

Mapping Academic and Behavioural Difficulties among At-Risk Students in Indonesian Public Elementary Schools: A School-Based Approach within an RTI Framework

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ABSTRAK

Penelitian ini bertujuan untuk menggambarkan pola kesulitan belajar siswa at-risk di sekolah dasar negeri melalui integrasi perspektif orang tua dan siswa, dengan mempertimbangkan konteks lingkungan rumah dan pengalaman belajar siswa dalam kerangka Response to Intervention (RTI). Penelitian menggunakan pendekatan deskriptif eksploratif dengan metode survei melalui kuesioner orang tua ($n = 504$) dan siswa ($n = 507$) kelas 1–6 di satu sekolah dasar negeri di Jakarta Pusat. Hasil menunjukkan bahwa sebagian besar siswa tinggal dalam rumah dengan kepadatan tinggi, dengan 64,1% siswa kelas 1–3 dan 42,6% siswa kelas 4–6 tinggal bersama lima orang dalam satu rumah. Pengasuhan anak didominasi oleh ibu (61,9% pada kelas 1–3 dan 64,3% pada kelas 4–6). Pada kelas 1–3, mayoritas siswa menyatakan senang membaca (97,1%) dan berhitung (96,8%). Sebaliknya, pada kelas 4–6, permasalahan dominan adalah kesulitan fokus belajar (63,1%). Temuan ini menunjukkan pentingnya pemetaan awal siswa at-risk sebagai dasar penguatan pencegahan dan dukungan belajar berjenjang dalam kerangka RTI di sekolah dasar negeri.

Kata Kunci: Siswa at-risk; kesulitan fokus belajar; keterlibatan orang tua; lingkungan rumah; Response to Intervention

ABSTRACT

This study aimed to explore learning difficulties among *at-risk students* in a public primary school by integrating parent and student perspectives, within the framework of *Response to Intervention* (RTI). A descriptive exploratory design was employed using parent questionnaires ($n = 504$) and student questionnaires ($n = 507$) involving Grades 1–6 students in one public primary school in Central Jakarta. The results indicated that most students lived in crowded households, with 64.1% of Grades 1–3 students and 42.6% of Grades 4–6 students living with five family members in one house. Child caregiving was predominantly provided by mothers (61.9% in Grades 1–3 and 64.3% in Grades 4–6). Most Grades 1–3 students reported positive attitudes toward reading (97.1%) and mathematics (96.8%). In contrast, the dominant issue among Grades 4–6 students was difficulty maintaining learning focus (63.1%). These findings highlight the importance of early mapping of *at-risk students* to strengthen universal prevention and tiered learning support within the RTI framework in public primary schools.

Keywords: At-Risk Students; Learning Focus Difficulties; Parental Involvement; Home Environment; Response To Intervention

1. INTRODUCTION

Primary education is a strategically important stage in shaping children's academic, behavioral, and socio-emotional development. During this phase, children not only develop basic literacy and numeracy skills but also abilities in emotional regulation, attention, social skills, and attitudes toward the learning process. The quality of learning experiences in primary school has been proven to significantly contribute to children's academic success, school engagement, and adjustment in subsequent educational levels (Blair, 2016).

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As Indonesian citizens, every child has the equal right to receive education and adequate supporting facilities. However, in practice, not all children are in conditions that optimally support the learning process. Some children are in at-risk conditions, referring to a group of children who have the potential to experience academic, behavioral, and socio-emotional difficulties due to a combination of individual and environmental factors, even if they do not always have a special needs diagnosis. These at-risk conditions are not only found in remote areas but also in urban regions, including the capital city, and are often associated with socioeconomic constraints (McLoyd et al., 2016).

In Jakarta, students from economically disadvantaged families receive support through the Jakarta Smart Card (KJP) program as an effort to improve access to education. Although financial assistance plays an important role in reducing barriers to school access, various studies indicate that the challenges faced by at-risk students do not end with economic aspects alone. Children from low socioeconomic backgrounds remain at risk of experiencing learning difficulties, attention regulation issues, and behavioral and socio-emotional challenges that impact their school engagement (Hair et al., 2015).

