

Development of Islamic Education Teaching Materials Based on Applied Behavior Analysis (ABA) and Positive Behavior of Disabled Students

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ABSTRACT

Islamic Religious Education (PAI) is intended to reach every student, including children with intellectual disabilities (tunagrahita). In practice, however, specialized PAI teaching materials for these children are virtually nonexistent. Teachers still rely on textbooks designed for typically developing students or create their own modules without using appropriate methods, directly contradicting National Education Law No. 20 of 2003, Article 5 Paragraph 2, which mandates special education for citizens with physical, emotional, mental, intellectual, or social disabilities. Previous studies on PAI for children with special needs have only described conventional planning and evaluation without developing tailored approaches. This study aims to develop ABA-based PAI teaching materials for children with intellectual disabilities. It employs a literature review method by systematically collecting, reading, recording, and analyzing journals, books, and documents on teaching materials and Applied Behavior Analysis (ABA). The findings demonstrate that ABA-based PAI materials are critically needed. ABA, originally developed for autism, has proven highly effective for other disorders such as ADHD and Asperger's syndrome, as well as for typically developing children. For tunagrahita students facing significant intellectual and adaptive limitations, this approach systematically shapes specific behaviors into socially acceptable ones and optimally supports PAI competency mastery. In conclusion, ABA-based PAI teaching materials represent a vital innovation that fulfills the national legal mandate for meaningful and inclusive Islamic Religious Education.

Keywords: Teaching Materials, ABA, Mentally Retarded Children.

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INTRODUCTION

Children with special needs are part of society that must be liberated and empowered both from their physical and mental limitations. This effort is carried out by providing equal rights in the field of education in a continuous, integrated and responsible manner so that they are no longer considered as second-class citizens who are only underestimated by some people. People with disabilities, they have physical limitations, so they will have little difficulty adjusting. These barriers are exacerbated by environmental situations and public facilities that are not conducive to growth, participation and activity in life.¹

Based on the National Education System Law No. 20 of 2003 in article 5 paragraph 2 states that "every citizen with physical, mental, social, intellectual and/or social disorders has the right to receive special education. In other words, human development is normal or normal and there are those whose development is disturbed (abnormal) which will affect mental and physical development. So in the matter of education, there is no difference between children with normal physical and spiritual development, and children who have physical disabilities or mental weakness who are often referred to as children with special needs."²

One type of child with special needs includes the tuna grahita, tunagrahita is a term used to refer to children who have below-average intellectual abilities. In foreign language literature, the terms mental retardation, mentally retarded, mental deficiency, mental defective, and others are used. The term actually has the same meaning that describes the condition of children whose intelligence is far below average and characterized by limited intelligence and incompetence in social interaction.³

From the description mentioned above, it can be understood that according to state regulations, children with disabilities include children with special needs who are entitled to receive special education in the sense of education that is indeed dedicated to children who are specialized (different from the general public). However, the facts in the field of special education are not optimal for them, this is in accordance with several studies whose results have not used or found special methods for children with special needs and the results of an interview with one of the informants who is a teacher from SLB in the city of Cirebon also said;

"I have never taught children to read the Qur'an because it is difficult, only teaching PAI is using public books (normal children)"⁴

From the facts that occur in the field, namely the difficulties for teachers in teaching Islamic religious education for children with special needs, a teacher should understand *Applied behavior analysis (ABA)*.

In addition to the above, the results of several studies on Islamic religious education for children with special needs have not found new things in the learning process. As research from

¹ M. Maftuhin & A. Jauhar Fuad, *Learning Islamic Religious Education in Children with Special Needs*, Journal An-nafs: Vol. 3 No. 1 June 2018

² Farida Isroani, *Islamic Religious Education Learning for Children with Special Needs in Inclusive Schools*, QUALITY Journal Volume 7, Number 1, 2019: 50-65,

³ Hikmah Risqi Awaliyah, *DESCRIPTIVE STUDY OF SOCIAL INTERACTION SKILLS OF CHILDREN WITH MILD DISABILITIES*, <https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-khusus/article/view/17924>

⁴ Interview with Qolila, October 9, 2023

Farida states that to achieve learning outcomes as expected, educators need to plan and implement the best learning strategies. The success of learning and teaching depends on the factors that support efficient and effective learning. In schools, especially the field of curriculum or learning is divided into three stages, namely learning plans, activities or implementation of learning and assessment of learning outcomes. Islamic Religious Education (PAI) is expected to provide meaningful learning experiences for all students, including children with special needs, particularly those with intellectual disabilities (tunagrahita). However, the provision of quality education for these children remains suboptimal.

According to National Education System Law No. 20 of 2003, Article 5 Paragraph 2, every citizen with physical, emotional, mental, intellectual, and/or social disabilities has the right to receive special education. Despite this legal mandate, field observations and interviews with teachers at Special Schools (SLB) in Cirebon reveal that teachers still use general PAI textbooks designed for typically developing students or self-made modules that do not incorporate specialized teaching methods suitable for children with intellectual disabilities.

Previous studies on Islamic Religious Education for children with special needs have primarily focused on describing teachers' practices. For instance, Farida's research examined PAI learning in inclusive settings and found four main results: (1) planning of PAI learning for ABK, (2) implementation using various strategies, (3) evaluation of learning outcomes, and (4) obstacles faced by teachers in all three stages. The study concluded that teachers basically applied the same steps as those used for normal students. Similarly, research at SMPLB Bintara Campur Darat showed that PAI teachers set learning objectives across cognitive, affective, and psychomotor domains and employed conventional methods such as lectures, discussions, and practice. Although the studies acknowledged differences in students' physical and psychological conditions, the teaching materials and methods remained largely identical to those used with typically developing students.

These earlier studies share similarities with the present research in that they address the implementation of PAI for children with special needs and recognize the need for more effective learning strategies. However, they differ significantly in scope and contribution. Previous works were purely descriptive—photographing existing teacher efforts in planning, implementation, and evaluation—without developing or proposing any specialized teaching materials or evidence-based methods tailored to the unique cognitive and adaptive limitations of tunagrahita students.

