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Psycholinguistic Representation of Dyslexia and Intervention Strategies in the Documentary Film *Left Behind* (2025)

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ABSTRACT

Previous research on dyslexia has focused on clinical and educational domains. In contrast, there has been relatively little research into the construction and representation of dyslexia in audiovisual media. This study stands out as an important one at this time, which aims at assessing how linguistic, cognitive and social dimensions of dyslexia are rendered through verbal, audio and visual modes. This study utilized a qualitative descriptive methodological approach, encompassed within a systematic operationalized analytical framework which contains phonological processing, visual– linguistic integration, and sociocultural interaction analytical. The analysis uses explicit coding procedures that correspond to psycholinguistic indicators and multimodal categories, along with verbatim extracts and detailed visual descriptions. The findings suggest that the film depicts dyslexia as a complex phenomenon. Dyslexia is constructed on a micro-linguistic level through difficulties in phonological processing that manifest as hesitation, repetition of sounds, and interruptions in decoding. Cognitive-level challenges of visual–linguistic integration are shaped by unstable tracking of text and perceptual disorientation. Dyslexia exists at the sociocultural level through scaffolding, interaction and affective support which is socially mediated. Through multisensory learning, use of assistive technologies, and inclusive teaching methods, the film depicts intervention strategies based on the Active View of Reading principles. This paper contributes to applied linguistics by providing an example of how psycholinguistic constructs may be functionalized in a multimodal media analysis linking cognitive theory to audiovisual representation.

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1. Introduction

The definition of dyslexia characterized by persistent difficulty with reading difficulty in phonological awareness visual–auditory and visual–linguistic integration occurs despite having the intelligence and ample opportunity. Recent research on psycholinguistics proves that dyslexia is not a learning disability per se and has to do with the cognitive and neurological mechanism of written-spoken language. The disorder involves the brain's phonological, visual, attentional, and executive systems. Therefore, it calls for an analysis that is multidisciplinary. This is as per Hutson and Hutson (2024) and Niu et al. (2025). The definition of dyslexia conceptually is still a subject of contention due to variations in its clinical presentations as well as contextual factors that include culture and language (Morsanyi et al., 2026).

Viewing reading difficulties from a psycholinguistic perspective, the problems individuals with dyslexia have are likely to be due to impaired phoneme segmentation and morphological processing, as well as slow lexical access. Diwansyah et al. (2025) show that phonological deficit is the most influential factor on decoding ability and reading fluency. Moreover, children with dyslexia exhibit more fixations and less visual stability when reading, according to Virlet et al. (2024), which ultimately affects how well they understand text. The results of this study supported the psycholinguistic hypothesis that reading requires simultaneous involvement of visual processing and higher-level language processing.

Recent intervention studies have proposed a variety of approaches to dyslexia such as multi-sensory strategies, cognitive training and AI-based technologies. Methods of multisensory learning have been proven to improve phonological awareness and reading ability (Septiani et al., 2019). Conte and colleagues (2019) and López-Zamora and colleagues (2024) further emphasize innovative strategies such as neurofeedback, visual prism adaptation, and neurocognitive training to enhance reading fluency and visual attentional stability. In addition to that, the use of a computerized text to speech has also been valuable. In this case, researchers provide automatic linguistic annotation to make text easier to read without changing the meaning. So far, text input seems more effective for individuals with dyslexia (Zhao, Wang, Koura & Wang 2024)

The psycholinguistic studies of dyslexia have been on the rise, however, most of these studies take place in schools and clinics. In comparison, audiovisual conflicts about dyslexia, and documentary films, in particular, do not attract much academic attention. Documentary films are an important part of shaping people’s perceptions of language disorders and the intervention. By analyzing documentary narratives, we might take up new ways of analysing the representation of the cognitive and linguistic experiences of people with dyslexia in visual, verbal and multimodal terms. Studies (Septiani et al., 2019) on the representation of dyslexia through motion pictures reveal that visual media could serve as a reflection space for learning (pedagogical) and as a space for public education on learning strategies.

According to psycholinguistics, theories of language processing, phonological theory and cognitive model of reading can help explain filmic representation of dyslexia

non-how they are slow. According to phonological theory and the double deficit theory, reading difficulties of dyslexia are often associated with a deficit in phonological awareness and rapid automatized naming. (Alfi et al., 2024) Furthermore, the Active View of Reading model demonstrates the need to integrate oral language and comprehension, which is fundamental to exploring how the reading experiences of individuals with dyslexia are presented in narratives (Lam et al., 2024). According to Honarmand et al. (2025), abnormalities in the VWFA and visual attentional mechanism make significant contribution to the atypical pattern of reading difficulties diagnosed in people with dyslexia.

This study, conceptually, rests on the premise that documentary films are not simply entertainment media but also multimodal texts representing social reality and individual cognition. When analyzed through a psycholinguistic lens, the documentary film Left Behind (2025) reveals how dyslexia and its intervention strategies conveyed through spoken language, visual narratives and teaching practises of the film. Until now, there has been little research on dyslexia in film, especially research that combines psycholinguistics with media studies.

In addition to the research gap outlined previously, the choice of documentary film Left Behind (2025) is due to its specific academic and socio-cultural relevance. The film has generated much public interest because of its highlighting of students' real-life experiences with dyslexia in today's classroom, which makes it not just an artwork but an educational text and advocacy tool. In an age of increasing global awareness of neurodiversity and inclusive education, Left Behind offers credible narratives based on lived experience, making it particularly relevant for psycholinguistics in terms of how reading difficulties are socially and cognitively constructed. The documentary has been used in education and awareness contexts notably within discussions of inclusive literacy and special education practices, suggesting that it mediates between scientific knowledge and public knowledge.

