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LEARNING CONCENTRATION IN IPAS LEARNING: MAPPING AND DEEPENING IN GRADE IV ELEMENTARY SCHOOL STUDENTS

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Abstract: *This study aims to map the concentration levels of fourth-grade students who, based on the preliminary research, were indicated to experience difficulties in maintaining concentration, identify the factors associated with low concentration, and describe teachers' pedagogical responses during IPAS (Science and Social Studies) instruction. The study employed a two-stage descriptive design, consisting of quantitative mapping through a questionnaire administered to 28 fourth-grade students at SD Swasta Torsina II Singkawang, followed by qualitative exploration through interviews with six students categorized as having low concentration, the IPAS teacher, and the school principal. The results of the quantitative mapping showed an average score of 66.93%, which fell within the high category; however, the distribution still included six students in the low category. Among these students, concentration difficulties were associated with low interest and motivation, cognitive unpreparedness, fatigue, boredom, perceived lack of variety in teaching methods, and an uncomfortable classroom environment. The teacher's responses included varying instructional methods, incorporating ice-breaking activities, providing motivation and reinforcement, and checking students' readiness to learn. The findings indicate that aggregate scores alone are insufficient to represent the diversity of students' conditions. Concentration is more appropriately understood as a dynamic and contextual state of attention, while several questionnaire indicators serve as behavioral proxies that also overlap with students' comprehension and participation.*

Keywords: Learning Concentration; IPAS Learning; Students.

INTRODUCTION

Learning at the elementary school level requires students not only to be physically present but also to direct their attentional resources toward relevant information and activities. In the classroom context, attention is not an entirely stable state. Attention may shift between internal and external sources and between information that is relevant and irrelevant to the learning task. Therefore, the quality of learning cannot be assessed solely by whether students appear quiet or look at the teacher, but also by their ability to maintain attention toward the learning objectives. Keller et al. (2020) position attention as an important process that connects information with learning and emphasize that classroom activity design can help direct fluctuations in students' attention.

The need to sustain attention becomes particularly important in the learning of Natural and Social Sciences (IPAS). Under the Kurikulum Merdeka, IPAS integrates the study of natural and social phenomena, requiring students to observe, understand cause-and-effect relationships, process information, communicate ideas, and relate concepts to everyday life (Kemdikbud, 2022). These demands require sustained attention throughout a sequence of activities, particularly when new information needs to be connected with prior knowledge. Among school-aged children, sustained attention is also associated with academic performance in authentic school settings (Gallen et al., 2023). Thus, attentional disruptions may hinder the reception and processing of information, although their effects may vary across individual students.

In this study, learning concentration is treated as a pedagogical term referring to the ability to direct and maintain attention toward learning activities while reducing responses to irrelevant stimuli. This concept overlaps with selective and sustained attention but is not equated with motivation, engagement, or cognitive performance. Interest and motivation may provide the impetus for students to re-engage with an activity, whereas engagement represents broader participation in the learning process. Harackiewicz et al. (2016), for example, describe interest as a

motivational process that incorporates attention and affect and encourages continued engagement with a particular topic. Therefore, students may be motivated to learn while still experiencing attentional disruptions, or they may respond to instructions without demonstrating deep cognitive engagement.

To map this condition, the present study employs nine indicators encompassing attention to or reception of learning materials, responses to the materials, movement of body parts in accordance with teachers' instructions, the ability to apply and analyze knowledge, the ability to express ideas or opinions, prior knowledge readiness, interest in the subject, and the ability to participate in learning without becoming easily bored. These indicators are positioned as behavioral proxies of concentration within the learning context rather than as pure psychological measures of attention. This distinction is important because the abilities to analyze, apply knowledge, and express opinions are also influenced by comprehension, communication skills, and task demands. Accordingly, indicator scores should be interpreted as patterns of learning behavior associated with concentration rather than as a singular representation of attentional capacity.

Attentional difficulties are also not necessarily manifested uniformly across an entire class. Some students may follow the learning process effectively, whereas others may shift their attention away from the task more easily because the material is perceived as difficult, activities are monotonous, physical conditions deteriorate, or environmental distractions are present. One form of attentional shift is mind wandering, in which attention moves away from the ongoing activity toward thoughts unrelated to the task. Among children aged 6-11 years, Cherry et al. (2022) found that the frequency of mind wandering was associated with lower memory retention and also mediated the relationship between interest in a topic and memory outcomes. This finding reinforces the importance of following concentration mapping with an exploration of students' experiences, as class-level average scores cannot explain how attentional difficulties are experienced by particular individuals.