This study fills that critical gap. It develops Islamic Religious Education teaching materials based on Applied Behavior Analysis (ABA) specifically for children with intellectual disabilities. The novelty lies in its systematic integration of ABA principles—an empirically validated behavior-management approach proven effective for autism, ADHD, Asperger's syndrome, and typically developing children—into the creation of structured, interactive, and needs-appropriate PAI teaching materials. To the best of the researchers' knowledge, no previous study in Indonesia has specifically designed ABA-based PAI modules for tunagrahita students. This research therefore offers a new, practical, and evidence-based solution that goes beyond description to actual material development, directly supporting the legal mandate for truly inclusive special education.

This research only photographs and emphasizes how a teacher's efforts in carrying out learning by planning and evaluation. Steps like this are also carried out by teachers and normal students. Another study on the same problem stated the learning plan of Islamic Religious Education teachers at SMPLB Bintara Campur darat by setting the goals to be achieved. Planning is a reference in carrying out learning in order to achieve learning goals. Teachers in planning need to pay attention to the characteristics of students, so that the selection of the right learning method is effective and efficient. The goals to be achieved in SLB include three domains, namely cognitive, affective, and psychomotor domains. In achieving the learning goals, various learning methods are used. In teaching, teachers use lecture, discussion and practice methods, sometimes teachers use the same method in the class they are facing. In its application, there are differences in the learning strategies applied by PAI teachers to students from one to another. This refers to the physical and psychological condition of the students, hence the tendency to learn is individual

METHODS

This research is a research using a literature study method. *A literature review* is a comprehensive overview of the research that has been done on a specific topic to show the reader what is already known about the topic and what is not known, to find the rationale for the research that has already been done or for the idea of further research.⁵ Literature studies can be obtained from various sources, including journals, books, documentation, the internet and literature. The literature study method is a series of activities related to the method of collecting library data, reading and recording, and managing writing materials.⁶ In this case, the researcher collected sources in the form of journal and books related to the development of teaching materials for children with special needs and also books related to *the applied behaviour analysis* method to be reduced and analyzed as the focus of this research was.

RESULTS AND DISCUSSION

Development of Teaching Materials

Teaching materials are one of the learning materials or substances that are systematically arranged, and display in their entirety the competencies that students will master in learning activities.⁷

According to Abdul Majid, teaching materials are all forms of materials, information, tools and texts that are used to assist teachers/instructors in carrying out teaching and learning activities. The material in question can be in the form of written or unwritten material. Teaching materials

⁵ https://elibrary.unikom.ac.id/id/eprint/1558/8/11.%20UNIKOM_41815217_Dezara%20Judithia%20Handriani_BA_B%20III.pdf

⁶ Zed, Mestika, *Literature Research Method*, (Jakarta: Yayasan Obor Indonesia, 2008)

⁷ Rahmat Arofah Hari Cahyadi, "Development of Addie Model-Based Teaching Materials," *Halaqa: Islamic Education Journal* 3, no. 1 (2019): 35–42, <https://doi.org/10.21070/halaqa.v3i1.2124>; Ina Magdalena et al., "Analysis of Teaching Materials in Learning and Teaching Activities at Sdn Karawaci 20," *EDITION : Journal of Education and Science* 3, no. 3 (2021): 434–59, <https://ejournal.stitpn.ac.id/index.php/edisi>.

or curriculum materials (*curriculum material*) are the content or content of the curriculum that must be understood by students in an effort to achieve curriculum goals.⁸

According to Tocharman, in high school coaching training by the Ministry of National Education, the types of teaching materials include: *handouts*, modules, photos/pictures, textbooks, LKS. Modules in Andi Prastowo's book as quoted by the book General Guidelines for the Development of Teaching Materials published by Diknas, module is defined: A book written with the aim that students can learn independently with or without the guidance of teachers. While in another view, modules are interpreted as a set of teaching materials that are presented systematically, so that their use can be learned with or without a facilitator or teacher.⁹

The development of teaching materials constitutes the foundational element of this study because effective learning cannot occur without systematically organized content that matches the unique cognitive and adaptive characteristics of children with intellectual disabilities (tunagrahita). Teaching materials are defined as all forms of systematically arranged substances, tools, and media that enable students to achieve specific competencies. This section is deliberately included to establish a clear conceptual basis for why generic PAI textbooks are inadequate for tunagrahita students and why specialized materials must be created. Previous studies, such as those by Hernawan et al. (2012) and Prastowo (2019), have extensively described the general nature of teaching materials (handouts, modules, textbooks, and interactive media) but have not addressed their application to children with special needs in the context of Islamic Religious Education. By contrast, this research extends those definitions by arguing that teaching materials for tunagrahita must be tailored through ABA principles, thereby filling the gap left by earlier descriptive works.

The functions of teaching materials are examined next because they directly influence both teacher efficiency and student autonomy—two critical factors that are often overlooked in special education settings. For teachers, well-designed materials reduce preparation time, shift their role from lecturer to facilitator, and provide built-in evaluation tools. For students, these materials enable independent learning regardless of time or place and foster self-directed mastery of PAI competencies. This discussion is necessary to justify why ABA-based materials can transform passive learning into active, reinforced acquisition of Islamic values. Earlier research on PAI for ABK (Farida's inclusive-setting study and the SMPLB Bintara Campur Darat research) acknowledged the importance of planning and evaluation but treated teaching materials as secondary and interchangeable with those used for typical students. The present study differs by demonstrating that ABA-infused materials actively serve these functions through immediate reinforcement and individualized progression, offering a practical solution absent in prior literature.

Principles of teaching-material selection and development are addressed because arbitrary choices lead to ineffective learning, especially for learners with intellectual limitations. Selection must align content with objectives, student needs, factual accuracy, contextual relevance,

⁸ Muhammad Syaifullah and Nailul Izzah, "Theoretical Study of the Development of Arabic Language Teaching Materials," *Arabiyatuna : Arabic Journal* 3, no. 1 (2019): 127, <https://doi.org/10.29240/jba.v3i1.764>.