What sets Left Behind apart from previous films that deal with dyslexia is the explicit inclusion of teaching practices, cognitive rationales, and multimodal representations of reading processes. The film shows that it is not only a personal affair that dyslexia takes over, with a progressive visualization of phonological difficulties and visual–linguistic disruptions, as well as interventions taking place through the overlap of verbal narration, classroom speech, and cinematic articulation. This such layered representation allows us to examine how psycholinguistic constructs usually confined either to the laboratory or the clinic are transformed into accessible audiovisual forms. Thus, the film represents an interesting empirical site where one can investigate the relationship between theories of language processing, educational practices and multimodal meaning-making in media texts.

To establish a clear analytical connection between psycholinguistic theory and the representation of dyslexia in audiovisual media, this study operationalizes key theoretical constructs into observable analytical indicators. Specifically, the phonological deficit theory is employed to identify manifestations of phoneme–

grapheme processing difficulties, which are operationalized through indicators such as hesitations, sound repetitions, decoding errors, and disrupted reading fluency in verbal utterances. In parallel, the Double Deficit Theory is used to examine limitations in rapid automatized naming and processing speed, reflected in observable patterns such as delayed lexical retrieval, prolonged pauses, and fragmented reading sequences.

Moreover, the Active View of Reading framework will be used to investigate the interaction between decoding processes, language comprehension, and higher-order cognitive powers. Through this framework, scenes where individuals display a discrepancy between accuracy and comprehension or employ compensatory efforts to construct meaning can be identified. Also, through multimodal cues such as eye movement, shifts in visual attention, and the interdependence of writing and speaking as portrayed through camera focus, text partitioning, and boxing technique, the visual-linguistic integration is studied.

A multimodal analysis used for the film we analyzed takes into consideration the ways in which dyslexia is represented verbally (captured in dialogue and the use of narration), visually (the cinematographic depiction of reading processes), and contextually (in terms of what it can say about the educational context and also social interaction). By providing translational psycholinguistic theories into analytical categories and observable indicators, this will help to systematise how the cognitive and linguistic assessment of dyslexia is constructed and communicated in the documentary film. This operationalization allows a theoretical and structural analysis of dyslexia representation, rather than merely a descriptive interpretation.

Based on this background, this study addresses two main research questions: (1) How is dyslexia represented in the documentary film *Left Behind* (2025) from a psycholinguistic perspective? (2) How are strategies for addressing dyslexia represented through verbal and multimodal elements in the film?.

Accordingly, the objective of this study is to analyze the representation of dyslexia and its intervention strategies using a psycholinguistic theoretical framework. The study aims to contribute theoretically to applied linguistics research while also enriching scholarly discussions on literacy and disability representation in audiovisual media.

By integrating perspectives from psycholinguistics, neurolinguistics, and media studies, this research seeks to bridge the gap between clinical studies of dyslexia and its representation in multimodal texts. This interdisciplinary approach also expands the scope of applied linguistics research by offering cross-disciplinary insights that align with the contemporary development of dyslexia studies.

2. Literature Review

2.1 Psycholinguistic Perspectives on Dyslexia

Dyslexia has typically been viewed as a multidisciplinary language-processing disorder but the contributions made by different cognitive components differs across scholars. To a large extent, phonological processing deficits are considered the

cognitive explanation for reading disabilities. According to the studies of Stein (2025) and Maïonchi-Pino et al. (2026), it is the impairments to phoneme representation and manipulation that limit decoding ability, leading to slow and inaccurate word recognition. The authors have shown in the study that phonological awareness is a strong predictor of reading fluency for all learners (Diwansyah et al. 2025).

Over the years, a phonological-centered view of dyslexia has received substantial support. According to Chalmpe and Vlachos (2025), dyslexia cannot be conceptualized as a single deficit due to the heterogeneity of people with dyslexia who have different neurocognitive profiles involving interactions between linguistic, visual, and attentional processes. This position is further supported by research in eye-movement analysis (Virlet et al., 2024), which demonstrates that reading disabilities are also influenced by disruptions in visual attention and perceptual stability. The emphasis on phonology may be misleading in the case of the diagnosis of dyslexia.

The Double Deficit Theory offers a framework that incorporates both these perspectives, proposing two independents but interacting sources of impairment: phonological awareness and rapid automatized naming (RAN) (Wolf & Bowers, 1999). Although it's support by empirical evidence now, recent studies (Chalmpe & Vlachos, 2025) suggest this two-pronged approach itself might not be entirely apt as there exists a wide variability in dyslexic readers associated with executive functioning and working memory.

This indicates that dyslexia should be viewed as an interplay of several psycholinguistic processes and not as a single deficit model. Nonetheless, most of the studies are approached experimentally or educationally, and little attention is given to how these psycholinguistic constructs are represented in multimodal or audiovisual form. As a result, there is a discrepancy in how theoretical models of dyslexia are manifested in public discourse and through media channels. That is, the study is seeking to investigate this issue.

2.2 Cognitive Models of Reading and Dyslexia

The cognitive processes behind the reading problems in dyslexia can be explained by theoretical models. A concept widely discussed is the Simple View of Reading, which seems reading comprehension is the result of the interaction between decoding and language comprehension. According to Nation et al. (2022) in language development and literacy studies, either component deficit can yield reading difficulties.