The initial conditions at SD Swasta Torsina II Singkawang indicate the presence of such difficulties. Based on the preliminary study, the IPAS teacher reported that, among 51 students, 28 were initially identified as experiencing low concentration. Classroom observations also indicated that students were easily distracted, talked with their seatmates while the teacher was explaining the material, and disturbed their peers, resulting in fragmented attention. These initial findings subsequently served as the basis for selecting the 28 students as research participants whose concentration was reassessed through a questionnaire during the study.

Previous studies in Indonesia have indicated that learning concentration is associated with internal and external conditions, classroom atmosphere, physical condition, teaching methods, and the use of strategies such as ice-breaking activities (Adila et al., 2022; Andriana et al., 2023; Hasanah et al., 2025). Arifin et al. (2025) also position concentration as an important component of fourth-grade IPAS learning. International literature further expands this understanding. Sustained attention is associated with academic skills among school-aged children (Gallen et al., 2023), while attentional shifts away from learning tasks may be associated with reduced information retention (Cherry et al., 2022). Nevertheless, these studies do not address the specific issue examined in the present study, namely how aggregate concentration scores among a group previously identified as having concentration difficulties may conceal individual students who continue to require further attention.

This gap provides the basis for the contribution of the present study. The contribution of this research does not lie merely in the use of questionnaires and interviews, as the combination of these techniques is not, in itself, a methodological novelty. Rather, the study examines whether the average profile of a group may differ from the experiences of students located at the lower end of the distribution. Questionnaire-based mapping is used to identify variations in students' conditions, followed by an in-depth exploration of the experiences of six students categorized as having low concentration. Information obtained from the IPAS teacher and the school principal is used to examine the pedagogical responses to these conditions. Thus, the study seeks to demonstrate heterogeneity that may remain concealed when interpretation is limited to a single class-level average score.

This perspective also positions concentration as a dynamic and contextual condition. A relatively high class average does not necessarily mean that all students maintain attention in the same manner or at the same level. Interest, perceptions of material difficulty, fatigue, boredom, activity design, and environmental distractions may interact simultaneously. Therefore, understanding concentration requires two levels of analysis: group-level distribution to identify general patterns and individual experiences to understand why some students continue to experience difficulties. This framework prevents motivation, engagement, cognitive performance, and concentration from being treated as identical constructs.

Based on the foregoing discussion, this study addresses three questions: how is the learning concentration of fourth-grade students at SD Swasta Torsina II Singkawang distributed; what factors accompany low learning concentration during IPAS instruction; and what efforts does the teacher undertake to respond to these conditions? The study aims to map the conditions of the 28 students who were initially identified through the preliminary study as experiencing concentration difficulties, explain the factors emerging among the six students categorized as having

low concentration, and describe the teacher's efforts based on information provided by the IPAS teacher and the school principal. The findings are expected to provide a more specific basis for teachers to adapt IPAS instruction to students' learning needs.

RESEARCH METHODS

This study employed a two-stage descriptive design combining quantitative mapping with qualitative exploration. The first stage used questionnaire scores to describe the distribution of learning concentration among 28 students. The second stage employed interviews to explore the factors experienced by students who fell into the low category and to examine the teacher's pedagogical responses to these conditions. This design was adopted to descriptively map the overall group condition while maintaining attention to variations in individual experiences that required further exploration.

The study was conducted at SD Swasta Torsina II Singkawang, located on Jalan Tirta Sari, Roban Subdistrict, Singkawang Tengah District, Singkawang City, West Kalimantan. The primary data collection was conducted on June 10–11, 2026. During the mapping stage, the questionnaire was administered to 28 fourth-grade students who, based on the preliminary study, had been identified as experiencing concentration difficulties. The mapping results were subsequently used to determine the participants for the in-depth exploration. Six students who fell into the low category were interviewed to explore the factors accompanying their concentration difficulties, while interviews with the IPAS teacher and the school principal were conducted to obtain information regarding the pedagogical responses implemented.