⁹ Andi Prastowo, "Creative Guides Make Innovative Teaching Materials Create Interesting and Fun Learning Methods," 2019.

practicality, and learning styles, while development must be gradual, comprehensive, systematic, flexible, scientifically valid, learner-oriented, and sustainable. These principles are explained here to provide a rigorous framework for creating ABA-based PAI modules. Previous works by Prastowo (2019) and Cahyadi (2019) outlined similar principles in general education contexts, yet they did not link them to behavior-analytic methods or special-needs populations. This research integrates those principles with ABA, arguing that only when materials are developed under these combined criteria can they produce measurable behavioral change in tunagrahita students—an advancement over the conventional approaches documented in earlier PAI-ABK studies.

Interactive teaching materials are highlighted because multimedia elements engage multiple senses and increase motivation, retention, and active participation—outcomes particularly vital for children with intellectual disabilities. Interactive modules combine text, graphics, audio, video, and animation to create self-paced, two-way learning experiences. Their inclusion in this study is justified by the need to move beyond static textbooks that have proven ineffective for tunagrahita learners. Studies such as Latifah and Utami (2019) and Prihantana et al. (2014) demonstrated the benefits of interactive materials in general classrooms, but none applied them to PAI or combined them with ABA reinforcement schedules. This research therefore positions ABA-based interactive PAI materials as a novel synthesis that addresses the shortcomings identified in prior descriptive research on special education.

Applied Behavior Analysis (ABA) forms the methodological core of the proposed teaching materials because it is an empirically validated science that systematically changes specific behaviors into socially acceptable ones through positive reinforcement and data-driven techniques. ABA is explained in detail here—its historical roots in Skinner’s operant conditioning, its intensive use by Lovaas for autism, and its proven efficacy for ADHD, Asperger’s syndrome, and typically developing children—to show why it is the most suitable framework for tunagrahita students in PAI. Grey (2005) and Soeriawinata (2016) previously documented ABA’s success in improving communication and social skills, yet their studies focused on general therapy rather than curriculum-specific material development. In contrast, this research applies ABA directly to PAI content, demonstrating a clear novelty: no earlier Indonesian study has designed ABA-based religious education modules for intellectual disabilities, thereby moving beyond the purely descriptive findings of Farida and the SMPLB research.

Finally, the concepts of positive behavior, self-control, and self-direction are integrated because ABA’s ultimate goal is not only skill acquisition but the cultivation of internal regulatory abilities that enable independent moral and spiritual growth. Positive behavior indicators (independence, discipline, confidence, openness, creativity, responsibility) along with self-control (inhibition and initiation) and self-direction (proactive planning and evaluation) are discussed to illustrate how ABA reinforcement builds these traits within PAI lessons. Earlier psychological studies (Ghufron & Risnawati, 2012; Dwi Marsela & Supriatna, 2019; Agustin et al., 2018) explored these constructs in general populations, but none examined their development through ABA-enhanced religious education for tunagrahita students. This study therefore bridges that gap by showing that ABA-based PAI materials can simultaneously strengthen Islamic competencies

and foster lifelong self-regulation—an outcome neither previous PAI-ABK research nor standalone ABA literature has explicitly addressed.¹⁰

1. The Function of Teaching Materials

The development of teaching materials forms the cornerstone of this study because without systematically designed content that aligns with the cognitive and adaptive limitations of children with intellectual disabilities (tunagrahita), any attempt at meaningful Islamic Religious Education remains ineffective. Teaching materials are understood as all forms of organized substances, tools, and media that help students master specific competencies. This section is presented to establish why conventional PAI textbooks fail tunagrahita learners and why new, specialized materials are essential. Earlier studies by Hernawan et al. (2012) and Prastowo (2019) provided general definitions and classifications of teaching materials (handouts, modules, textbooks, and multimedia) but confined their discussion to mainstream education without addressing the unique needs of children with special needs in religious instruction. The present research advances beyond those descriptive accounts by arguing that teaching materials for tunagrahita must be deliberately constructed through the lens of Applied Behavior Analysis, thereby addressing a clear gap that previous PAI-ABK literature left unexplored.

The functions of teaching materials are examined immediately afterward because they reveal the practical impact these resources have on both teachers and learners—two dimensions that are frequently overlooked in special education contexts. For teachers, effective materials save preparation time, reposition them as facilitators rather than sole knowledge transmitters, enhance interactivity, and serve as built-in assessment tools. For students, the same materials promote independent learning, flexibility in timing and location, autonomy, and clearer direction toward competency mastery. This discussion is crucial to demonstrate how ABA-based materials can convert passive religious instruction into an active, reinforced process. Previous PAI studies for children with special needs (Farida's inclusive-setting research and the SMPLB Bintara Campur Darat investigation) acknowledged the importance of planning and evaluation yet treated teaching materials as interchangeable with those used for typical students. In contrast, this study shows that only when materials incorporate ABA reinforcement do they fully realize these functions, offering a concrete solution absent in the descriptive findings of earlier works.

Principles of teaching-material selection and development receive focused attention because arbitrary or generic choices inevitably produce ineffective learning outcomes, particularly for learners with significant intellectual limitations. Selection criteria require alignment with learning objectives, student needs, factual accuracy, contextual relevance, practicality, and compatibility with learning styles, while development must be gradual, comprehensive, systematic, flexible, scientifically valid, learner-oriented, and sustainable. These principles are elaborated here to provide a rigorous blueprint for creating ABA-infused PAI modules. General education literature such as Prastowo (2019) and Cahyadi (2019) outlined similar principles, yet neither connected them to behavior-analytic techniques nor applied them to religious education for

¹⁰ Prastowo; Muhammad Zain, "Development of Learning Strategies and Selection of Teaching Materials," *Educational Inspiration* 6, no. 1 (2017): 172, <https://doi.org/10.24252/ip.v6i1.4925>.

tunagrahita students. This research integrates those foundational principles with ABA, proving that only through this combined framework can materials generate measurable behavioral and spiritual progress—an advancement that earlier descriptive PAI-ABK studies never attempted.

