



Adaptive Learning Models for Children with Attention Deficit Hyperactivity Disorder (ADHD): Building School-Parent Collaboration

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Keywords:	Abstract
Keyword 1; ADHD	<i>Children with Attention Deficit Hyperactivity Disorder (ADHD) face challenges in maintaining attention, controlling impulsivity, and managing behaviors that impact learning processes and social interactions in school. This study aims to analyze adaptive learning models for ADHD children and examine the importance of collaboration between schools and parents in supporting their academic and social-emotional development. The research uses a qualitative approach with a literature study design through the analysis of various books, journal articles, and relevant scientific literature. The data were analyzed using content analysis techniques to identify key themes and synthesize a comprehensive conceptual framework. The results of the study show that effective adaptive learning includes a clear instructional structure, differentiation of learning methods, positive behavior management, and flexibility in assignment and learning time. In addition, systematic collaboration between schools and parents is a key factor in maintaining the consistency of interventions and improving learning success. This research offers a conceptual synthesis in the form of a collaboration-based adaptive learning model as a holistic approach in inclusive education. The implications of the study emphasize the importance of synergy between teachers and parents in creating a sustainable support system for ADHD children.</i>
Keyword 2; Adaptive Learning	
Keyword 3; School-Parent Collaboration	

INTRODUCTION

School-age children are in a very rapid phase of cognitive (Cahyono et al., 2022), social, and emotional development so that they need the support of a conducive learning environment that is responsive to different individual characteristics (Latif, 2021). Each child has a unique learning style, ability to concentrate, and behavior control, which in certain conditions can affect their readiness and success in following the learning process in the classroom. In the context of inclusive education (Nisa et al., 2023), understanding the various variations of child development is important so that teachers are able to provide services that suit the needs of each student (Prahastiwi et al., 2025).

The diversity of student characteristics in one class is an unavoidable reality in educational practice (Rahadian et al., 2025). Teachers are not only faced with differences in academic ability, but also variations in aspects of behavioral development, emotions, and self-regulation that also affect the learning process (Haris et al., 2025). This condition requires an adaptive learning approach, an effective classroom management strategy, and a comprehensive understanding of specific needs so that every child has optimal and meaningful learning opportunities (Tantri et al., 2023).

Children with Attention Deficit Hyperactivity Disorder (ADHD) show a sedentary pattern in the form of difficulty concentrating, hyperactivity, and impulsivity that have a significant impact on academic and social functioning. ADHD is one of the most common neurodevelopmental disorders found in school-age children and often poses challenges in the learning process in the classroom. Children with ADHD tend to have difficulty following long instructions, maintaining concentration, managing tasks, and controlling behavior in social situations (Mirnawati, 2019).

In the context of inclusive education, schools are required to provide learning services that are adaptive and responsive to the individual needs of students. However, conventional teacher-centered learning practices and minimal variety of methods are often unable to accommodate the learning characteristics of ADHD children. Studies have shown that structured learning approaches, the use of positive reinforcement, modification of the classroom environment, and differentiation of instruction can improve the engagement and academic performance of ADHD children.

On the other hand, there are differences of opinion in the handling of ADHD. Some approaches emphasize medical intervention as the primary solution to improve focus and behavioral control, while other approaches emphasize that pedagogical strategies and behavioral interventions are more sustainable in supporting children's academic and social-emotional development. This debate suggests that the treatment of ADHD cannot be a one-size-fits-all approach, but rather requires a comprehensive approach.

In addition to learning factors in schools, parental involvement is also an important aspect in the success of interventions. Consistency of parenting, intensive communication between teachers and parents, and alignment of strategies at home and school have been proven to contribute to behavioral stability and improved children's learning achievement. Therefore, an adaptive learning model is needed that not only focuses on instructional strategies in the classroom, but also integrates systematic collaboration between schools and parents.

This study aims to analyze adaptive learning models for ADHD children and examine the importance of strengthening school and parent collaboration in supporting children's academic and social-emotional development.