Data were collected through questionnaires and interviews. The learning concentration questionnaire employed a Guttman scale with yes-or-no response options and consisted of 20 statements, comprising 10 positive and 10 negative statements. The questionnaire was developed based on nine indicators used as behavioral proxies of concentration: attention to learning materials, responses to learning materials, accuracy of movements in accordance with the teacher's instructions, ability to apply knowledge, ability to analyze knowledge, ability to express ideas or opinions, knowledge readiness, interest in the subject, and ability to participate in learning without becoming bored. A "yes" response to a positive statement was assigned a score of 1 and a "no" response a score of 0, whereas the scoring for negative statements was reversed.

Before being administered, the questionnaire instrument underwent content validity, construct validity, and reliability testing. Content validity was assessed by two expert validators from the Elementary School Teacher Education Study Program (PGSD) at ISBI Singkawang, with assessment scores of 85% and 84%, resulting in an average score of 84.5%, which was categorized as highly valid according to the criteria established in the study. Reliability testing using the KR-20 formula yielded coefficients of 0.886 for Class IVA and 0.911 for Class IVB. All 20 items met the criteria established for the construct testing conducted in the study. These results provided the basis for using the questionnaire to map students' concentration conditions.

Questionnaire scores were converted into percentages using the formula $P_i = S_i / S_{\max} \times 100\%$ and interpreted into five categories: very high (>80%–100%), high (>60%–80%), moderate (>40%–60%), low (>20%–40%), and very low ($\leq 20\%$). The questionnaire results were used to map the distribution of concentration among the 28 students who had been identified during the preliminary study. Students who fell into the low category were subsequently selected as participants for the qualitative exploration.

The interview instruments were developed using different operational frameworks according to the respective data sources. Student interviews employed main questions and probing questions covering two domains: internal factors, including interest and motivation, cognitive readiness, physical condition, and emotional condition; and external factors, including teaching methods, learning facilities, classroom conditions, and family support. Interviews with the IPAS teacher focused on four forms of pedagogical responses identified in the study: the use of varied teaching methods, ice-breaking activities, motivation and reinforcement, and checking students' learning readiness. Interviews with the school principal employed the same framework to examine the consistency of information regarding the implementation of the teacher's efforts. This framework provided a clear direction for the interviews and enabled comparisons across data sources.

Data credibility was strengthened through technical triangulation and source triangulation. Technical triangulation was conducted by comparing the questionnaire mapping results with the interview findings, while source triangulation involved comparing information provided by the students, the IPAS teacher, and the school principal. These procedures were used to examine the consistency of the information and reduce the possibility that the conclusions would rely solely on a single perspective (Husnullail et al., 2024; Nurfajriani et al., 2024).

Questionnaire data were analyzed descriptively through the calculation of scores, percentages, categories, and indicator-level results. Interview data were analyzed using an interactive process consisting of data reduction, data display, and conclusion drawing and verification (Sugiyono, 2024). Student interview findings were organized into themes representing internal and external factors, while teacher and principal interview findings were organized

according to the identified forms of pedagogical responses. During the interpretation stage, the questionnaire mapping results were examined alongside the interview findings to explain variations in students' conditions without drawing causal conclusions regarding changes in concentration.

HASIL DAN PEMBAHASAN

Hasil

The findings showed that among the 28 fourth-grade students who had been identified during the preliminary study as experiencing concentration difficulties, the average questionnaire score during the study fell within the high category, with a percentage of 66.93%. The distribution consisted of 8 students in the very high category, 8 in the high category, 6 in the moderate category, 6 in the low category, and none in the very low category. These findings indicate that the aggregate profile of the group was relatively high; however, the distribution still revealed 6 students with low concentration who required further exploration.

The six students in the low category became the primary focus of the qualitative analysis. The average score of 66.93% was not treated as a representation of all students' experiences in a uniform manner. Instead, the variation across categories indicates that aggregate scores may conceal differences in individual students' needs. Therefore, the classroom-level mapping was followed by an exploration of students who continued to experience concentration difficulties, ensuring that the findings did not stop at a single average score.