Interactive teaching materials are discussed because multimedia integration directly addresses the sensory and motivational deficits commonly experienced by children with intellectual disabilities. These materials combine text, graphics, audio, video, and animation into self-paced, two-way learning experiences that engage multiple senses simultaneously. Their inclusion is justified by the urgent need to move beyond static textbooks that have consistently failed tunagrahita learners. Studies by Latifah and Utami (2019) and Prihantana et al. (2014) demonstrated the benefits of interactive media in general classrooms, but none extended this approach to Islamic Religious Education or paired it with systematic reinforcement schedules. The present study therefore positions ABA-based interactive PAI materials as a novel synthesis that resolves the shortcomings repeatedly identified in prior research on special education.

Applied Behavior Analysis (ABA) constitutes the methodological heart of the proposed materials because it is the only empirically validated science capable of systematically transforming specific behaviors into socially acceptable ones through positive reinforcement and data-driven procedures. This section details ABA's origins in Skinner's operant conditioning, Lovaas's intensive application for autism, and its documented efficacy across ADHD, Asperger's syndrome, and typically developing children. The explanation is necessary to establish why ABA is the most suitable foundation for tunagrahita students in PAI. Earlier works by Grey (2005) and Soeriawinata (2016) confirmed ABA's success in improving communication and social skills, yet they remained focused on therapeutic rather than curricular applications. This research breaks new ground by embedding ABA directly into PAI content creation, an integration no previous Indonesian study has undertaken and one that clearly surpasses the purely descriptive scope of Farida's and SMPLB's findings.

Finally, the concepts of positive behavior, self-control, and self-direction are woven into the discussion because ABA's ultimate purpose extends far beyond skill acquisition to the cultivation of internal regulatory capacities that support lifelong moral and spiritual independence. Positive behavior indicators—*independence, discipline, confidence, openness, creativity, and responsibility*—along with self-control (inhibition and initiation) and self-direction (proactive planning and evaluation) are analyzed to show how ABA reinforcement within PAI lessons simultaneously builds Islamic competencies and personal autonomy. Psychological literature such as Ghufroon and Risnawati (2012), Dwi Marsela and Supriatna (2019), and Agustin et al. (2018) explored these constructs in general populations, but none investigated their development through ABA-enhanced religious education for children with intellectual disabilities. This study bridges that exact gap, demonstrating that ABA-based PAI materials can deliver dual outcomes—religious mastery and self-regulation—that neither standalone ABA research nor previous PAI-ABK studies have explicitly addressed.¹¹

¹¹ Prastowo, "Creative Guides Create Innovative Teaching Materials Create Interesting and Fun Learning Methods"; Asep Herry Hernawan, Hj Permasih, and Laksmi Dewi, "Development of Teaching Materials," *Directorate of UPI, Bandung* 4, no. 11 (2012): 1–13.

2. Principles of Teaching Material Selection

The principle that teaching materials must align with learning objectives and be in accordance with students' needs is examined because any misalignment would render PAI instruction ineffective for tunagrahita children, whose cognitive and adaptive limitations demand precise, measurable targets and highly individualized content rather than generic textbooks. This dual emphasis establishes a foundational filter that ensures ABA-based modules directly support both curriculum goals and the unique profiles of learners with intellectual disabilities. Previous studies by Prastowo (2019), Hernawan et al. (2012), and Cahyadi (2019) stressed these principles in mainstream education, yet they remained theoretical and never extended the discussion to special-needs populations or Islamic Religious Education. In contrast, this research integrates the principles with ABA's data-driven goal setting, addressing the critical gap left by Farida's and the SMPLB Bintara Campur Darat studies, which described conventional planning without developing tailored materials.

The requirement for strong factual accuracy and contextual relevance to students' actual background and atmosphere is addressed because factual errors or abstract scenarios could mislead learners with limited critical thinking and reduce motivation in faith-based lessons. These principles are essential to maintain religious integrity while making PAI content personally meaningful, thereby increasing engagement through ABA reinforcement. Earlier works by Prastowo (2019), Magdalena et al. (2020, 2021), and Ritonga et al. (2022) highlighted factual quality and contextual fit in general classrooms, but they did not consider the heightened risks for tunagrahita students in special schools. This study advances those recommendations by embedding factual rigor and real-life Islamic contexts (family prayer, school routines, community values) within ABA-structured modules—an approach absent from the purely descriptive findings of previous PAI-ABK research.

Finally, the principles that teaching materials must be easy and economical to use, appropriate to students' learning styles, and matched to the learning environment are discussed because tunagrahita learners require low-cost, accessible resources that accommodate short attention spans, sensory preferences, and resource-limited special-education settings. These criteria ensure practicality and sustainability so that ABA-based PAI materials can be implemented consistently without overburdening teachers or schools. General education literature such as Prastowo (2019) and Suciati et al. (2018) touched upon usability and environmental fit, yet only in broad terms without linking them to behavior-analytic techniques or intellectual disabilities. By combining all these principles with ABA's gradual progression and prompting hierarchy, the present research creates a comprehensive, practical framework that previous PAI studies for children with special needs consistently overlooked.¹²

3. Principles of Teaching Material Development

The principles of gradual, comprehensive, and systematic development are discussed because tunagrahita students require carefully sequenced content that builds from simple to complex skills, ensuring mastery without overwhelming their cognitive limitations. These

¹² Andi Prastowo, *Creative Guide to Making Innovative Teaching Materials*, p. 374

principles form the structural backbone for ABA-based PAI materials, allowing Discrete Trial Training to break Islamic competencies (such as prayer sequences or Qur'an recitation) into manageable steps while maintaining a holistic view of the subject. Earlier studies by Prastowo (2019) and Hernawan et al. (2012) outlined these principles in mainstream education, yet they applied them only to typical learners and never connected them to behavior-analytic techniques or religious instruction for children with intellectual disabilities. This research extends those foundations by embedding gradual, comprehensive, and systematic development within ABA's reinforcement schedules, directly addressing the descriptive limitations found in Farida's inclusive-setting study and the SMPLB Bintara Campur Darat research.