Children's academic and behavioral development cannot be separated from the environmental context in which they grow and develop. The ecological development perspective emphasizes that a child's immediate environment, particularly the family, plays a crucial role in shaping learning readiness and self-regulation. Recent research shows that home environment conditions, such as family structure, daily routines, and parenting quality, are related to learning focus abilities, school engagement, and the behavior of primary school-aged children (Bronfenbrenner & Morris, 2006; Evans et al., 2016).

On the other hand, understanding children's challenges in school still often relies on adult perspectives, such as those of teachers and parents. However, the subjective experiences of children as the main agents in the learning process—including their perceptions of learning difficulties, feelings toward school activities, and emotional responses—are important sources of information for understanding the dynamics of learning difficulties more holistically. Research on student voice emphasizes that incorporating student perspectives provides a deeper understanding of children's learning engagement and emotional well-being in school (Cook-Sather, 2018).

In the context of addressing learning and behavioral difficulties in schools, the Response to Intervention (RTI) framework is widely used internationally as a systematic approach that emphasizes the importance of early identification, data-based student need mapping, and tiered intervention provision. RTI places understanding student context—including home environment factors and children's learning experiences—as the foundation for support planning, particularly at the early prevention level (Tier 1) (Fuchs et al., 2017; McIntosh & Goodman, 2016). Nevertheless, public primary schools generally lack comprehensive, data-based student need mapping that integrates home environment factors and students' subjective experiences. Issues faced by at-risk students often only receive attention when academic or behavioral difficulties have become more complex at higher grade levels. This condition highlights the need for early mapping efforts that can holistically describe student difficulty patterns across grade levels.

As an initial step to address this issue, this study uses questionnaires as the primary instrument to explore student challenges from two complementary perspectives: the parent perspective and the student perspective. The parent questionnaire is used to identify home environment factors that potentially influence children's learning experiences, while the student questionnaire is used to obtain direct insights into children's experiences regarding learning difficulties, attention focus, and their emotional responses to school learning activities. An exploratory descriptive approach is chosen to identify patterns of student difficulties and their accompanying contexts without aiming to test causal relationships.

Based on this background, this study aims to describe and explore the patterns of academic difficulties, learning attention, and emotional experiences of primary school students from grades 1 to 6, along with their accompanying home environment contexts, through parent and student questionnaire data in one public primary school. The findings of this study are expected to provide an empirical basis for preliminary mapping of at-risk students and support the development of more contextual prevention and early intervention strategies within the Response to Intervention (RTI) framework.

2. METHOD

This study employs an exploratory descriptive approach to describe and explore the patterns of learning difficulties, attention, and emotional experiences of elementary school students, as well as the accompanying home environment context. This approach was chosen as it is appropriate for research aiming to map the characteristics and patterns of educational phenomena within their natural context without directly testing causal relationships (Creswell, 2018).

Data collection was conducted using questionnaires as the primary instrument, involving two data sources: parents and students. The use of multi-informants is considered crucial in educational research because children's academic and behavioral problems are influenced by the interaction between individual factors and environmental context, thus requiring complementary perspectives (Bronfenbrenner & Morris, 2006; De Los Reyes, 2015).

The parent questionnaire was designed to explore contextual factors within the home environment that potentially influence children's learning experiences. The identified aspects include family structure and density, parenting patterns and the role of primary caregivers, as well as family socioeconomic characteristics, including parental education level and family status. The information obtained is used to understand the home environment context accompanying the emergence of students' learning and behavioral difficulties at school, in line with the ecological development perspective that emphasizes the role of the family environment in shaping children's self-regulation and attention (Evans et al., 2016).