At the indicator level, the highest percentage was found for the ability to respond to the learning materials, at 80.36%, which fell within the very high category. This was followed by the ability to apply knowledge at 76.79%; movement of body parts in accordance with the teacher's instructions and the ability to participate in learning without becoming easily bored, each at 75%; interest in the subject at 66.07%; knowledge readiness at 64.29%; the ability to analyze knowledge at 58.93%; attention to or reception of learning materials at 53.57%; and the ability to express ideas or opinions at 52.38%. This pattern indicates that responses to direct stimuli and actions following instructions were relatively stronger than aspects requiring more independent processing of ideas and expression of opinions.

The ability to express ideas or opinions yielded the lowest score, at 52.38%. Although this value fell within the moderate category, it should not be interpreted solely as an indication of low attention. The ability to express ideas also involves comprehension of the material, selection of responses, confidence in speaking, and communication skills. Therefore, this indicator is more appropriately treated as one behavioral manifestation associated with concentration. The finding highlights the need for learning environments that provide students with sufficient thinking time, opportunities to explain their reasoning, and support to express their opinions independently.

Tabel 1. Distribution of Students' Learning Concentration Categories

Category	Interval	Number of Students
Very High	$80\% < P \leq 100\%$	8
High	$60\% < P \leq 80\%$	8
Moderate	$40\% < P \leq 60\%$	6
Low	$20\% < P \leq 40\%$	6
Very Low	$P \leq 20\%$	0

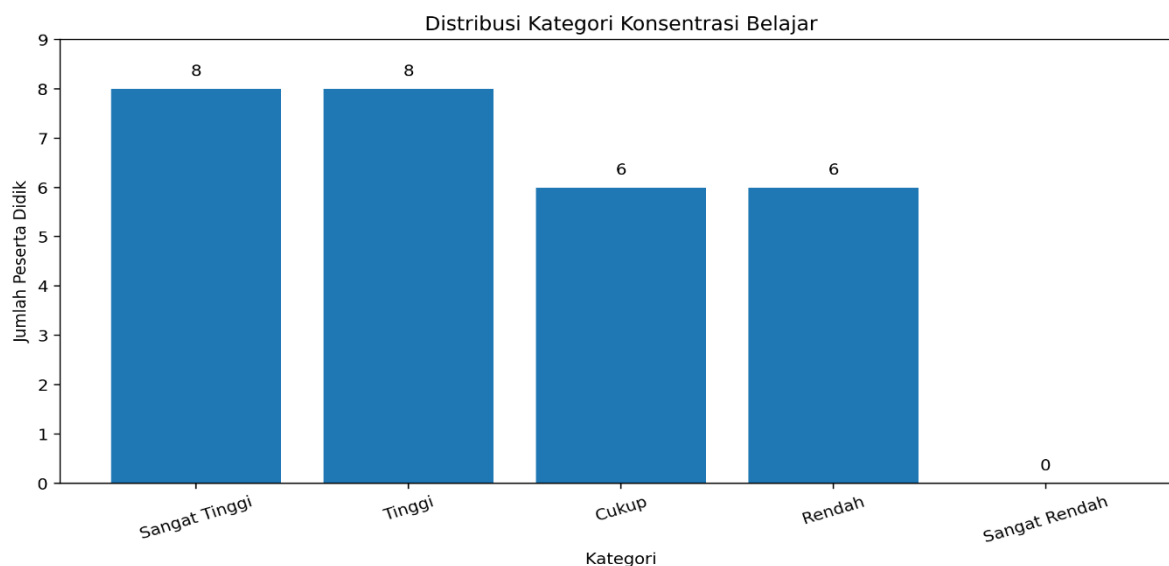
Based on Table 1, the overall learning concentration of the 28 students fell within the high category, with an average percentage of 66.93%. However, six students remained in the low category. These six students were subsequently selected as interview informants. This stage was important because the questionnaire indicated the students' category levels, whereas the interviews provided further insight into the experiences and conditions underlying their concentration difficulties..