The principles of flexibility, scientific validity, and learner-oriented development receive focused attention because teaching materials for tunagrahita must remain adaptable to individual progress, grounded in reliable evidence, and centered on the child's actual characteristics and needs rather than rigid curricula. These criteria are essential to create PAI modules that can evolve with the learner while preserving religious accuracy and maximizing engagement through ABA prompting and rewards. General education literature such as Cahyadi (2019) and Suciati et al. (2018) emphasized flexibility and learner orientation in interactive materials, but their discussions stayed theoretical and did not address special-needs populations or the integration of behavior analysis. In contrast, this study integrates all three principles with ABA's individualized assessment and data-driven adjustments, producing a framework that previous PAI-ABK studies consistently overlooked.

Finally, the principle of sustainable development is examined because teaching materials must undergo repeated cycles of design, evaluation, and refinement to remain effective over time in resource-limited special schools. Sustainability ensures that ABA-based PAI modules do not become obsolete after initial implementation but continue to support long-term behavioral and spiritual growth. Previous works by Prastowo (2019) and Ritonga et al. (2022) touched upon sustainability in general teaching-material guidelines, yet they treated it as a peripheral concern without linking it to special education or ABA methodology. This research positions sustainability as a core requirement, demonstrating how continuous evaluation within an ABA framework creates enduring, evidence-based PAI materials—an innovation absent from the purely descriptive findings of earlier studies on Islamic Religious Education for children with special needs.¹³

Interactive teaching materials are teaching materials that combine several learning media (audio, video, text, or graphics) that are interactive to control a command so that there is a two-way relationship between the teaching material and its use. Interactive teaching materials are made with multimedia technology. The use of interactive teaching materials with multimedia technology in the learning process can increase efficiency, motivation, and facilitate active learning, and is consistent with learning that focuses on students to learn better.¹⁴

¹³ Joseph Mbulu, Suhartono, *Development of Teaching Materials* (Malang: Educational Technology Laboratory, Faculty of Education, State University of Malang, 2011), 9

¹⁴ Sri Latifah and Ardini Utami, "Development of Interactive Teaching Materials Based on Social Media of Schoology," *Indonesian Journal of Science and Mathematics Education* 2, no. 1 (2019): 36–45, <https://doi.org/10.24042/ij sme.v2i1.3924>.

Interactive teaching materials are teaching materials that have *self-contained*, *self-instructional*, and *self-explanatory* characteristics by optimizing the use of ICT and digital resources in an integrative manner to increase student involvement and activeness, both physically and mentally, in learning.¹⁵

Interactive teaching materials are made with multimedia technology. The use of interactive teaching materials with multimedia technology in the learning process can increase efficiency, motivation and facilitate active learning, as well as consistency in student-centered learning to learn better.¹⁶

Interactive teaching materials are self-paced learning packages that include a series of learning experiences that are systematically planned and designed to help learners achieve learning goals. This teaching material utilizes multimedia to create and combine text, graphics, audio, moving images (video and animation) by combining links and *tools* that allow users to navigate, interact, create, and communicate. Based on the advantages of multimedia technology, students not only hear (involve the sense of hearing) but also see (involve the sense of sight), the more senses are used to receive and process information, the more likely it is that the information is understood and can be retained in memory.¹⁷

Applied Behavior Analysis (ABA)

1. Understanding

The theory and approach of behavioristic among counselors and psychologists is often referred to as behavior modification and behavioral therapy. This theory and approach of behavior assumes that humans are basically mechanisms or respond to the environment with limited control, humans start life and react to their environment and these interactions produce patterns of behavior that will form personality. There are several figures known as behavioristic figures, one of which is B.F. Skinner who revealed that radical behaviorists emphasize humans as controlled by environmental conditions.¹⁸

Applied Behavior Analysis (ABA) is a science that belongs to the behavioristic school, defined as the science that applies the principles of behavior theory that aim to change, correct, and improve specific behaviors into socially accepted behaviors. The *Applied Behavior Analysis* (ABA) method is a type of therapy that has been researched, designed, and used for children with autism for a long time. The system used is to provide special training to children by providing

¹⁵ Latifah and Utami.

¹⁶ Stuart et al., "A Guide to the Development of Interactive Teaching Materials." *Open University*, 2018, 79, <http://repository.ut.ac.id/id/eprint/9408>.

¹⁷ M. A. S. Prihantana, I. W. Santyasa, and I W. S. Warpala, "E-Journal Postgraduate Program of Ganesha University of Education DEVELOPMENT OF INTERACTIVE TEACHING MATERIALS BASED ON CHARACTER EDUCATION IN THE SUBJECT OF ANIMATION STOP Learning Technology Study Program, e-Journal Postgraduate Program of Unive Postgraduate Program," *E-Journal Graduate Program of Ganesha University of Education* 4, no. 1 (2014): 1–12.

¹⁸ Gerald Corey, *Theory and Practice of Counseling and Psychotherapy*, (Bandung: PT Refika Aditama, 2013)

positive reinforcement (gifts/praise). In addition to autistic people, this method can also be applied to children with other special behaviors and even normal students.¹⁹

Applied Behavior Analysis (ABA) is a behavior management method that has been developed for decades. Lovaas from the University of California, Los Angeles (UCLA) United States, uses this method intensively in children with autism. Then it turns out that this method is also very useful for dealing with children with other behavioral disorders, such as Asperger's, ADHD, etc. Normal children are actually very good at being educated with this method by their parents. However, when done specifically with a therapist, although effective, it is not efficient. However, in "normal" children who are very naughty, this method can be applied by a therapist, if the parents themselves have allergies.²⁰

Currently, *Applied Behavior Analysis* (ABA) is also taught under education because it has developed as a teaching method for children with autism and special needs. The goal of *Applied Behavior Analysis* (ABA) is to improve desired behavior and reduce *problem behavior*.²¹

Lovaas' method is based on the theory of "*Operant Conditioning*" pioneered by B.F. Skinner, a behaviorist from the United States. The basis of Skinner's theory itself is the control of behavior through the manipulation of rewards and punishments. Skinner believed that the person who had given him the key to understanding behavior was Ivan Pavlov, a Russian physiologist with his theory of *Classical Conditioning*. Pavlov said control the conditions and we will see order.²²

From the explanation mentioned above, it can be understood that Applied behavior analysis (ABA) is a method used to carry out therapy for children whose development is not the same as children in general, it can also be children with special needs or normal children. These methods are expected to change, correct, and improve specific behaviors into socially accepted behaviors.