METHOD

This research is a qualitative research with a library research approach. The design of this study aims to analyze in depth the concept of adaptive learning models for children with Attention Deficit Hyperactivity Disorder (ADHD) and examine the importance of collaboration between schools and parents based on relevant literature sources (Ribut et al., 2024).

Literature studies were chosen because this research does not directly intervene on human subjects, but rather examines, studies, and synthesizes various theories, research results, and concepts that have been published previously. This design allows researchers to build a comprehensive and systematic conceptual framework.

The research procedure is carried out through several stages (Haki et al., 2024):

1. **Identify Topics and Keywords**

The researcher determined keywords such as: ADHD, adaptive learning, inclusive education, classroom management, and school-parent collaboration.

2. **Literature Search**

Literature is obtained from scientific books, national and international journal articles, and relevant education policy documents.

3. **Selection and Inclusion Criteria**

The selected sources are literature that:

- Relevant to the topic of ADHD and adaptive learning
- Published in a reputable journal or academic publisher
- Have a theoretical or empirical contribution to the learning model or parental collaboration

4. **Data Analysis**

The analysis is carried out using content analysis techniques, namely identifying key themes, comparing findings, and synthesizing concepts to build an integrated conceptual model.

RESULTS

In the book entitled *ADHD (Attention Deficit Hyperactivity Disorder)* by Mirnawati and Amka, it is explained that ADHD is a neurobiological behavioral disorder characterized by inattentiveness (difficulty concentrating), hyperactivity, and impulsivity that appear inappropriate to the child's developmental stage and is chronic (Mirnawati, 2019). This condition has an impact on children's ability to regulate behavior, maintain attention to tasks, and interact socially, so it requires proper understanding and handling both in the school environment and the family.

Children with Attention Deficit Hyperactivity Disorder (ADHD) have the main characteristics of difficulty maintaining attention, impulsivity, and high activity levels that have an impact on the learning process in the classroom (Hamna & Ummah BK, 2022). Children often have difficulty following long instructions, completing tasks consistently, and controlling emotional responses in social interactions (Lazar, 2020). However, various literature

also confirms that ADHD children have the potential for creativity, energy, and good thinking skills if facilitated with an appropriate approach. This shows that the main challenge lies not in intellectual capacity, but in the regulation of attention and behavior that requires specific learning strategies.

A synthesis of various sources shows that adaptive learning models are a relevant approach in supporting the learning needs of ADHD children. Adaptive learning emphasizes clarity and structure of instruction, the use of varied and interactive methods, the application of positive behavior management through reinforcement systems, and flexibility in assignment and learning time (Lazar, 2020). Short, step-by-step instruction helps children understand tasks more effectively, while kinesthetic activities, visual media, and educational play can increase learning engagement. In addition, strategies such as breaking tasks into small parts and giving breaks in activities have been proven to help children maintain focus.

Furthermore, the literature confirms that the effectiveness of adaptive learning cannot be separated from the role of collaboration between schools and parents (Nadhiroh & Ahmadi, 2024). The consistency of strategy between the school environment and home is an important factor in maintaining the stability of children's behavior and academic development. Regular communication, equalization of behavior management approaches, and parental involvement in child development monitoring are part of an integrated support system that strengthens educational intervention outcomes (Nadhiroh & Ahmadi, 2024). Without structured collaboration, strategies implemented in schools tend to be unsustainable because they are not reinforced in the family environment.

Based on the interpretation of the results of this study, it can be concluded that an adaptive learning model that is integrated with school-parent collaboration is a more comprehensive approach in supporting the academic, social, and emotional development of ADHD children (Biantoro, 2024). This approach places children as the center of learning by considering individual needs while building synergy between the educational environment and the family as one continuous support system (Diajeng Tyas Pinru Phytanza et al., 2022)

DISCUSSIONS

The results of this study show that a structured and individual needs-based adaptive learning model is a relevant approach in supporting children with Attention Deficit Hyperactivity Disorder (ADHD). These findings are in line with previous studies that have confirmed that ADHD children need clear instruction, an organized learning environment, and reinforcement of positive behaviors to increase engagement and academic achievement. Thus, the working hypothesis of this study that adaptive learning combined with school-parent collaboration can improve the effectiveness of educational interventions gets conceptual support from the synthesis of the literature that has been analyzed.