The student questionnaire was designed to explore students' subjective experiences related to learning activities at school and activities at home that potentially affect academic, behavioral, and socio-emotional aspects. The identified aspects include students' perceptions of learning difficulties, level of interest in subjects, experiences of focus and attention during learning, and emotional responses that arise in learning situations. Furthermore, this questionnaire also explores students' experiences regarding parental guidance in learning, habits of device usage, daily routines, and social interactions that can influence learning engagement and student behavior. The inclusion of student perspectives (student voice) is considered important as it provides direct information about students' learning experiences and emotional well-being, which is not always captured through adult reports (Cook-Sather, 2018).

The research subjects consisted of parents and students from grades 1 to 6 at one public elementary school. A total of 504 parents participated in filling out the parent questionnaire. Additionally, 507 students participated in filling out the student questionnaire, comprising 312 lower-grade students (grades 1-3) and 195 upper-grade students (grades 4-6). This grouping by grade level was conducted to allow for the examination of patterns of learning difficulties and emotional experiences across developmental stages, in line with a developmental approach in educational research (Eccles & Roeser, 2011).

This research was conducted at SDN Kebon Kosong 17, Central Jakarta. This school was selected because the majority of its students come from low socioeconomic backgrounds, with over 90% of students recorded as recipients of the Jakarta Smart Card (KJP). This condition places the student population at this school in the at-risk student category, particularly in aspects of academic performance, learning attention, and socio-emotional development. The selection of this school context was based on the consideration that socioeconomic factors constitute a primary risk factor potentially influencing students' learning experiences and engagement at school.

This study focuses on one public elementary school because the Response to Intervention (RTI) framework is fundamentally designed as a school-based approach aimed at systematically mapping student needs within a specific educational system, rather than for making generalizations across schools or regions. RTI emphasizes the importance of preliminary mapping, early identification, and contextual support planning tailored to the school's characteristics and its student population (Fuchs et al., 2017; McIntosh & Goodman, 2016). Therefore, focusing on a single school allows for a deeper understanding of student difficulty patterns and their accompanying environmental contexts.

The data collection process was carried out in coordination with the school. The parent questionnaires were distributed through school-facilitated mechanisms, while the student questionnaires were completed within the school environment with teacher guidance to ensure students' understanding of the questions provided. All participation in this research was voluntary, and the collected data was kept confidential and used solely for research purposes.

Data were analyzed descriptively by calculating the frequency and percentage of responses for each questionnaire item. Descriptive analysis was chosen as it is appropriate for the purpose of preliminary mapping and identifying the characteristics of at-risk students within the school context (McIntosh & Goodman, 2016). Subsequently, comparisons were made across lower grades (grades 1-3) and upper grades (grades 4-6) to explore shifts in patterns of learning difficulties, emotional experiences, and home environment contexts as grade levels increase. The analysis results were interpreted contextually as a basis for preliminary mapping of student needs within the Response to Intervention (RTI) framework, particularly at the prevention and early identification stages.

3. RESULT AND DISCUSSION

Result

Theme 1. Home Density and Living Conditions

Table 1. Number of People Living in the Same House

Number of People in House	Grades 1-3 (%)	Grades 4-6 (%)
2 people	1.6	0.3
3 people	8.7	5.4
4 people	21.5	13.1
5 people	64.1	42.6
More than 5 people	4.2	38.5

Based on Table 1, the majority of students across both grade levels live in houses with a relatively high number of occupants. In the lower-grade group (grades 1-3), most students live with five people in one house (64.1%), followed by four people (21.5%). The proportion of students living with two or three people is relatively small, and 4.2% of students were reported to live with more than five people.

In the upper-grade group (grades 4-6), the pattern of household density also indicates a high occupancy rate. As many as 42.6% of students live with five people, while 38.5% live with more than five people in one house. The proportion of students living with four people is recorded at 13.1%, while students living with two or three people are relatively few.