Tabel 2. Students' Learning Concentration Questionnaire Results by Indicator

No.	Indicator	Obtained Score	Maximum Score	Percentage / Category
1	Attention to or reception of learning materials	30	56	53,57% / Moderate
2	Ability to respond to the learning	45	56	80,36% / Very High

No.	Indicator	Obtained Score	Maximum Score	Percentage / Category
	materials			
3	Movement of body parts in accordance with the teacher's instructions	42	56	75% / High
4	Ability to apply knowledge	43	56	76,79% / High
5	Ability to analyze knowledge	33	56	58,93% / Moderate
6	Ability to express ideas or opinions	44	84	52,38% / Moderate
7	Knowledge readiness when needed	36	56	64,29% / High
8	Interest in the subject	37	56	66,07% / High
9	Ability to participate in the learning process without becoming bored	63	84	75% / High

Table 2 shows variation across the indicators. The ability to respond to the learning materials was the strongest aspect, whereas attention to or reception of the learning materials, the ability to analyze knowledge, and the ability to express ideas or opinions fell within the moderate category. This pattern indicates that the behaviors used as proxies for concentration do not emerge uniformly. Students may be able to respond to stimuli or follow instructions, but this does not necessarily mean that they demonstrate the same level of ability to sustain attention, process information, and communicate ideas. Therefore, differences in scores across indicators should be interpreted cautiously, as some indicators also overlap with cognitive and communication abilities.



Gambar 1. Distribution of Learning Concentration Categories

The interviews with the six students showed that internal factors accompanying low concentration included low interest and motivation, cognitive unpreparedness, physical fatigue, and boredom. Several students stated that they were less interested in IPAS, felt reluctant when the material was perceived as extensive, or preferred other

subjects. Some informants also identified energy and its transformations, as well as force and energy, as topics that were more difficult to understand. This pattern indicates that sustaining attention may become more difficult when interest is low or when the material is perceived as requiring greater cognitive effort.

Physical and emotional factors also reinforced these conditions. Several students reported feeling sleepy, tired, or fatigued, while boredom emerged when learning activities were perceived as less engaging. Declining physical condition may reduce readiness to receive information, while boredom may divert attention away from the learning objectives. These findings are consistent with Adila et al. (2022) regarding the relationship between physical condition and concentration and with Andriana et al. (2023), who showed that concentration is influenced by a combination of internal and external factors.

The most consistently reported external factors were perceived lack of variety in teaching methods and an uncomfortable classroom environment. Several students stated that they became bored more easily when activities involved extensive textbook reading or when the pattern of instruction felt repetitive. A noisy classroom and classmates talking while the teacher was explaining the material also made it difficult for some students to hear and maintain focus. Learning facilities and family support did not emerge as dominant factors among the six informants. This finding indicates that the identification of contributing factors should be based on students' experiences within the classroom context rather than solely on lists of factors presented in theoretical frameworks.

Interviews with the IPAS teacher showed that the teacher's pedagogical responses involved four forms of effort: the use of varied teaching methods, ice-breaking activities, motivation and reinforcement, and checking students' learning readiness. The teacher stated that instructional methods were adapted to the material; explanations could be followed by question-and-answer sessions, group discussions, questions related to everyday life, or other activities. Pedagogically, this approach provides more opportunities for engagement than instruction that positions students primarily as listeners. The principal also confirmed that the teacher used explanations, question-and-answer sessions, discussions, group activities, and practical activities according to the learning material.

Ice-breaking activities were provided when the teacher observed signs of declining concentration, such as students beginning to talk, looking elsewhere, playing with their stationery, or appearing sleepy. The teacher and principal stated that following these brief activities, students generally became more enthusiastic again and their attention could be redirected toward the learning process. This finding is consistent with Hasanah et al. (2025), although its effectiveness should be understood situationally: ice-breaking activities function as a brief interruption to reduce monotony and restore attentional readiness when focus declines, rather than as a substitute for core instruction. Because this study did not employ a specific pretest-posttest measurement of ice-breaking activities, the finding is more appropriately understood as an indication of short-term benefits based on informants' observations, rather than evidence that ice-breaking activities alone produce sustained improvements in concentration.

The teacher also provided motivation and reinforcement, particularly when students began to lose enthusiasm, experienced difficulties, or demonstrated willingness to answer questions and express their opinions. Praise and encouragement provided students with the experience that their efforts were valued, giving them reasons to continue trying when the material was difficult or when their interest in IPAS was declining. In relation to concentration, this strategy operates through emotional and social engagement. This finding reinforces the view of Artha Margiathi et al. (2023) that concentration and learning engagement are interconnected.