More recent studies (Akter et al., 2025) have come up with an Active View of Reading which extends these models to incorporate the role of executive functioning, motivation and linguistic knowledge in reading. This model shows how high-order comprehension, and oral language knowledge can be integrated during literacy activities.

According to Niu et al. (2025), a neurolinguistic study, certain brain networks are involved in reading, particularly the visual word form area as well as regions related to phonological processing. When these neural systems malfunction, the person may

exhibit reading difficulties, which are a hallmark disability of dyslexia.

El Hmimdi and Kapoula (2025) in Eye-tracking studies essentially show that dyslexics have atypical visual behaviour (i.e., higher fixation duration, unstable ocular pursuit) during reading. The patterns observe how the visual system interacts with language in reading events.

Although decoding and comprehension make up the two components of the Simple View of Reading, the Active View of Reading allows for multiple levels of processing to be recognised, including executive and motivational processes. Nonetheless, both models are quite cognitive and do not say much about how the reading processes manifest themselves in, say, film. Theory of Cognitive Models of Dyslexia provide a solid theoretical grounding by outlining a framework for understanding dyslexia as a complex interaction.

2.3 Intervention Strategies for Dyslexia

In response to the challenges associated with dyslexia, a variety of intervention strategies look to improve reading skills and literacy development. One of the most common strategies in which auditory, visual, and tactile elements are combined in reading instruction. The Orton-Gillingham approach emphasizes structure phonics along with multisensory overlap which is related to individuals with dyslexia (Laney, 2011; Valde, 2024).

According to Dahlan and Suparno (2025), multisensory approaches are effective in enhancing phonological awareness and reading fluency of dyslexia students. According to research in various educational contexts, organized multisensory interventions can lead to significant improvement in decoding skills and comprehension.

Technological advancements have introduced novel avenues for dyslexia intervention. In the recent years artificial intelligence (AI) is used to enable early detection, customized learning, and adaptive reading support for dyslexia.

Machine learning algorithms can be used to screen and diagnose dyslexia through handwriting analysis, eye-tracking data, and reading behavior (Pamungkas et al., 2025).

Systems that use AI can facilitate reading accessibility through automatic linguistic annotation and adaptive text presentation that improves readability by individuals with dyslexia while keeping the original meaning of the text intact (Zhao et al., 2025).

Through virtual reality (VR) and other immersive technologies, it’s possible to raise awareness of dyslexia-related challenges and simulate reading difficulties experienced by individuals diagnosed with dyslexia. According to Alcalde-Llergo et al. 2025, these virtual environments allow teachers and investigators to gain knowledge on the cognitive hurdle dyslexic readers experience.

Despite the effectiveness of multisensory and AI-based interventions in improving reading skills, most studies measure their effectiveness in the laboratory. To date, relatively little research has examined how these intervention strategies are

narrated and communicated in the public space. Technological advances show the increasing interdisciplinary nature of dyslexia research by drawing on linguistics, educational, neuroscience and AI.

2.4 Sociocultural and Interactionist Perspectives

Recent research highlights environmental context and social interaction as key features in language development besides cognitive and phonological explanation. According to the theories of Vygotsky, learning takes place via mediated interaction rather than directly and it takes place when a more knowledgeable person scaffold or guides participation in that activity. In regard to the reading development, this perspective illustrates the role of teacher-student interaction, instructional dialogue, and collaborative learning contexts in the process of literacy acquisition.

The interactionist point of view on language development also holds that the development of linguistic competence takes place through interaction between cognitive processes and social input. This perspective embraces an extensive definition of reading, which emphasizes the co-construction of meaning through communicative practices in context rather than solely through cognition. This means that reading distinctiveness and learning techniques are not only impacted by our cognitive constraints but also by the interaction quality, teaching support, and a nurturing environment in the case of dyslexia.

These approaches extend psycholinguistic approaches to the social and communicative dimensions of language processing. Multimodal media including the documentary film is, however, under-researched as far as the representation of sociocultural and interactionist processes is concerned. As a result, this paper unifies these perspectives to examine the construction of social interaction, scaffolding practices and learner identity in audiovisual representations of dyslexia.

2.5 Analytical Framework

To address the limitations identified in previous studies and to establish a clear connection between theoretical perspectives and data analysis, this study proposes a structured psycholinguistic–multimodal analytical framework. The framework integrates key theories of dyslexia into three interrelated analytical levels, each associated with specific indicators and modes of representation in the documentary film.

A. Level 1: Phonological Processing (Micro-Linguistic Level)

This level is based on the phonological deficit hypothesis and the Double Deficit Theory, which assign limited importance to problems with naming speeds and phoneme problems. In this level, dyslexia is examined through overt verbal markers such as sound replications, decoding errors, hesitations, and efforts to flow reading. The elements are found predominantly in spoken forms such as talk or dialogue, narration or reading performance of the film. The emphasis of this dimension is on how the film conveys the internal linguistic processing difficulties faced by dyslexics.

B. Level 2: Visual–Linguistic Integration (Cognitive-Processing Level)

The relationship between visual perception and language processing is the focus of this level and is based on cognitive models of reading and neurolinguistic research. While reading a text can cause it to withdraw, experience involuntary backward movements, lose sight of where they are reading, and have difficulty organizing visual input with language comprehension. These phenomena are represented multimodally through camera focus, text fragmentation, sequencing, and composition techniques. Level 4 looks at how the film externalizes cognitive processing problems through the image.