Table 2. Homeownership Status of Student Families

Homeownership Status	Grades 1-3 (%)	Grades 4-6 (%)
Owned	9.0	8.7
Family-owned	35.3	19.2
Rented / Leased	51.6	31.1
Other	4.2	2.6

Based on Table 2, the majority of student families were reported not to occupy homes they own. In the grade 1-3 group, 51.6% of families live in rented or leased houses, while 35.3% live in family-owned houses. Only 9% of families own their own home, and 4.2% occupy residences with other statuses.

A relatively similar pattern is found in the grade 4-6 group. As many as 31.1% of student families live in rented or leased houses, followed by 19.2% living in family-owned houses. The proportion of families owning their own homes remains low (8.7%), and 2.6% occupy residences with other statuses.

Overall, the parent questionnaire results indicate that the majority of students, both in lower and upper grades, live in home conditions characterized by high occupant density and homeownership status dominated by rented or extended family-owned houses.

Theme 2. Caregiving Patterns and Parental Roles

Table 3. Primary Caregiver of the Child at Home (Total = 100% per Level)

Child's Caregiver	Grades 1-3 (%)	Grades 4-6 (%)
Father and mother	16.7	22.4
Father	1.9	0.5
Mother	61.9	64.3

Combination of parents and extended family*	7.6	4.3
Extended family (grandfather/grandmother/aunt/uncle)**	7.9	6.5
No fixed caregiver	2.6	1.0
Other	1.3	1.0

Based on Table 3, daily childcare in both grade levels is dominated by one primary caregiver figure: the mother. In the lower-grade group (grades 1-3), 61.9% of children are primarily cared for by the mother, while in the upper-grade group (grades 4-6) this proportion increases to 64.3%.

Co-caregiving by both parents together is reported for 16.7% of grade 1-3 students and 22.4% of grade 4-6 students. Meanwhile, caregiving exclusively by the father is reported in very small proportions in both grade level groups.

Additionally, some students are cared for through a combination of parents and extended family members, such as grandparents, aunts, or uncles. This pattern is reported for 7.6% of grade 1-3 students and 4.3% of grade 4-6 students. Caregiving provided entirely by extended family members is also found in both groups: 7.9% in grades 1-3 and 6.5% in grades 4-6.

A small number of students were reported to have no fixed caregiver in their daily lives, while the 'other' category appears in very low proportions in both grade levels.

Overall, the parent questionnaire results show that childcare patterns in both grade levels are dominated by the mother's role as the primary caregiver. Joint involvement of both parents is found more in upper grades compared to lower grades, while the involvement of the father as a sole caregiver is relatively rare in both groups.

Theme 3. Socioeconomic and Educational Background of Parents

Table 4. Family Income per Month

Family Income (IDR)	Grades 1-3 (%)	Grades 4-6 (%)
< 500,000	9.3	9.9
500,000 - 999,000	14.1	10.9
1,000,000 - 1,999,000	18.3	21.4
2,000,000 - 2,999,000	29.2	26.6
3,000,000 - 3,999,000	16.0	20.8
4,000,000 - 4,999,000	5.4	5.7
> 5,000,000	7.7	4.7

Based on Table 4, the majority of student families in both grade levels are in the lower-middle income bracket. In the lower-grade group (grades 1-3), the largest proportion of families is in the IDR 2,000,000-IDR 2,999,000 income range (29.2%), followed by IDR 1,000,000-IDR 1,999,000 (18.3%) and IDR 3,000,000-IDR 3,999,000 (16.0%). A small number of families reported incomes above IDR 5,000,000.

A relatively similar pattern is found in the upper-grade group (grades 4-6). The largest proportion of families is in the IDR 2,000,000-IDR 2,999,000 income range (26.6%), followed by IDR 3,000,000-IDR 3,999,000 (20.8%) and IDR 1,000,000-IDR 1,999,000 (21.4%). Families with incomes above IDR 5,000,000 were reported in a relatively small proportion.