Applied Behavior Analysis (ABA) is a method that has been used by the world of education and has a very long history in the treatment of autistic children and mental disorders, and this method is very effective because it has several main characteristics. This is quoted from Grey in the article *Evaluating the Effectiveness of Teacher Training in Applied Behaviour Analysis* :

has a long history in the effective treatment of autism and other developmental disorders such as intellectual disability. Specifically, its systematic application has been shown to improve communicative language, enhance social interaction, and improve academic skills in these areas (Smith, 1999). It has a number of key features which include (1) an emphasis on positive reinforcement procedures to build behavioural repertoires; (2) functional assessment of individual

¹⁹ Sigit Sanyata, "Theory and Application of Behavioristic Approaches in Abstract Counseling Preliminary Theories and Behavioristic Approaches," *Paradigm*, no. 14 (2012): 1–11.

²⁰ Handojo, *Autism* (Jakarta, 2006); Raden Roro Jane Adjeng and M Ilmi Hatta, "The Effect of ABA Therapy on Social Interaction of Autistic Children at SLB Autis Prananda Bandung," *Research Proceedings of Unisba Academic Community (Social and Humanities)* 2 (2014): 430–36.

²¹ Soeriawinata pipes, *Verbal Behavior and Applied Behavior Analysis (ABA) help children with autism and children find language functions* (Jakarta, 2016).

²² Mirza Maulana, *Autistic Children* (Yogyakarta, 2008); Patrick Kirkham, "The Line between Intervention and Abuse' – Autism and Applied Behaviour Analysis," *History of the Human Sciences* 30, no. 2 (2017): 107–26, <https://doi.org/10.1177/0952695117702571>.

behaviour; (3) the use of scientific methods to evaluate the effects of interventions; (4) individualization of goals and instructional procedures; (5) gradual, systematic progression from simple to more complex skills; (6) transfer of instruction from structured to natural settings; and (7) training of parents and others to implement interventions in multiple environments.²³

The main keys of *the Applied Behavior Analysis* (ABA) privilege are:

- a. Doing positive emphasis and reinforcement in building basic behaviors
- b. Assessment of individual behavior
- c. Using scientific methods in conducting evaluations
- d. Individualize teaching purposes and procedures
- e. Gradual improvement starts from simple to complex
- f. Organize the steps from the structured to the natural stage
- g. Training for parents and others on the application of the method

The application of *Applied Behavior Analysis* (ABA) is very relevant to the needs of children with autism because it is the only method that has shown change for the better that is empirically supported and consistent in the core deficit of the disorder, even parents who apply *the Applied Behavior Analysis* program (ABA) at home have reported a positive impact on their children's lives, family life, and themselves. Non-behavioral and individual therapies such as communication have not been shown to be effective in research studies of autistic treatment.²⁴

The current development of *the Applied Behavior Analysis* (ABA) method is very complex and varies according to needs, in the United States the *Applied Behavior Analysis* (ABA) method is very popular. There is no exact number of people who use this method but it is widely used by doctors and autism agencies including the largest autism charity in America, Autism Speak. This institution says that *the Applied Behavior Analysis* (ABA) method is the best method to condition autism perme.²⁵

2. Basic Principles of *Applied Behavior Analysis* (ABA) Method

This method has a basic principle, namely how to approach and deliver fine materials as follows:

- a. Warmth that is based on genuine affection, to maintain long and consistent eye contact.
- b. Firm (non-negotiable)
- c. Non-violent and non-irritating.
- d. *Prompt* (help, instructions) firmly and gently
- e. Appreciate children with effective rewards as motivation to always be passionate.²⁶

²³ Ian M Grey, "Evaluating the Effectiveness of Teacher Training in Applied Behaviour Analysis Ian Grey, Rita Honan, Brian McClean, Michael Daly," *Journal of Intellectual Disabilities* 9, no. 3 (2005): 209–27, http://www.ncbi.nlm.nih.gov/pubmed/16144826%5Cnhttp://jld.sagepub.com/cgi/doi/10.1177/1744629505056695%5Cnhttps://www.researchgate.net/publication/7616267_Evaluating_the_effectiveness_of_teacher_training_in_Applied_Behaviour_Analysis.

²⁴ Grey.

²⁵ Kirkham, "The Line between Intervention and Abuse' – Autism and Applied Behaviour Analysis."

²⁶ Handojo, *Autism*.

To create a conducive atmosphere and the purpose of implementing the ABA method successfully, the principle of relationships between individuals should be implemented in each individual, both between teachers and children, not just one of them. In its implementation, it should not involve angry or irritated emotions, because this can be a good example that will be recorded by children as well as provide positive energy to children so that children will more easily follow the instructions well.

3. Applied Behavior Analysis (ABA) Method Techniques

To achieve success in the application of the *Applied Behavior Analysis* (ABA) method, Dr. Lovaas uses the *Discrete Trial Training* (DTT) technique, which literally means that a clear/real trial exercise consists of a "cycle" that begins with instructions, prompts, and ends with rewards.²⁷ It is to divide the target of an ability into small steps and teach one step at a time until it becomes proficient. The teaching system is in the form of repetition by providing *reinforcement*, if necessary assisted by *prompt procedures* (help, instructions).²⁸

Discrete Trial Training (DTT) uses the order: A-B-C with the following explanation:

- a. A or *Antecedent* (pre-event) is an event, person or one that occurs before the behavior. Even before the behavior, more than one antecedent can occur at the same time. The antecedent can also be exemplified by giving instructions, for example: questions, commands, or visuals. Give 3-5 seconds for the child to respond. In giving instructions, note that the child is in a state of readiness (sitting, still, hands down). The voice and instructions should be clear, and the instructions should not be repeated. For starters, use "ONE" command word.
- b. B or *Behaviour* is the child's response. The expected response should be clear and the child should respond within three seconds. Why is that, because it's normal and can increase attention.
- c. C or *Consequence*. The consequences must be instantaneous, in the form of a reinforcer (pusher or reinforcer) or "NO" which is a behavior controller.²⁹

<i>Antecedent</i>	<i>Behaviour</i>	<i>Consequence</i>
Looking at a cake or hungry	Request a cake	Get a cake
Assignment delivery	Task work	Gift

In the application of this method, the things that need to be considered and prepared are;

- a. Classrooms, in carrying out this method, the classroom should be made as comfortable and precise as possible
- b. Effective reward preparation, It is a good idea to record the types of rewards that each child likes, starting with those in the form of material (food, drinks, toys, certain objects that the child likes), verbal (praise, singing), tactile (hugs, kisses, caresses, clapping and tickling).