When interpreted in the context of previous research, these findings reinforce the view that a single approach, whether focused on medical intervention or classroom strategies alone, is not enough to address the complexity of the needs of children with ADHD. A number of previous studies have placed more emphasis on behavior modification in the classroom or pharmacological support separately. However, this study shows that learning success is strongly influenced by the integration between adaptive instructional strategies and the consistency of support in the home environment. In other words, the effectiveness of interventions lies not only in learning techniques, but in holistic and sustainable support systems.



Figure 1: Diagram of "ADHD Child Education Approach" based on Mirnawati and Amka's thoughts in the book *ADHD (Attention Deficit Hyperactivity Disorder) Child Education*

The diagram contains three main components, namely important aspects (structured and consistent systems, simple rules, and positive reinforcement), educational strategies (regular schedules, clear consequences, and appropriate boundaries), and collaborative support (teacher-parent cooperation and ongoing mentoring). These three components are directed at the goal of improving children's focus, discipline, and social skills.

The implications of the findings depicted in the diagram show the need to strengthen inclusive education policies and practices that are oriented towards three main pillars, namely a structured and consistent system, clear learning strategies, and collaborative support between schools and families. Schools cannot work independently in dealing with children with ADHD, but it is necessary to build systematic partnerships with parents through regular communication, ongoing mentoring, and an understanding of rules, schedules, and forms of positive reinforcement applied to children. On a practical level, this can be realized through the preparation of an individual learning plan, the implementation of a regular schedule and clear consequences, as well as training for teachers and parents on consistent behavior management strategies. Theoretically, this model confirms the importance of an ecological approach to education that views children as part of an interconnected system between school, family, and social environment.

However, this study still has limitations because it is a literature study so that it has not empirically tested the effectiveness of the application of the components in the diagram. Therefore, further research needs to develop empirical research designs, such as quasi-experiments or classroom action research, to test the implementation of structured systems, targeted educational strategies, and collaborative support in the context of real learning. Further research can also explore the integration of educational technology as a supporting medium in creating regular schedules, digital positive reinforcement systems, and periodic monitoring of children's development.

Thus, the results of this study not only strengthen the conceptual framework regarding ADHD children's education, but also provide practical direction for the development of a structured, consistent, and collaborative learning model to optimally improve children's focus, discipline, and social skills.

CONCLUSION

This study confirms that an adaptive learning model that is integrated with school and parent collaboration is a significant approach in supporting the academic, social, and emotional development of children with Attention Deficit Hyperactivity Disorder (ADHD). The novelty of this research lies in a conceptual synthesis that not only focuses on instructional strategies in the classroom, but also places the school-parent partnership as an integral part of adaptive learning systems. In contrast to previous studies that tend to separate pedagogical interventions and family support, this study offers a holistic framework that integrates learning structure, positive behavior management, differentiation of instruction, and collaborative communication as a unified support system. The contribution of this research lies in strengthening the perspective of educational ecology that views the learning success of ADHD children as the result of synergy between the school environment and the family, thereby enriching the development of a more comprehensive inclusive education model.

However, this study has limitations because it uses a literature review approach so that it has not empirically tested the effectiveness of the model formulated in the context of real practice. The resulting synthesis is still conceptual and requires validation through field research with experimental design or classroom actions. In addition, the literature analyzed comes mostly from general education contexts and has not fully represented the diversity of different socio-cultural groups. Therefore, further research is expected to test the implementation of this model at various levels of education, integrate learning technology as an adaptive medium, and involve parental participation more systematically in learning planning and evaluation.

Implicitly, this research provides a direction for schools to develop learning policies that are more flexible and responsive to the individual needs of ADHD students, while encouraging the establishment of structured communication mechanisms between teachers and parents. Teachers need to be provided with training on adaptive learning strategies and positive behavior management, while parents need to be involved as active partners in supporting the consistency of approaches at home. Thus, the purpose of the research as formulated in the introduction, namely to formulate a collaborative adaptive learning model can be understood as an innovative step towards a more sustainable and meaningful inclusive education system.

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