Table 5. Working Family Member(s)

Working Family Member	Grades 1-3 (%)	Grades 4-6 (%)
Father	67.3	72.4
Father and mother	11.5	9.4
Mother	13.1	11.5
Father and grandfather	1.0	1.6
Grandfather	1.3	1.0
Grandmother	4.2	1.0
Other	1.6	3.1

Based on Table 5, the role of the main breadwinner in student families across both grade levels is dominated by the father. In the lower-grade group (grades 1-3), 67.3% of families reported that the father is the working family member, while in the upper-grade group (grades 4-6) this proportion increases to 72.4%.

Some families reported that both parents work: 11.5% in grades 1-3 and 9.4% in grades 4-6. Additionally, there are families reporting the mother as the main breadwinner or other family members such as grandfathers or grandmothers, albeit in relatively small proportions in both grade level groups.

Table 6. Father's Last Completed Education

Father's Last Education	Grades 1-3 (%)	Grades 4-6 (%)
No formal schooling	2.6	1.6
Elementary School (SD)	38.5	17.2
Junior High School (SMP)	16.3	18.8
Senior High School (SMA)	37.8	56.8
Diploma 1 (D1)	1.0	1.0
Diploma 3 (D3)	1.0	2.6
Bachelor's Degree (S1)	2.2	1.0
Other	0.6	1.0

Table 7. Mother's Last Completed Education

Mother's Last Education	Grades 1-3 (%)	Grades 4-6 (%)
No formal schooling	4.2	2.1
Elementary School (SD)	14.1	17.2
Junior High School (SMP)	23.1	22.9
Senior High School (SMA)	54.5	56.3
Diploma 1 (D1)	0.3	0.5
Diploma 3 (D3)	0.3	0.5
Bachelor's Degree (S1)	1.6	0.0
Other	1.0	0.5

Based on Tables 6 and 7, the majority of parents across both grade levels have an educational background up to the Senior High School (SMA) level. In the lower-grade group (grades 1-3), the father's last education is most commonly at the Elementary School (SD) (38.5%) and Senior High School (SMA) (37.8%) levels, while in the upper-grade group (grades 4-6) the proportion of fathers with SMA education increases to 56.8%.

A relatively similar pattern is found for the mother's last education. In both grade levels, more than half of the mothers have an SMA background, while the proportion of mothers with tertiary education is relatively small.

Overall, the parent questionnaire results indicate that the majority of student families are in a lower-middle socioeconomic condition, with the father as the main breadwinner and parental educational backgrounds generally at the SMA level or below. These characteristics provide a picture of the student family context that accompanies children's learning experiences at school.

Here are the results of the student questionnaires for grades 1-3.

Theme 1. Learning Support at Home

Table 8. Learning Companions for Students in Grades 1-3

Learning Companion	Percentage (%)
Mother	51.0
Father and Mother	22.8
Father	6.4
Grandmother	6.4
Aunt / Uncle / Grandfather	8.7
No companion	1.3
Other	3.4

Based on Table 8, learning support for students in grades 1-3 is dominated by the mother as the primary companion. Some students reported joint support by both father and mother, while support by the father alone is reported in a smaller proportion. Additionally, there is a small group of students who reported having no fixed learning companion at home.

Theme 2. Sleep Routine

Table 9. Bedtime for Students in Grades 1-3

Bedtime	Percentage (%)
8:00 PM	23.7
9:00 PM	39.1
10:00 PM	24.4
11:00 PM	6.1
12:00 AM	6.7

Table 9 shows that the majority of students in grades 1-3 go to sleep at 9:00 PM. However, the proportion of students who sleep at 10:00 PM or later is also quite large, indicating variation in sleep routines among early elementary school students.

Theme 3. Device Exposure

Table 10. Device Usage Activities for Students in Grades 1-3

Device Activity	Percentage (%)
Playing games	34.7
Watching videos (YouTube)	32.4
Social media (TikTok, Instagram)	27.5
No phone / Do not use a phone	5.2

Based on Table 10, the majority of students in grades 1-3 use devices in their daily lives, with main activities being playing games and watching videos. Social media usage is reported in a smaller proportion, while only a small number of students reported not having or not using a phone.

