



Psycholinguistic Dynamics in Writing Instruction for Children with Special Needs at Tri Bhakti Al-Qudwah Inclusive Islamic Boarding School

Kholida Nur¹, Jauharotun Nafisah¹, Yuning Eka Rahma Wati¹, Suhono¹

¹ Universitas Ma'arif Lampung, Indonesia

Corresponding Author  cholida72@gmail.com*

ABSTRACT

Writing is a fundamental literacy skill that involves complex cognitive, linguistic, motor, and socio-environmental processes, particularly for children with special needs (CSN). Research examining these psycholinguistic processes within inclusive Islamic boarding school contexts remains limited. This study aims to describe the psycholinguistic dynamics involved in writing instruction for children with special needs at Tri Bhakti Al-Qudwah Inclusive Islamic Boarding School in Metro City and to analyze the contribution of the inclusive boarding school environment to students' writing processes. The study employed a qualitative case-study design. Participants consisted of six students with special needs, three accompanying teachers, and one boarding school administrator selected through purposive sampling. Data were collected through participant observation, in-depth interviews, document analysis, and stimulated recall, and analyzed using the interactive model of Miles, Huberman, and Saldaña. The findings reveal that writing instruction involves four interconnected stages: planning, linguistic formulation, motor-tactile transcription, and monitoring and revision. Major challenges include high working-memory demands, difficulties converting phonological representations into Arabic Braille symbols, limited fine-motor coordination, and restricted revision opportunities. The inclusive boarding school environment, characterized by literacy habituation, peer tutoring, individualized assistance, and flexible learning accommodations, positively supports writing fluency and students' confidence. The novelty of this study lies in integrating psycholinguistic analysis with the bilingual Arabic-Indonesian context of inclusive Islamic boarding school education. The findings provide pedagogical implications for developing adaptive and contextualized writing instruction models for children with special needs in inclusive Islamic educational settings.

Keywords: *Psycholinguistics, Writing Instruction, Children with Special Needs, Inclusive Islamic Boarding School, Inclusive Education*

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INTRODUCTION

Writing is an essential competence in the development of academic and religious literacy, particularly within Islamic boarding school (*pesantren*) environments where reading, note-taking, and writing are integral parts of the process of knowledge transmission. For children with special needs (CSN), writing involves not only linguistic competence but also the coordination of cognitive processes, working memory, self-regulation, and complex motor skills. From a psycholinguistic perspective, writing is viewed as a recursive process involving repeated stages of planning, formulation, transcription, and revision (Jaya et al., 2023). This complexity becomes even greater in inclusive Islamic boarding schools that integrate the use of Indonesian and Arabic and serve students with diverse educational needs (Partyka & Nizański, 2021). These conditions highlight the importance of investigating the psycholinguistic dynamics underlying the writing process of children with special needs as a basis for developing more adaptive instructional practices (Wicaksono et al., 2024).

Previous studies have increasingly examined psycholinguistics, writing instruction, and inclusive education; however, these areas are still often investigated separately. Recent research in inclusive education emphasizes that learning processes among students with special needs are shaped by the interaction between cognitive characteristics, instructional support, and the social learning environment rather than by individual abilities alone (Lenzer et al., 2024). In the context of literacy development, contemporary studies have highlighted the importance of adaptive scaffolding, differentiated instruction, and accessible learning media in supporting diverse learners, particularly those with neurodevelopmental differences (Jhilal et al., 2026). These findings suggest that writing instruction for children with special needs requires a multidimensional perspective that integrates cognitive, linguistic, pedagogical, and environmental factors.

Recent studies focusing on children with special needs have mainly explored inclusive learning implementation, literacy support, and Islamic educational practices. Widyastri and Iskandar (2024) reported that successful Islamic education for children with special needs is strongly influenced by community involvement and supportive social interaction. Similarly, Naqiyah et al. (2024) demonstrated that inclusive education in Islamic boarding schools requires adaptive guidance and counseling practices that strengthen students' self-efficacy and participation within the boarding school environment. Although these studies provide important insights into inclusive educational practices, they do not specifically investigate the psycholinguistic processes that occur during writing activities.

Research conducted in inclusive Islamic boarding schools has also focused predominantly on educational management, curriculum development, institutional readiness, and the fulfillment of educational rights for students with disabilities. (Agustina et al., 2024) found that inclusive boarding schools require flexible management systems, specialized support services, and collaborative instructional practices to accommodate students with special needs. Apriyadi et al. (2024) further emphasized that curriculum and facility development based on Islamic values is essential for creating learning environments responsive to student diversity. In addition, Lestari et al. (2024) showed that inclusive boarding schools can promote equitable educational participation when institutional support and inclusive policies are implemented consistently. Nevertheless, these studies primarily examine organizational and policy dimensions rather than the cognitive and linguistic mechanisms underlying students' writing performance.