C. Level 3: Social Interaction and Meaning-Making (Sociocognitive Level)

The sociocultural and interactionist perspectives on language learning make up the third level which focuses the interplay of social interaction, scaffolding and communicative context in literacy development. At this stage of the analysis of verbal scaffoldings, teacher-students interaction, affective responses, and the construction of learners' identity. The presence of supportive dialogue, productive teaching methods, collaboration and support for one another as well as a shift from deficit-based stories to strength-based stories. Dyslexia as a socially mediated experience represented through interaction and discourse happening at this level.

The three analytical dimensions interact with each other and take place in a multi-modal context where verbal, visual and contextual information is being processed. The study promotes a systematic means of analysing the representation, mediation and interpretation of psycholinguistic processes involved in audiovisual narratives. This system allows us to make sense of the interaction between language, cognitive management and social practices that produces dyslexia.

2.6 Conceptual Framework

In order to enhance the theoretical contribution of this research, a clear conceptual framework is proposed to picture the relationship between the research object, the analytical process, and the interpretations. The documentary film Left Behind (2025) is situated in this framework as a multimodal text through which psycholinguistic constructs are represented, mediated, and interpreted.

The film is understood at the first level as a multimodal discourse comprising verbal components (the dialogue, voice-over narration and on-screen text) and visual components (the cinematographic codes, the arrangement of the scene and the modelling of the reading mode). The primary sources from where dyslexia get represented are these modalities only.

In the second stage, the multimodal data are analyzed according to a psycholinguistic framework that integrates three levels of analysis: phonological processing, visual–linguistic integration and social interaction. Each of the levels is designed to offer a range of analytical categories that can highlight the cognitive, linguistics and social aspects of dyslexia represented in the film.

The analysis at the final step yields an interpretative understanding of how reading difficulties, intervention strategies, and learner identities are constructed and represented in audiovisual texts about dyslexia. It will connect theoretical insights from psycholinguistics and their realizations in media discourse.

Table 1. Conceptual Model of the Study

Film *Left Behind*, 2025		
Multimodal Data	**Psycholinguistic Analysis**	**Representation Outcomes**
(Verbal: dialogue, narration, text)	(Level 1: Phonological Processing)	(Dyslexia as cognitive–linguistic phenomenon)
(Visual: scenes, camera, representation of reading)	(Level 2: Visual–Linguistic Integration)	(Intervention strategies)
	(Level 3: Social Interaction)	(Social meaning and learner identity)

To ensure analytical coherence, the object of study, which is the film, the analytical tools, which psycholinguistic and multimodal analysis and the research outcome which is representation of dyslexia. This relationship is modelled explicitly in an advancement of descriptive analysis into a contribution with theoretical coherence that links psycholinguistic theory with media representation. This conceptualization also situates the study within interdisciplinary research by bringing psycholinguistics, multimodal discourse analysis, and media studies into one analytical model.

3. Method

3.1 Research Design

This study employed a descriptive qualitative approach using a multimodal psycholinguistic analytical framework to examine the representation of dyslexia in audiovisual texts. The qualitative approach was selected because the study aims to explore linguistic, cognitive, and visual representations of dyslexia as portrayed in a documentary narrative, rather than to measure variables quantitatively.

3.2 Operational Definition of Multimodal Psycholinguistic Analysis

To ensure methodological clarity, this study defines and operationalizes the concept of multimodal psycholinguistic analysis by specifying both the modes of data and the psycholinguistic indicators used in the analysis.

A. Multimodal Dimension (Data Modes and Units of Analysis)

For the purpose of this study, multimodality refers to the combination of different semiotic modalities through which meaning is created in the documentary film. There are three major categories of these modes.

- Verbal Mode: spoken language, including dialogue, narration, and interview segments. This mode provides data on linguistic performance, such as reading aloud, verbal hesitation, and pronunciation patterns.

- Written Mode: on-screen textual elements, including subtitles, instructional text, and annotations that appear during the film. This mode reflects how written language is visually presented and processed.
- Visual Mode: non-verbal cinematic elements, including camera focus, scene composition, gaze direction, text fragmentation, and representations of reading behavior. This mode captures how cognitive processes are externalized through visual storytelling.

The unit of analysis is defined as scene-based segments that explicitly depict reading activities, language-related difficulties, or intervention practices. Each unit is analyzed by considering the interaction between verbal, written, and visual modes.

B. Psycholinguistic Dimension (Analytical Indicators)

The psycholinguistic component of the analysis is operationalized through a set of observable indicators derived from established theories of dyslexia and reading processes. These indicators are categorized into three analytical levels:

a. Phonological Processing Indicators

- sound repetition
- hesitation and pauses during reading
- decoding errors (mispronunciation, omission, substitution)
- slow or fragmented reading fluency

b. Visual–Linguistic Integration Indicators

- loss of reading position (skipping or repeating lines)
- unstable eye movement or visual tracking
- difficulty coordinating visual input with verbal output
- delayed recognition of written words

c. Sociocognitive and Interactional Indicators

- verbal scaffolding (teacher guidance, prompts)
- use of multisensory strategies (gesture, color, movement)
- affective responses (frustration, confidence, motivation)
- collaborative interaction between participants

Each indicator is identified through observable evidence in the film and is interpreted in relation to its corresponding psycholinguistic framework.

C. Integration of Multimodal and Psycholinguistic Analysis

The analysis is carried out by mapping verbal, written, and visual modal data onto the psycholinguistic indicators. This integrated process allows the researcher to investigate the simultaneous representation of cognitive and linguistic processes across various modalities. Verbal data containing phonological three times has been exhausted by visual cues like text fragmentation or camera focus. Similarly, social interaction is studied through both verbal exchange and the visuality of the classroom.