Theme 4. Interest and Difficulties in Reading and Arithmetic

Table 11. Reading and Arithmetic Interest for Students in Grades 1-3

Aspect	Yes (%)	No (%)
Enjoys reading	97.1	2.9
Enjoys arithmetic	96.8	3.2

Table 11 shows that the vast majority of students in grades 1-3 stated that they enjoy both reading and arithmetic. Conversely, a very small number of students reported not liking reading and arithmetic activities. It is important to note that despite high reported enjoyment, there are students who experience difficulties in reading and arithmetic, which requires attention.

Here are the results from the student questionnaires for grades 4-6.

Theme 1. Learning Support at Home

Table 12. Learning Companions for Students in Grades 4-6

Learning Companion	Percentage (%)
Mother	51.8
Father	9.7
Father and Mother	5.6
Grandmother	3.1
Grandfather	1.0
Aunt	4.1
Uncle	1.0
No companion	9.2
Other	9.7
Combination of other caregivers*	5.8

*Combination of other caregivers includes variations of support by the mother together with other family members (grandmother, uncle, aunt) or father together with other family members. Based on Table 12, learning support for students in grades 4-6 at home is still dominated by the mother as the primary companion, with over half of the students reporting support from their mother. Support

from the father is reported in a smaller proportion, while joint support from both father and mother is reported by only a small number of students.

Furthermore, there is a proportion of students who reported having no fixed learning companion at home. This pattern indicates an increase in learning independence among some students in grades 4–6, accompanied by a decrease in direct support from both parents together. Support from family members other than parents is also found, albeit in relatively limited proportions.

Theme 2. Playtime in Daily Life

Table 13. Playtime for Students in Grades 4–6

Playtime	Percentage (%)
Daytime	27.0
Afternoon	41.8
Nighttime	31.2

Based on Table 13, the most common time for students in grades 4–6 to play is in the afternoon (41.8%), followed by nighttime (31.2%). Meanwhile, 27% of students reported playing during the daytime. This finding shows that the majority of students in grades 4–6 engage in play activities from the afternoon to nighttime.

Theme 3. Device Usage in Daily Life

Table 14. Daily Device Usage Duration for Students in Grades 4–6

Device Usage Duration	Percentage (%)
≤ 30 minutes	14.4
≈ 1 hour	26.7
≈ 2 hours	28.2
≈ 3 hours	13.8
≈ 4 hours	9.7
> 4 hours	7.2

Based on Table 14, the majority of students in grades 4–6 use devices for 1–2 hours per day, with the largest proportion using them for around 2 hours (28.2%), followed by around 1 hour (26.7%). Additionally, there is a group of students who reported using devices for 3 hours or more, while another group of students use devices for shorter durations, specifically less than 30 minutes per day.

Table 15. Activities Performed Using Devices for Students in Grades 4–6

Device Activity	Percentage (%)
Playing games	32.5
Watching videos (YouTube)	25.5
Social media (TikTok, Instagram)	36.8
Watching other content	0.6
Other	4.6

Based on Table 15, the most common device usage activities among students in grades 4–6 are playing games (32.5%) and accessing social media, especially TikTok and Instagram. Watching videos on YouTube is also reported in a considerable proportion. Meanwhile, other activities such as watching non-mainstream content or using devices for other purposes are reported in relatively small proportions.

Theme 4. Academic Preferences and Learning Problems

Table 16. Subjects Liked by Students in Grades 4–6

Subject	Percentage (%)
Physical Education (PJOK)	23.1
Mathematics	15.4
Indonesian Language	13.4
Religion	11.7
Pancasila Education	10.6
Science and Social Studies (IPAS)	7.7
Arts	7.7

Other	10.3
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Based on Table 16, the subject most frequently liked by students in grades 4–6 is Physical Education (PJOK) (23.1%), followed by Mathematics (15.4%) and Indonesian Language (13.4%). Other subjects such as Religion and Pancasila Education are also reported as liked by some students. Meanwhile, IPAS and Arts are among the subjects relatively less chosen as favorites.