Despite the growing body of literature on inclusive Islamic education, limited research has integrated psycholinguistic perspectives, writing instruction, and the unique learning ecology of Islamic boarding schools into a single analytical framework. This gap is particularly significant because pesantren-based education is characterized by oral transmission (*talaqqi*), memorization practices, bilingual Arabic-Indonesian instruction, intensive teacher-student interaction, and collective literacy traditions that may shape writing processes differently from formal school settings. Understanding how children with special needs manage auditory memory, linguistic formulation, tactile processing, and social support during writing activities is therefore essential for developing more adaptive instructional models. Accordingly, the present study seeks to address this gap by examining the psycholinguistic dynamics of writing instruction for children with special needs within the authentic educational ecology of an inclusive Islamic boarding school.

Based on these considerations, the present study seeks to answer the following questions: (1) How do the psycholinguistic processes of planning, formulation, transcription, and revision occur in writing instruction for children with special needs at Tri Bhakti Al-Qudwah Inclusive Islamic Boarding School? (2) How does the inclusive boarding school environment influence students' writing processes? (3) What instructional strategies and accommodations are implemented by teachers to support the writing abilities of children with special needs? In line with these research questions, this study aims to describe the psycholinguistic dynamics involved in writing instruction, analyze the contribution of the inclusive boarding school environment to students' writing processes, and formulate

recommendations for instructional strategies that are appropriate to the characteristics of learners with special needs.

This study contributes to the development of psycholinguistic scholarship, particularly in the field of writing instruction within pesantren-based inclusive education. The novelty of the study lies in integrating psycholinguistic analysis of writing processes with the characteristics of bilingual Arabic-Indonesian instruction and the literacy culture of Islamic boarding schools. The findings are expected not only to enrich the body of research on writing instruction for children with special needs but also to provide a foundation for developing instructional models, designing learning accommodations, and enhancing teachers' competencies in implementing more effective and contextualized inclusive educational practices.

METHOD

This study employed a qualitative approach with a case study design to examine in depth the psycholinguistic dynamics involved in writing instruction for children with special needs (CSN) at Tri Bhakti Al-Qudwah Inclusive Islamic Boarding School in Metro City. A qualitative case study was selected because it enables researchers to explore a phenomenon holistically within its natural setting and to understand participants' experiences in depth (Creswell & Poth, 2018; Yin, 2018). The research participants were selected through purposive sampling, which is appropriate for obtaining information-rich cases relevant to the research objectives (Patton, 2015). The participants consisted of six students with special needs as the primary participants, three accompanying ustadz (teachers), and one boarding school administrator as supporting informants. The focus of the study was the psycholinguistic dynamics of the writing process, including planning, linguistic formulation, transcription, and monitoring and revision during writing instruction.

Data were collected through participant observation, in-depth interviews, document analysis, and stimulated recall in order to obtain a comprehensive understanding of students' writing processes. Participant observation allowed the researcher to examine naturally occurring instructional interactions, while in-depth interviews provided access to participants' perceptions and experiences (Merriam & Tisdell, 2016). Stimulated recall was employed to help participants reflect on cognitive processes that occurred during writing activities (Gass & Mackey, 2017). Data trustworthiness was ensured through methodological triangulation and source triangulation to enhance the credibility of the findings (Lincoln & Guba, 1985). Data were analyzed using the interactive model of Miles, Huberman, and Saldaña, which consists of data condensation, data display, and conclusion drawing and verification conducted iteratively until credible and representative findings were obtained (Miles, Huberman, & Saldaña, 2014).

RESULTS AND DISCUSSION

The findings indicate that the psycholinguistic dynamics involved in writing instruction for children with special needs (CSN) at Tri Bhakti Al-Qudwah Inclusive Islamic Boarding School occur through four major stages: planning, linguistic formulation, transcription, and monitoring and revision. During the planning stage, visually impaired students relied primarily on auditory memory to retrieve information acquired through *talaqqi* (oral transmission), dictation (*imla'*), and repeated learning activities. This process imposed a substantial working-memory load because students had to retain information while simultaneously organizing the structure of their writing without visual support. These findings reinforce the cognitive process theory of writing proposed, who argued that planning is a crucial cognitive activity influencing the quality of written production (Flower & Hayes, 1981). In the context of children with special needs, the cognitive load becomes greater because information representation depends almost entirely on auditory and tactile modalities. Therefore, writing difficulties among these students are not solely attributable to physical limitations but also to the complexity of simultaneous information processing (Cohen et al., 2011).

Field observations further demonstrated that students frequently verbalized words repeatedly before writing them in Braille, indicating the active use of auditory rehearsal as a

memory-support strategy (Baddeley, 2012). During classroom activities, several students paused for extended periods while recalling previously memorized material before continuing their writing. One student explained that repeated oral repetition was necessary to maintain the sequence of ideas prior to transcription. These classroom behaviors suggest that writing instruction in the inclusive boarding school context involves continuous interaction between auditory memory, language processing, and motor execution (Baddeley, 2012; Flower & Hayes, 1981). The findings also indicate that teacher prompts and peer assistance played an important role in helping students sustain attention and complete writing tasks, thereby reducing cognitive overload during the writing process (Vygotsky, 1978; Wood et al., 1976).