Learning readiness was checked through attendance monitoring, checking books and stationery, observing students' physical condition, and maintaining orderly seating arrangements. This step indicates that the teacher did not only respond after students' focus had declined but also took preventive measures by preparing the initial conditions for learning. This is relevant to the interview findings concerning fatigue, sleepiness, and classroom noise. Classroom management was also part of the teacher's response because students reported that noise from classmates could interfere with their ability to receive the teacher's explanations.

Discussion

The first finding shows that aggregate scores do not eliminate the heterogeneity of students' conditions. The average score of 66.93% placed the group in the high category, but the distribution still included six students in the low category. Because the preliminary study and the main measurement were not designed as a controlled pretest-posttest study, the difference between the 28 students identified during the preliminary study and the six students categorized as having low concentration during the study cannot be interpreted as evidence of improvement or as a direct effect of the teacher's strategies. A more defensible interpretation is that a single average score may conceal the needs of students located at the lower end of the distribution. This is relevant to the findings of Gallen et al. (2023), which indicate that sustained attention is associated with children's academic skills in school settings, suggesting that variations in the ability to maintain attention should be examined at the individual rather than solely at the group level.

The pattern across indicators further strengthens this argument. The ability to respond to the learning materials obtained the highest score, at 80.36%, whereas the ability to express ideas or opinions (52.38%), attention to or reception of the learning materials (53.57%), and the ability to analyze knowledge (58.93%) fell within the moderate category. Responses to teachers' questions or instructions indicate readiness to respond to direct stimuli but are not identical to sustained attention, depth of understanding, or the ability to generate ideas. Therefore, the indicators of applying knowledge, analyzing knowledge, and expressing opinions should not be treated as pure measures of concentration. They are more appropriately understood as behavioral proxies formed through the interaction of attention with subject-matter knowledge, communication, and task demands.

The difference between the 75% score for the ability to participate in learning without becoming bored and the reports of boredom among the six informants does not constitute a contradiction. The questionnaire described the group as a whole, whereas the interviews deliberately focused on students in the low category. This difference in the level of analysis demonstrates why classroom conditions need to be examined at multiple levels. Cherry et al. (2022) showed that shifts of attention toward task-unrelated thoughts among children were associated with lower memory retention, while interest in a topic was also related to the frequency of mind wandering. Thus, boredom experienced by some students can be understood as a signal requiring further exploration rather than as a finding invalidated by the relatively high group-level score.

The second finding shows that concentration difficulties emerged through an interaction between individual and situational conditions. Among the six informants, low interest and motivation, perceived difficulty of the material, fatigue, sleepiness, and boredom appeared in different combinations. Interest and motivation are not concentration itself, but they may influence students' willingness to sustain effort and re-engage with learning activities. Harackiewicz et al. (2016) describe interest as a motivational process that incorporates attention and affect and encourages renewed engagement with an object or topic. Therefore, low interest in IPAS may increase vulnerability to attentional disruptions, particularly when the material is perceived as difficult or when the required cognitive effort feels greater.

External conditions revealed a similar pattern. Teaching methods perceived as monotonous and a noisy classroom may compete with learning objectives for students' attention. Keller et al. (2020) emphasize that attention in the classroom fluctuates and can be directed through the ways in which teachers organize learning activities. In this study, classmates' voices, repetitive activity patterns, and an emphasis on reading emerged as contextual conditions that made some students more likely to lose focus. This does not mean that any particular teaching method is inherently ineffective, but rather that the pace, relevance, and variety of activities need to be evaluated based on how those activities are actually experienced by students.

At this point, an important finding emerges: students perceived the learning process as insufficiently varied, whereas the teacher reported using explanations, question-and-answer sessions, discussions, group activities, and practical activities. This difference does not need to be resolved by determining which source is more correct. Analytically, the difference in perspectives indicates that the formal presence of varied teaching methods does not guarantee that such variation will be experienced by all students as sufficiently different, challenging, or relevant. Triangulation is therefore useful for revealing the gap between the strategies implemented by the teacher and the experiences received by students.

The third finding concerns pedagogical responses. The use of varied teaching methods, ice-breaking activities, motivation and reinforcement, and checks of learning readiness indicates that the teacher attempted to manage attention both preventively and responsively. The framework proposed by Keller et al. (2020) helps interpret these actions not merely as attempts to make students "quiet again," but as efforts to regulate conditions so that attention can be redirected toward learning objectives. The implication is that the success of a strategy should not be assessed solely based on temporary behavioral changes, but also on whether students resume processing the material, following relationships among concepts, and participating in core learning activities.