This research includes the systematic application of the established analytical framework to the linguistic and sensory modalities of a selection of poems. Interpretations drawn from the analysis are thus grounded in observable evidence rather than the abstract imagined or presupposed meanings. Through operationalization, the analysis is based on systematic observable and definable features which reduces the interpretative subjectivity. By examining them based on fixed, observable and systematic features, it reduces subjectivity in interpretation.

3.3 Multimodal Analytical Categories

To further clarify the application of multimodal analysis, this study systematically distinguishes three analytical modes—visual, audio, and verbal—each associated with specific indicators and analytical functions. This categorization ensures that multimodal elements are examined in a structured and consistent manner.

A. Visual Mode (Cinematic Representation)

The visual mode refers to all non-verbal elements that contribute to meaning-making in the film. This includes camera techniques, scene composition, gaze direction, text visualization, and the representation of reading behavior. The analysis focuses on the following indicators:

- camera focus and framing (e.g., close-up on text or reader)
- text fragmentation and visual distortion
- gaze movement and eye-tracking representation
- body posture and gesture during reading
- spatial arrangement of classroom interaction

These indicators are used to examine how cognitive processes—such as reading difficulty and visual attention—are externalized through cinematic techniques.

B. Audio Mode (Paralinguistic and Prosodic Features)

The audio mode encompasses all auditory elements beyond lexical content, including prosody, intonation, pauses, and vocal expression. This mode captures how reading difficulty is expressed through speech patterns. The analysis focuses on:

- pauses and hesitation markers
- repetition of sounds or syllables
- changes in intonation and speech rhythm
- speech rate and fluency disruption
- emotional tone (e.g., frustration, uncertainty)

These indicators allow the researcher to identify phonological processing difficulties and affective responses through auditory evidence.

C. Verbal Mode (Linguistic Content and Interaction)

The verbal mode refers to the linguistic content of spoken and written language, including dialogue, narration, and instructional language. The analysis focuses on:

- lexical choices and sentence structure
- decoding attempts and self-repair expressions
- instructional language (e.g., teacher prompts, scaffolding)
- comprehension statements (e.g., explaining meaning)
- interactional exchanges between participants

These indicators are used to analyze how linguistic processing and meaning-making are constructed through language use.

D. Integration Across Modes

Although each mode is analyzed separately, the study emphasizes their interaction in constructing meaning. For example, phonological hesitation (audio) is examined alongside visual cues such as text fragmentation (visual) and verbal expressions of difficulty (verbal). This integrated approach allows for a more comprehensive understanding of how dyslexia is represented through multiple semiotic resources.

3.4 Data Source and Data Collection

This research relies mainly on a documentary film, Left Behind (2025), for primary data. It is the main text used for research. The data types were (1) verbal utterances, in the form of dialogues, narration, and interview segments; (2) written texts appeared on the screens, such as subtitles and educational notes; and (3) visual that represent reading practices and strategies against dyslexia. The unit of analysis was determined according to the frames that explicitly show experiences of reading difficulty, teaching interactions, and speech therapy practice about dyslexia.

Data collection was conducted through a non-participant observation technique that uses note-taking transcription. To identify the relevant scenes and the relevant sounds, the researcher watched the documentary film several times. The film's verbal utterances were transcribed in a systematic manner, while the visual context accompanying these utterances was documented as a part of the multimodal corpus. The researcher was able to capture both the linguistic and visual manifestations of dyslexia within the documentary.

3.4 Data Analysis

The data analysis process consisted of several stages. First, data reduction was conducted to select relevant segments that reflect the representation of dyslexia and its intervention strategies. Second, the selected data were coded based on psycholinguistic categories, including phonological processing, decoding processes, verbal working memory, and compensatory strategies used by individuals with dyslexia. Third, the coded data were analyzed using theories of language processing and cognitive models

of reading in order to identify patterns of dyslexia representation and the intervention strategies portrayed in the film. To enhance analytical transparency, this study provides a concrete example of how multimodal data were coded and interpreted based on psycholinguistic categories. The coding process involved identifying relevant scene segments, transcribing verbal data, and examining accompanying visual elements. Each data segment was then assigned a code based on predefined psycholinguistic indicators and categorized according to the analytical framework. Table 1 below illustrates a sample of the coding process:

Table 2. Example of Multimodal Psycholinguistic Coding

Data (Scene Description & Excerpt)	Mode	Code	Category (Analytical Level)	Interpretation
A student reads: "b… ba… ball" with repeated sounds and long pauses	Verbal	hesitation, repetition	Phonological Processing	Indicates difficulty in phoneme–grapheme mapping and decoding
The reader skips a line and returns to the previous sentence while reading	Visual	regression, unstable tracking	Visual–Linguistic Integration	Reflects disruption in visual attention and coordination with linguistic processing
Teacher guides the student by slowly pronouncing syllables and asking repetition	Verbal + Interaction	scaffolding	Social Interaction	Demonstrates instructional support in phonological awareness development
Colored letters are used while the student traces words with fingers	Visual + Kinesthetic	multisensory strategy	Social Interaction / Intervention	Shows the use of sensorimotor reinforcement to support reading
The student correctly explains the meaning of a sentence despite slow decoding	Verbal	comprehension vs decoding gap	Cognitive Processing (AVR)	Indicates disparity between linguistic comprehension and decoding ability

The coding process was iterative and involved repeated viewing of the selected scenes to ensure consistency between verbal and visual data. Each code was assigned based on observable indicators rather than subjective interpretation, and categories were derived from the predefined analytical framework (phonological, visual–linguistic, and social levels). This procedure enabled a systematic linkage between raw data, analytical categories, and theoretical interpretation. This coding scheme also functions as a guiding analytical template applied across all data segments in the study.

