this pattern across all fluency components. While earlier studies emphasised rate as the primary outcome in dyslexic readers; present findings suggest that expressive reading and accuracy are also sensitive to naming speed differences. This may indicate broader influence of processing efficiency deficits on reading performance in dyslexia than previously assumed.

Recent developmental models of dyslexia argue that reading fluency emerged from interaction of multiple cognitive system; including phonological processing, working memory, and processing speed; rather than a single dominant factor (Guerin et al., 2024; Tan et al., 2024). The partial predictive pattern observed in this study appear to support this position. RAN, therefore, contribute meaningfully to reading fluency among dyslexic pupils, but not comprehensively. This reinforces the need to interpret naming deficits within wider framework that includes phonological processing, instructional exposure, and linguistic context. In multilingual environments such as Calabar, these interactions may be more pronounced for pupils with dyslexia; though empirical evidence remains limited. Within Calabar Education zone context, this study offers modest but important contribution. Much of the existing literature on dyslexia and rapid automatised naming is drawn from Western or controlled orthographic settings, with limited representation of sub-Saharan African population. Findings from this present study suggest that established theoretical models of RAN and reading fluency retain relevance but require contextual sensitivity. The study demonstrates both differential predictive effects and clear group-based variation among dyslexic pupils in Calabar education zone. It becomes difficult to assume uniform applicability of RAN effects without considering instructional conditions, linguistic diversity, and educational resources available to learners with dyslexia.

Findings from this study confirm that rapid automatised naming is associated with reading fluency among dyslexic pupils, though in a differentiated manner. This understanding shifts the interpretation away from a broader generalisation to more precise understanding of how specific naming processes relate to reading performance in dyslexia. Such positioning strengthens theoretical clarity while pointing toward more targeted approach in identification and intervention for pupils with reading difficulties.

Conclusion

This study draws attention to the need to reconsider how rapid automatised naming is conceptualised within early literacy development among pupils with dyslexia. Evidence from this context suggests that naming speed does not operate as a single, uniform construct, but rather reflects distinct processes that relate differently to reading performance. This distinction is particularly important in primary education, where teaching methods often assume that reading

difficulties come from a single, underlying cause. A more attentive perspective; one that recognises variation within cognitive processes that underlie fluency, appears necessary.

This position carries practical weight. Identification practices may need to move beyond broad classification to more precise profiling of pupils' strengths and constraints. At the same time, intervention may benefit from targeting specific processing demand rather than relying on general approaches. At a broader level, this study contribute to ongoing discussions on how established literacy models may be applied in diverse educational contexts. Findings from the study suggest that theoretical assumptions require continuous testing against local realities.

Recommendations

1. Fluency interventions aimed at increasing letter and object naming speed should be prioritised by primary school teachers and special educators to enhance reading performance among pupils with dyslexia.
2. School administrators and curriculum planners should implement structured screening and tiered support systems based on levels of rapid automatised naming deficits to address progressive differences in reading fluency.

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