Ice-breaking activities should therefore be positioned proportionately. The teacher used them when signs of declining attention emerged, and the informants reported that students generally became more enthusiastic again after the brief activity. However, this study did not include a specific pre- and post-measurement of ice-breaking activities; therefore, it cannot establish a causal effect or the persistence of such an effect. Findings from the experiment by Schmidt et al. (2016) indicate that during classroom activity breaks, cognitive engagement may be more important for improving focused attention than physical activity alone. Meanwhile, a systematic review by Slattery et al. (2022) indicates that intervention evidence for improving sustained attention among children and adolescents remains inconsistent and requires greater methodological rigor. Therefore, ice-breaking activities are more appropriately treated as a situational strategy that should be followed by meaningful learning activities.

Motivation, reinforcement, and checks of learning readiness complement these strategies through different mechanisms. Motivation and reinforcement may support students' willingness to try and participate, whereas checking attendance, learning materials, seating arrangements, and physical condition may reduce barriers before

learning begins. This combination indicates that concentration management needs to occur throughout the learning cycle, beginning with initial readiness and environmental organization, continuing through the provision of accessible learning tasks, and extending to the redirection of attention when focus begins to decline.

The practical implication is that teachers need to combine simple mapping with contextual observation. Material perceived as difficult can be broken down into more manageable steps, accompanied by concrete examples and checks of understanding. Activities can be varied through open-ended questions, pair or small-group discussions, thinking time, and opportunities to explain reasoning. For students in the low category, follow-up should be more individualized because attentional difficulties may be associated with different combinations of factors for each student. The goal should not be merely to restore attention temporarily but to sustain engagement in the process of understanding the material.

Theoretically, this study reinforces the need to distinguish concentration from related constructs. Interest and motivation may support attention, engagement represents broader participation, while the abilities to analyze and express opinions also reflect cognitive and communication performance. Because the research instrument employed several overlapping indicators, the findings are more appropriately interpreted as a mapping of concentration-related behaviors within the learning context rather than as a psychological measurement of sustained-attention capacity. This interpretive boundary also constitutes a limitation of the study, in addition to its focus on a single school and grade level and its design, which does not permit causal inference.

The added value of this study lies in revealing heterogeneity concealed behind aggregate scores. The questionnaire provided a distributional map, while the interviews helped explain the conditions experienced by students in the low category and how the teacher responded to them. Future research could strengthen these findings through more specific measures of attention, repeated observations, samples across multiple schools, and longitudinal or experimental designs when the objective is to examine changes and the effectiveness of specific strategies.

CONCLUSION

The mapping of 28 fourth-grade students who had been identified during the preliminary study as experiencing concentration difficulties showed an average learning concentration score of 66.93%, which fell within the high category. The distribution consisted of 8 students in the very high category, 8 in the high category, 6 in the moderate category, and 6 in the low category. The highest indicator was the ability to respond to the learning materials, at 80.36%, whereas the lowest was the ability to express ideas or opinions, at 52.38%. These differences confirm that aggregate scores need to be interpreted alongside the distribution of categories and variations across indicators, and that some indicators function as behavioral proxies that are also influenced by comprehension, communication, and task demands.

Among the six students in the low category, the factors identified included low interest and motivation, cognitive unpreparedness, fatigue, boredom, teaching methods perceived as insufficiently varied, and an uncomfortable classroom environment. These factors did not operate independently but formed different individual and situational combinations. Therefore, concentration is more appropriately understood as a dynamic and contextual attentional condition rather than as a fixed characteristic that can be explained by a single factor.

The teacher's responses included the use of varied teaching methods, ice-breaking activities, motivation and reinforcement, and checks of learning readiness. These strategies can be understood as preventive and responsive efforts to redirect students' attention toward learning objectives; however, the data do not support causal conclusions regarding the effectiveness of each strategy or changes from the preliminary-study condition. Future research should employ more specific measures of attention, repeated observations, cross-school contexts, and longitudinal or experimental designs if the aim is to examine changes in concentration more rigorously.

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