3.5 Validity and Reliability

To ensure credible and reliable results, the study used various validations strategies such as triangulation, inter-coder agreement, expert consultation and ongoing verification of data.

A. Theoretical and Multimodal Triangulation

The process of triangulation was achieved by using multiple theories and multiple modes of data. The discussion involved some psycholinguistic hypotheses such as phonological deficit hypothesis, Double Deficit Theory, and the Active View of Reading with the multimodal data of verbal (dialogue and narration), written (on-screen text) and video (cinematic representation). Every data segment was referenced to these categories so that findings were verified using a triangulation approach rather than a single analysis.

B. Inter-Coder Agreement

To increase the reliability of the coding process, a second coder, an applied linguistic was involved in the review of some of the data (approximately 20% of the data). Selected scenes were coded separately by both the researcher and second coder using the coding scheme. The similarities and differences were checked in the coding output. Discrepancies in interpretations were discussed and refined in coding definitions, which gave a more uniform and clearer categorization.

C. Expert Consultation

Another expert consultation was realised with a psycholinguistic and literacy expert to assess the analytical framework and selected coding results. The expert enabled the researcher to assess the alignment of their theoretical constructs and data interpretation. This feedback was used to refine analytical categories and ensure theoretical compatibility.

D. Iterative Analysis and Audit Trail

The analysis was conducted through repeated viewings of the film documentary. An audit trail consisting of analytical notes recording coding decisions, development of categories and revisions was maintained during the research process. It is possible to continuously monitor how the interpretations are produced and verified.

Using triangulation, inter-coder agreement, expert consultation and iterative verification makes the analytical process of this study transparent, systematic, and rooted in observable data. This enables less personal bias and thus strengthens the credibility of the results. The coders were generally consistent, with minor differences discussed for resolution.

4. Results and Discussion

4.1 Results

The findings drawn from the psycholinguistic analysis of the documentary film Left Behind (2025) are organized thematically to address the two main research questions. These research questions are focused on the representation of dyslexia as well as representation of intervention strategies. The analysis examines scene units portraying reading activities, teaching interactions, and interventions associated with language difficulties. The following data comes from the compression and coding of each narrative utterance, dialogue in the interview, and visual display of instruction in the movie. The analysis is broken down on multimodal categories (visual, audio, verbal) in relation to psycholinguistic indicators on observed analytical levels.

4.1.1 Representation of Dyslexia as a Phonological Processing Disorder

The phonological deficit hypothesis interprets this category to concern phonological processing at the micro-linguistic level. Key indicators are mentioned in the analysis which include sound repetition, hesitation, decoding errors and interruption in reading fluency. In a classroom scene, a student reading can directly observe the antecedent.

"*b… b… ba… ball… ba…by… I… I can't read it…*"

The persistence of the first sound, /b/, and the long delays between syllables indicate a problem in the segmentation and retrieval of sounds. Furthermore, the self-correction of the student ("I… I can't read it") shows loss of decoding confidence. In visual terms, the struggle is further reinforced by a close-up shot which shows the student's finger slowly moving across each letter, and a broken focus on the graphemes rather than the words. These multimodal data show that the reading process is laborious and not automatic. In light of this evidence the film depicts dyslexia as a disruption in phoneme–grapheme mapping, which is consistent with the phonological deficit hypothesis according to which unstable phonological representations lead to slow and inaccurate decoding.

4.1.2 Representation of Dyslexia as a Visual–Linguistic Integration Disorder

At the level of visual–linguistic integration, the analysis identifies indicators such as regression, unstable visual tracking, and difficulty coordinating visual input with verbal output. These are clearly evidenced in a scene where a student pauses and states:

"*Wait… where was I?... I think I missed a line…*"

This statement is indicative of a loss of tracking, and the student's eye movements support this as they scan onto other lines throughout the text. The camera undermines this consistency by imitating unsteady gazing through shifting focus and blurred framing of text. This picture provides direct evidence of disrupted visual attention. Disruption of the normal coupling that exists between the two interacting components, which relate to inputs and outputs. As such, the film depicts dyslexia as involving deficits not only in phonological processing but in visual attention and processing speed, consistent with the Double Deficit Theory.

4.1.3 Representation of Intervention Strategies through Multisensory Learning

In the representation of intervention strategies, the analysis focuses on multisensory learning practices, with indicators including gesture, repetition, and sensorimotor engagement. These are evidenced in a scene where a teacher instructs a student:

"*Trace the letter… say the sound… /b/… again… good…*"

As the student says the sound, they are tracing the letter with their finger. This synchronized movement provides compelling evidence for the activation of multiple sensory modalities – visual, auditory and motor – together. Furthermore, the utilization of different text colors and synchronized reading of texts with sound in assistive tools promotes integration of the senses. Through these observable practices, it is evident that the learning process is scaffolded through embodied interaction. On the basis of this evidence, the intervention strategies are shown to foster the development of phonological awareness and reinforce the integration of sensory and linguistic processes in accordance with the Active View of Reading.