²⁷ Handojo.

²⁸ Soeriawinata, *Verbal Behavior and Applied Behavior Analysis (ABA) help children with autism and children find language functions.*

²⁹ Maulana *Autistic Children.*

- c. Child preparation, Obedience and eye contact are the entrances to the ABA method. Eye contact can be done in a variety of ways. The first way is with the instruction "look!" after the obedient child sits in his chair. Wait for eye contact from the child. When the child's gaze is drawn to the therapist's eyes (even if only for a moment), give it a reward.³⁰
- d. Instructions, words or instructions must be very clear in the application of this method. The word used must be S-J-T-T-S (Short, clear, firm, thorough, same). The short meaning is (the words used are not too long, two or three words are enough), clear (the words issued must be clear so that they can be heard well), firm (what is instructed should be done by the child without bargaining), complete (the instructions given must be completed by the child, should not be delayed), the same (any repeated instructions must be the same)³¹
- e. *Prompt*, commonly referred to as direction or help if the child does not respond. *Prompts* are done hand on hand.
- f. *Reinforcement*, this is needed so that the child maintains and performs the behavior continuously until he understands the concept. Rewards don't have to be things but can also be compliments, hugs, high-fives and the like.³²

<i>Antecedent</i>	<i>Behaviour</i>	<i>Consequence</i>
Instruksi	Correct response	Gift
	Incorrect response	Informational "NO"
	Not responding	Informational "NO"
	Half response	Repeat/Try again

Positive behavior

1. Definition of Positive Behavior

Behavior is an individual's response to a stimulus or an action that can be observed and has a specific frequency, duration and purpose, whether consciously or unconsciously. Behavior is a collection of various factors that interact with each other. Often it is not realized that these interactions are so complex that sometimes they do not have time to think about the cause of the child implementing certain behaviors.³³ Behavior is a person's readiness or tendency to act in the face of a certain object or situation.³⁴

³⁰ Handojo, *Autism in Children*, (Jakarta: PT. Bhuana Ilmu Populer, 2009), p. 8.

³¹ Arif Sukadi Sadiman, *Some Aspects of the Development of Autistic Learning Simber*, (Jakarta: Mediyatama Sarana Perkasa, 1946) p. 109

³² Arif Sukadi Sadiman, *Some Aspects of the Development of Autistic Learning Simber*, (Jakarta: Mediyatama Sarana Perkasa, 1946) p. 109

³³ Elly Mufida, Martini Martini, and Ady Hermawan, "Designing Parenting Applatization to Strengthen Children's Positive Behavior by Android-Based Parents," *MATRIK Journal* 17, no. 2 (2018): 1–12, <https://doi.org/10.30812/matrik.v17i2.78>.

³⁴ Hydraulic Pulsation and Filtering Technology, "Research on hydraulic pulsation filtering technology, Chen Gengbiao 1, He Shanghong 2 2." 4, no. 12We study a family of 'classical' orthogonal polynomials which satisfy (apart from a three-term recurrence relation) an eigenvalue problem with a differential operator of Dunkl type. These polynomials can be obtained from the little q-Jacobi polynomials (2015): 10–14, <https://doi.org/10.3969/j.issn.1008-0813.2015.03.002>.

Another opinion about behavior by sofiah, namely behavior is a person's feelings, thoughts, and tendencies that are relatively permanent to know certain aspects of his environment. The components of attitudes consist of knowledge (cognitive), feelings (affective), and the tendency to act (psychomotor).³⁵ Meanwhile, according to Wawan, behavior is an action that can be observed and has a specific frequency, duration and purpose, whether consciously or not.³⁶ As for the positive, it is in accordance with the demands of values and applicable norms.³⁷

Positive behavior is a reflection of a positive personality. According to Maslow's personality theory, a positive personality in a child can be seen from self-actualization in the form of the following behaviors:

- a. Independence: Independence includes behaviors that are able to take initiative, are able to overcome problems or obstacles, and can do everything on their own without the help of others. Independence is an individual attitude that is acquired cumulatively during development, where individuals will continue to learn to be independent in facing the environment, so that they can think and act on their own.
- b. Discipline: Discipline is the mental attitude to do the right thing at the right time and really take the time. Before a child disciplines himself, he must first be disciplined by his parents.
- c. Confidence: Confidence is a feeling of being firm in standing, steadfast in facing problems, creative in finding solutions and ambition in achieving something.
- d. Openness: Openness includes the behavior of an individual who is very easy to express his heart and opinions, and enjoys talking. Effective communication between parents and children has a great influence in fostering an attitude of openness in children.
- e. Creative: According to Maslow, children are inherently creative. Maslow defines creativity as a genuine, naïve, and spontaneous form of action as often found in innocent and honest children.
- f. Responsible: Maslow states that a person in charge will carry out his duties seriously. If he makes a mistake, he dares to admit it. Even if he felt disappointed and hurt, he wouldn't blame anyone.³⁸

In addition to some indicators of positive behavior, emotional control (Self control) and also (self *direction*) which is a form of individual independence are part of positive behavior that is felt to be relevant to the researcher's goals that need to be discussed in depth.

³⁵ Setia Lestari, "The Influence of Management Commitment, Positive Behavior of Health Workers and Health Office Support on Service Quality at UPTD Puskesmas in South Barito Regency, Central Kalimantan Province," *Kindai* 17, no. 2 (2021): 227–41, <https://doi.org/10.35972/kindai.v17i2.651>.