Table 17. Subjects Disliked by Students in Grades 4–6

Subject	Percentage (%)
Physical Education (PJOK)	32.3
Mathematics	17.5
Indonesian Language	11.3
Religion	9.3
Pancasila Education	8.9
Science and Social Studies (IPAS)	8.6
Arts	4.3
Other	7.8

Table 17 shows that Mathematics (32.3%) is the subject most frequently reported as disliked by students in grades 4–6, followed by IPAS (17.5%) and Indonesian Language (11.3%). Other subjects are reported in smaller proportions, including PJOK which is relatively rarely named as a disliked subject.

Table 18. Problems Perceived by Students in the Learning Process

Learning Problem	Percentage (%)
Difficulty focusing	63.1
Difficult and too much homework	14.4
Not understanding the teacher's explanation	9.2
Combination of focus and comprehension issues	3.1
Combination of comprehension and homework issues	1.0
Combination of focus and homework issues	1.0
Other	8.2

Based on Table 18, the problem most frequently perceived by students in grades 4–6 in the learning process is difficulty focusing, reported by over half of the students. Other notable problems include homework perceived as difficult and too much, as well as a lack of understanding of the teacher's explanation. A small number of students reported a combination of several of these problems, while the 'other' category appears in a lower proportion.

Discussion

The Home Environment and Caregiving Context as a Learning Backdrop

The parent questionnaire results show that the majority of students live in homes with relatively high occupant density and are predominantly in rented or extended family-owned houses. This aligns with recent research indicating that home environments with limited physical space tend to present more distractions and challenges in providing a structured learning space for school-aged children (Evans et al., 2019; Solari & Mare, 2017).

Furthermore, caregiving and learning support patterns at home are dominated by the mother's role, while the father's involvement is relatively limited. This finding is consistent with contemporary research showing that in families under economic pressure, children's academic involvement remains highly dependent on the mother, both in terms of time and emotional role (Boonk et al., 2018; Kim & Hill, 2015). In grades 4–6, the increased proportion of students without a fixed learning companion indicates a shift towards learning independence that is not always matched by adequate self-regulation readiness.

The Development of Early Learning Interest and Shifts in Academic Problems

In the lower grades (1–3), student questionnaire results show that the vast majority of students still have a relatively positive interest in reading and arithmetic activities. This finding suggests that in early grades, the foundation of learning engagement is still intact, and academic problems have not yet become a dominant issue. This aligns with research emphasizing that early learning interest is an important asset for long-term academic development (Lonigan et al., 2018; Morgan et al., 2016).

However, in the upper grades (4–6), learning problems shift significantly. The findings show that difficulty focusing becomes the dominant problem perceived by students, accompanied by a perception of increasingly heavy homework burdens and a lack of understanding of the teacher's explanations. This shift supports developmental research findings indicating that as academic demands increase, difficulties with attention regulation and executive functions tend to become more apparent, especially among students who have not previously received systematic reinforcement of learning regulation skills (McClelland et al., 2018; Fuhs et al., 2021).

Daily Routines, Playtime, and Device Exposure

Student questionnaire results for grades 4–6 indicate that play activities occur more often in the afternoon to nighttime, along with device usage of considerable duration dominated by games, social media, and video consumption. This finding is consistent with post-2015 global reports showing a significant increase in screen exposure among elementary school-aged children, particularly in urban areas (Twenge & Campbell, 2018; Domoff et al., 2020).

Recent research emphasizes that it is not just the duration of device use that affects child development, but also the timing of use and the accompanying caregiving context (Radesky et al., 2020). In the context of this study, device exposure and the predominance of afternoon-to-nighttime activities are understood as part of students' daily routines that potentially interact with attention regulation and learning readiness, without being interpreted as the sole cause of academic problems.