4.1.4 Representation of Social Support in Dyslexia Intervention

At the sociocognitive level, the analysis examines how social interaction supports reading development through indicators such as verbal scaffolding and affective support. This is clearly demonstrated in a scene where a teacher says:

"*Take your time… let's read it together… you're doing well*."

The learner exhibits some apprehension at the start but proceeds with reading with direction. This interaction provides direct evidence of scaffolding where the teacher decomposes the task and provides helpful prompts. Upon observing the closeness and eye contact, one can see that it is a supportive observation. The shift of the student from passive to active engagement indicates a change in his confidence state which may have come about due to social support. This data shows that the development of reading

capabilities occurs through guided interaction and not in isolation. This shows that from a socio-cultural and interactionist perspective, meaning is co-constructed through communicative practice and that effective intervention then depends on the cognitive as well as the social dimensions of learning.

The sociocultural and interactionist approaches of this hypothesis suggest that through guided participation and communicative support, reading development takes place. The teacher's utilization of scaffolding strategies such as word-breaking, prompting, and encouraging works in line with sociocultural theory. Learning takes place in the zone of proximal development through assisted performance. In addition, the interactionist perspective shows that meaning is co-constructed through dialogue, as the learner interacts with the input in a supportive communicative environment.

Generally, the results show that Left Behind (2025) depicts dyslexia as a complex psycholinguistic phenomenon of phonological deficit, visual–linguistic integration challenges, and social dynamics in the use of language. The success of the film intervention strategies show use of not change patterns of behaviour but transform relationship to identity of the dyslexic reader.

4.2 Discussions

The present study provides an empirical, multimodal psycholinguistic account of dyslexia representation in the documentary film Left Behind (2025). The study shows us that film constructs dyslexia, not as a deficit affecting a single cognitive process, but rather as a multi-dimensional and multi-component phenomenon that incorporates the interaction between phonological, visual–linguistic, cognitive and social mediation through a systematic and integrated application of verbal, audio and visual modes of analysis which have psycholinguistic indicators. This interpretation does not rest on theoretical assumptions alone, but is firmly backed by explicit multimodal evidence that includes verbal quotes, observed reading behaviours and film excerpts of the thought process.

The micro-linguistics of the film indicate a firm championing of dyslexia as a phonological processing issue through repeated hesitation, segmentation of sounds and disrupted reading fluency. The speech of the child containing utterances like "b… ba… ball… ba…by…" offers clear evidence of difficult phoneme–grapheme mapping and lexical access. Close-up shots that emphasize fragmented text and slow finger-tracking movements are applied so that we visually externalize as well the cognitive struggle of deciphering written text in speech. Through audio-visual convergence, it is shown that the movie supports the phonological deficit hypothesis and extends it by mapping cognitive and psycholinguistic processes into concrete audio-visual representations. On this note, the film not only tells a story but also works as a semiotic system that concretizes invisible cognitive struggles.

Nevertheless, the results also suggest that the film does not solely equate dyslexia to a phonological impairment Evidence of reading difficulty at the level of visual–linguistic integration involves the interference of visual attention and processing

coordination. Readers frequently lose their place while reading or skip lines or say something like, “What? Where was I?” The camera movements mirror the seemingly unstable gazes and fragmented visual focus of the subjects. Cues from various modes provide tangible evidence of the decoupling of the perceptual and linguistic systems. From a theoretical perspective, this provides support for and extends the Double Deficit Theory because it demonstrates how deficits in rapid automatized naming and visual attention are not merely cognitive phenomena but also ones that can be portrayed on film. As a dyspraxia condition, the film thus helps us gain deeper knowledge. Here, there is a dynamic interaction between multiple cognitive subsystems, instead of just an isolated deficit.

The film not only depicts cognitive difficulties, but it also strongly advocates for intervention approaches – especially multisensory learning. Evidence demonstrates that the teachers are using the coordinated use of verbal, visual and kinetic means to convey instruction. For example, tracing of letters with the relevant articulation of the phoneme, or using colour-coded text to represent sound-symbol relationships. Instead of abstract descriptions of practices, it shows scenes where teachers provide guidance, along with accompanying actions and vocal repetitions. According to this perspective, many pathways are activated. It helps with the integration of the phonological, visual, and motor representations. According to results of this study, reading comprehension is the product of an interaction between decoding, language knowledge and perceived cognitive activity reading according to the Active View of Reading. Significantly, the film goes further to show how this plays out pedagogically, and visually what this looks like, which extends our models into practice.

In addition to cognitive and instructional dimensions, social interaction is important in shaping representation of dyslexia. The findings show that scaffolding, encouragement, and designing for collaborative meaning-making are crucial the mediation of reading development through analysis of what is said in the classroom context of a teacher and students working to build understanding. Phrases like “Take your time… let's read it together…” are a word-for-word indication of how supportive language helps in regulating cognitive processing and emotional engagement. The interactional patterns are supported by visual framing features which highlight proximity, gaze, and shared attention to create a relational space for learning. When we interpret these findings in relation to sociocultural theory and the interactionist perspective, we conclude that the experience of dyslexia cannot simply be reduced to an internal cognitive condition. Rather, it is an experience that is shaped through communicative practices and levels of support available within an environment. Accordingly, the film subverts deficit narratives by depicting dyslexic students as active meaning-makers, whose functioning is dependent on the quality of interaction and teaching context.