The formulation stage revealed that the main challenge lies in converting phonological representations into Arabic Braille symbols. Students were required to transform speech sounds into Braille dot patterns while simultaneously understanding spatial orientation when using a slate and stylus. This process demanded coordination among linguistic ability, working memory, and spatial orientation, which frequently resulted in pauses and writing errors. The finding is consistent with the view that limitations in working-memory capacity affect an individual's ability to integrate multiple cognitive processes simultaneously (Baddeley, 2012). The present study also extends the findings of Chenoweth and Hayes (2001) concerning the complexity of writing in a second language (Chenoweth & Hayes, 2001). In this context, students not only faced bilingual Arabic-Indonesian demands but also had to transform linguistic symbols into a Braille writing system. Consequently, the formulation process among students with special needs is considerably more complex than that experienced by typically developing students in conventional writing instruction (Baddeley, 2012).

The transcription and revision stages demonstrated that fine-motor skills and tactile sensitivity were critical determinants of writing fluency. Errors in Braille dot placement, finger fatigue, and difficulties in correcting written text often led students to reduce revision activities even when they were aware of mistakes. These findings suggest that revision is influenced not only by metacognitive ability but also by the technical limitations of the writing medium used. On the other hand, the study found that the inclusive boarding school environment provided significant support through religious literacy habituation, peer tutoring, additional instructional time, individualized assistance, and *hand-over-hand* guidance. Such support was shown to reduce writing anxiety, strengthen access to vocabulary, and increase students' confidence during the learning process. These findings support the work regarding the importance of an adaptive Islamic boarding school environment and further demonstrate that social support functions as a form of scaffolding that helps reduce students' cognitive load during writing activities (Muntakhib & Ta'rif, 2022).

The findings also indicate that the characteristics of the boarding school environment function as a mediating factor influencing the success of students' writing processes. A learning culture based on habituation, *talaqqi*, memorization, and intensive interaction between teachers and students created a learning ecology that supported the development of self-regulation and learning resilience. The inclusive environment enabled students to receive continuous feedback through teacher assistance and peer tutoring, thereby minimizing psycholinguistic obstacles encountered during writing activities. These results suggest that successful writing instruction is determined not only by individual cognitive capacity but also by the quality of pedagogical support and the social environment in which learning takes place. Accordingly, instructional approaches for children with special needs should be understood as systems that integrate cognitive, linguistic, pedagogical, and social dimensions simultaneously. This perspective broadens the understanding of writing instruction in inclusive education, particularly within Islamic boarding school contexts characterized by distinct cultural traditions and literacy practices that differ from those of formal schools.

From an academic perspective, this study contributes to the literature by integrating psycholinguistic perspectives with the relatively underexplored context of pesantren-based inclusive education. Unlike previous studies that focused primarily on written products or the effectiveness of instructional interventions, this study demonstrates that the principal difficulties experienced by children with special needs originate from cognitive processes

operating continuously from planning through revision. These findings confirm that analyzing the writing process provides more comprehensive information than evaluating written products alone. Therefore, writing instruction in inclusive Islamic boarding schools should prioritize strategies that reduce working-memory demands, strengthen linguistic scaffolding, provide learning media appropriate to students' characteristics, and optimize social support within the learning environment. This contribution enriches the field of applied psycholinguistics and provides a conceptual foundation for the development of more adaptive writing instruction models for children with special needs in pesantren-based inclusive educational settings.

CONCLUSION

This study demonstrates that the psycholinguistic dynamics involved in writing instruction for children with special needs (CSN) at Tri Bhakti Al-Qudwah Inclusive Islamic Boarding School occur through four interconnected stages: planning, linguistic formulation, transcription, and monitoring and revision. The major difficulties experienced by students include high working-memory demands, the complexity of Arabic Braille writing, and limitations in fine-motor coordination. Conversely, the inclusive boarding school environment—through peer tutoring, literacy habituation, individualized assistance, and flexible learning accommodations—plays a significant role in supporting writing fluency and enhancing students' confidence. These findings confirm that successful writing instruction for children with special needs is influenced by the interaction of cognitive, linguistic, motor, and environmental factors. From a theoretical perspective, this study enriches psycholinguistic scholarship by demonstrating that writing processes in pesantren-based inclusive education are multidimensional and cannot be understood solely from a linguistic perspective. From a practical perspective, the findings provide a reference for developing more adaptive writing instruction strategies tailored to the characteristics of learners with special needs. This study is limited to a single research site and primarily involved visually impaired students. Therefore, future research is recommended to include a wider range of special-needs categories, compare different inclusive educational contexts, and examine the effectiveness of adaptive instructional models and assistive technologies in improving students' writing abilities.

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