Integrating Findings within the Response to Intervention (RTI) Framework

Viewed through the Response to Intervention (RTI) framework, the findings of this study indicate a spectrum of learning support needs at different levels. In grades 1–3, the relatively positive interest in literacy and numeracy suggests that students' primary needs are at the universal level (Tier 1), focusing on strengthening regular teaching that is engaging, structured, and developmentally appropriate.

However, in grades 4–6, the dominance of focus-related learning problems indicates emerging risk signals at the universal level (Tier 1), with the potential need for additional support (Tier 2) for some students. The focus problems reported by the majority of grade 4–6 students can be understood as a sign that learning strategies and self-regulation support at the classroom and school level need to be strengthened before problems develop into more persistent learning difficulties.

This study does not aim to identify individual intensive intervention needs (Tier 3), as it does not include in-depth individual assessments or response-to-intervention monitoring. However, the findings of this study can serve as a preliminary basis for schools to conduct further screening and systematic mapping of student needs within the implementation of a context-based RTI model for public elementary schools.

Overall, the research results show that the learning problems of public elementary school students need to be understood as a developmental process influenced by the interaction between home environment context, patterns of learning support, daily routines, and increasing academic demands. Relatively positive learning interest in early grades does not automatically guarantee the continuity of learning regulation in upper grades, especially when environmental support and instructional structure do not develop in a balanced way.

This finding underscores the importance of an RTI approach that emphasizes mapping student needs early on, strengthening universal interventions responsive to student context, and providing targeted support for students showing risk signals in higher grade levels.

4. CONCLUSION

This study aims to describe the learning problems of public elementary school students by integrating parent and student questionnaire data, examining the home environment context, patterns of learning support, daily routines, and student learning experiences in both lower and upper grades. Based on the findings, it can be concluded that student learning problems are not static; rather, they develop along with grade level and increasing academic demands.

In grades 1–3, students generally still show a relatively positive interest in reading and arithmetic activities. This condition indicates that the foundation for early learning engagement remains

intact. However, the findings also reveal variations in daily routines, widespread device exposure, and a pattern of learning support heavily reliant on the mother as the primary companion. These factors constitute the general context that accompanies the student learning process and have the potential to influence the sustainability of learning regulation in subsequent grade levels.

In grades 4–6, learning problems shift more distinctly towards difficulties in focusing during learning, accompanied by a perception of increased homework burden and limited learning support at home. This shift indicates that although initial learning interest is relatively good, students face challenges in self-regulation and attention when academic demands become more complex. This finding confirms that learning problems in the upper grades cannot be separated from the context of the home environment, daily routines, and the learning support available to students.

When viewed within the Response to Intervention (RTI) framework, the results of this study indicate that most problems arising among students are at the level of universal needs (Tier 1), particularly related to strengthening instructional structure, learning regulation, and school-parent collaboration. Simultaneously, the dominance of focus-related learning problems among grade 4–6 students indicates the existence of a group of students potentially requiring targeted support (Tier 2), although this study does not aim to identify individual intensive intervention needs (Tier 3).

Based on these findings, this study suggests several practical implications. For public elementary schools, the results of this study can be used as a basis to strengthen universal prevention approaches through more structured instruction, reinforcement of attention regulation in the classroom, and the provision of learning strategies responsive to student context. Schools are also advised to develop mechanisms for periodic student need mapping as part of RTI implementation, so that risk signals can be identified earlier before developing into more complex problems.

For teachers, these findings emphasize the importance of attention to students' learning regulation and focus, especially in the upper grades, as well as the need for varied instructional strategies that can help students manage increasing academic demands. For parents, the results of this study underline the importance of consistent learning support and the management of children's daily routines, including playtime and device use, as part of supporting children's learning readiness.

Overall, this study provides a comprehensive picture of the characteristics of learning problems among public elementary school students and reaffirms the importance of a context-based approach in understanding and responding to student needs. It is hoped that these findings can serve as a preliminary basis for developing more systematic, contextual, and sustainable prevention and learning support strategies in the elementary school environment.

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