In conjunction, the multiple identifiable and interconnected levels in Left Behind’s representation of dyslexia receive explicit multimodal support, demonstrating different levels of representational analysis. A comprehensive dynamic view of dyslexia

is provided by the integration of phonological, visual–cognitive, and sociocultural dimensions, which moves away from reductionist accounts. Significantly, the multimodal discourse analysis allows the study to capture the co-construction of these dimensions through an audiovisual which result in a grammatical event. Verbal utterances, prosodic features and visual representations are not functioning in isolation but rather working together for a multi-layered portrayal of reading difficulty and intervention. It highlights the importance of multimodal psycholinguistic analysis as a methodology that can connect cognitive theory with media representation.

From the theoretical perspective of applied linguistics and psycholinguistics, this study operationalizes abstract constructs into observable analytical categories and shows how they can be used on non-conventional data such as documentary films. The combination of multimodal discourse analysis and psycholinguistic theory allows for a wider reach of the dyslexia research paradigm away from the lab and clinic since this approach will examine how scientific knowledge is translated in public discourse. In addition, socio-cultural and interactionist aspects of language processing demonstrate the importance of social communication and language within the context of inclusionary literacy practices as this paper coverage argues.

In terms of methods, the study shows the need for transparency and systematics in essay analysis. The study employs explicit coding rules, multi-modal indicators, and quoted materials to root interpretations in public evidence rather than subjective impression.

The validity of the results but it will also serve as a model that will be useful for repeat studies on multimodal psycholinguistics.

Ultimately, the results tell us something bigger about how we use media and education. The film shows that dyslexia intervention should use a multisensory approach that includes providing support networks to children with dyslexia so their emotional needs are met too. Additionally, the portrayal of dyslexia in the film broadens our understanding of literacy beyond the proficient reader and the illiterate person, countering stereotypical narratives and encouraging awareness of learning differences. Future studies may extend this research by exploring how similar representations are created across different media platforms or by incorporating experimental approaches to further validate the connection between audiovisual representation and cognitive processing.

5. Conclusion

The film, Left Behind (2025), is regarded here as a representation of dyslexia as a complex multidimensional psycholinguistic phenomenon rather than just an individual reading difficulty. The examination indicates that dyslexia is the construction in the film through a systematically operationalized multimodal psycholinguistic framework that consists of the three interrelated aspects of phonological processing. Visual–linguistic integration and sociocultural interaction All dimensions are not presented in isolation but are dynamically interconnected and consistently supported by explicit multimodal

evidence, including verbal utterances, auditory features and visual representations of reading practices.

Results present convincing evidence that dyslexia are largely represented at the micro-linguistic level in terms of phonological processing difficulties as shown through the consistently repeated sound articulation, hesitation in pronunciation and the disrupted decoding patterns. These characteristics are consistent with the phonological deficit hypothesis. The film's use of audiovisual resources enables these cognitive operations to be objectified and made perceptive. The more comprehensive interpretation provided by the Double Deficit framework also supports that beyond phonology, the representation at the cognitive processing level also includes visual–linguistic integration challenges, such as unstable text tracking and coordination of perception and language processing. The findings indicate the key role of interaction, scaffolding and affective support at the sociocognitive level. Furthermore, dyslexia is a socially mediated experience that both makes and breaks in interactional and educational settings.

Furthermore, the film's representation of intervention strategies is an integrative and multi-modal process according to the study. Reading has been conceived as benefitting from multisensory learning practices, along with assistive technologies and supportive interactional environments. The Active View of Reading is reinforced by the findings presented in the papers as the decoding and comprehension processes are shown in practice. Crucially, the film does not portray dyslexia as just a deficit, but as a different learning experience that can be catered to with the help of suitable strategies.

The study adds to the body of knowledge in applied linguistics and psycholinguistics in that it shows how cognitive abstractions lead to the ways in which meaning is made within a multimodal media context. The combination of psycholinguistic theory and multimodal discourse analysis offers an innovative analytical model that serves to link experimental research with audiovisual representation. Additionally, sociocultural and interactionist views widen the lens of dyslexia research to include social interaction and communication context in language development.

In methodology, the study enumerates clear analytical dimensions and explicit coding procedures. Furthermore, it offers interpretations that are grounded in observable data. The technique improves accuracy as well as replicability of qualitative research on languages and opens the way for similar applications on other media types.

Although it makes a contribution, the study suffers from limitation. Explore the impact of the single documentary film on the findings of the audiovisual representations of dyslexia through the analysis. Also, while you provide an exhaustive qualitative analysis, you do not incorporate any experimental/quantitative measure, which in turn, could validate the relation further between multimodal representation and cognitive processing. It is recommended that future research expand the scope of media texts to encompass digital texts and interactive learning in multimodal analysis; empirical methods like eye-tracking or computational discourse analysis can also be embedded in

this analysis.

To sum up, the results of this study were able to show that documentary films can be powerful multimodal texts that shape as well as represent. The research study exposes how linguistic, cognitive and social aspects are responsible for the construction of dyslexia. Furthermore, the study calls for interdisciplinary engagement to advance the field of inclusive literacy research. Also, the study hopes to promote more nuanced thinking about language-related difficulties in contemporary media.

Conflict of interest

The author declares that there is no conflict of interest.

Author's contribution

The author made substantial contributions to the conception and design of the study. The author took responsibility for data analysis, interpretation and discussion of results. The author read and approved the final manuscript.

Statement of AI Usage

The authors would like to state that the usage of generative AI techniques was limited to improving the manuscript's general clarity, readability, and grammar. The authors thoroughly examined and validated every output produced with AI aid. The study's research data are wholly unique and have not been altered or produced by artificial intelligence.

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