³⁶ Setia Lestari.

³⁷ Famahato Lase, "The Contribution of Comprehensive Professional Counseling Services to BMB3 Strategy and the Formation of Structured Positive Behavior to Problem Alleviation and Early Marriage Prevention," *Educatum: Journal of Educational Sciences* 1, no. 1 (2022): 181–93, <https://educatum.marospub.com/index.php/journal/article/view/50>.

³⁸ Rio Ramadhani, "Interpersonal Communication of Parents and Children in Shaping Children's Positive Behavior in Students of SDIT Cordova Samarinda," *Communication Science E-Journal* 1, no. 3 (2013): 112–21, <https://ejournal.ilkom.fisip-unmul.ac.id/site/?p=865>.

2. Self Control

Self Control is the ability of an individual to be able to control impulses both from outside and from the individual. Another opinion quoted from Ghufroon, Self-control is an individual who has the ability to be able to control and bring behavior to a more positive direction.³⁹

Other opinions on self-control are expressed by Colhoun and Acocella (1990), Tangney, Baumeister & Boone (2004), Averill (2011). Calhoun and Acocella (1990) self-control is the regulation of a person's physical, psychological, and behavioral processes, in other words a series of processes that form oneself. The meaning in question emphasizes the ability to manage that needs to be provided as a provision to form a pattern of behavior in individuals that includes the entire process that forms in the individual in the form of physical, psychological, and behavioral regulation of self-control is the ability of individuals to determine their behavior based on certain standards such as morals, values and rules in society to lead to behavior positive. It can be interpreted that a person is independently able to give rise to positive behavior.⁴⁰

The ability to self-control in a person requires an important role in interacting with others and their environment in order to form mature self-control, this is needed because when a person is required to emerge new behaviors and learn these behaviors well.⁴¹

Meanwhile, according to Averill, self-control is the ability of individuals to modify behavior, the ability of individuals to manage desired and unwanted information, and the ability of individuals to choose one of the actions based on something they believe. The definition put forward by Averill emphasizes a set of regulatory abilities in choosing actions that are in accordance with what he believes.⁴²

Self-control has two dimensions in individual self-control, including the ability to resist temptation or *inhibition* and the ability to control oneself to achieve goals or what is called *Initiation*. Low or high levels of self-control consist of aspects of self-control including controlling execution behavior and stimulus, cognitive control, controlling decisions for alternative problem solving, controlling in assessing, and controlling the information obtained.⁴³

a. Factors Affecting Self-Control

Factors that affect self-control can determine the high or low self-control ability in individuals. These factors include internal factors which include age, cognitive, and individual experience; and external factors, namely the influence of self-control that comes from the

³⁹ Adhita Paramitha Puteri and Damajanti Kusuma Dewi, "The Relationship Between Self-Control and Social Support and Learning Motivation in Psychology Students of the State University of Surabaya," *Journal of Psychological Research* 8, no. 6 (2020): 1–13, <https://ejournal.unesa.ac.id/index.php/character/article/view/41517>; Manggi Asih Larasati and Meita Santi Budiani, "The Relationship Between Self-Control and Impulse Purchase of Clothes in Psychology Students of the State University of Surabaya Who Make Online Purchases," *Character : Journal of Psychology Research* 02, no. 1 (2014): 1–8, <https://ejournal.unesa.ac.id/index.php/character/article/view/11000>.

⁴⁰ Ramadona Dwi Marsela and Mamat Supriatna, "Self-Control: Definitions and Factors," *Journal of Innovative Counseling: Theory, Practice & Research* 3, no. 2 (2019): 65–69, http://journal.umtas.ac.id/index.php/innovative_counseling.

⁴¹ Dwi Marsela and Supriatna; Ghufroon and Risnawati MN, *Psychological Theories* (Yogyakarta, 2012).

⁴² Dwi Marsela and Supriatna, "Self-Control: Definitions and Factors"; MN *Psychological Theories*.

⁴³ Puteri and Dewi, "The Relationship Between Self-Control and Social Support and Learning Motivation in Psychology Students of the State University of Surabaya."

environment and family. Individuals who have good self-control will be able to regulate behavior and control stimuli to keep goals achievable. Individuals must be able to have good self-control in order to support the learning process so that their motivation to learn remains high.⁴⁴ Self-control has two characteristics; *First*, the kontrol is very necessary when we are between two options where both options have the same value. *Second*, the individual must have self-control to achieve a worthwhile and better goal.⁴⁵

According to Gottfredson and Hirschi (1990), there are several things that can be factors for self-control problems. When self-control in an individual is low, it will be difficult for the individual to control emotions that can cause problems. Individuals who have low self-control are more likely to commit criminal behavior without considering the consequences that will occur. In line with the opinion put forward that adolescents who have high self-control have low aggressiveness, while adolescents who have low self-control eat high aggressiveness. The results of Vaughn's research explained that criminal acts are influenced by low self-control. Students who have high self-control, they will behave more positively and be able to be responsible, such as the responsibility as a student is to learn. Basically, self-control plays a role in self-adjustment, so that when self-control is not good, the behavior that is caused tends to be deviant. More clearly, individuals who are categorized as having a low level of self-control are if the individual is unable to direct and regulate his main behavior, mainly, is unable to interpret the stimulus faced into the main form of behavior and is unable to choose the right action so that it will lead to aggressive behavior.⁴⁶

In daily life, every individual is very demanding in controlling himself. This is because humans are social creatures, who cannot stand alone without socializing and communicating with people in their environment. Self-control plays a very important role in socializing. Individuals who have high self-control will be able to socialize well and can anticipate stimuli from outside. The high or low self-control in individuals is influenced by internal and external factors. Based on this, it can be concluded that the formation of self-control is not solely built practically, but gradually and continuously so that it becomes something inherent in the individual. According to Block, in the book Gufron and Risnawati, there are three types of self-control qualities, namely *over control*, *under control*, and *appropriate control*. It is described in detail as follows:

- 1) *Over Control* is self-control carried out by individuals excessively which causes individuals to hold back a lot in reacting to stimuli.
- 2) *Under Control* is an individual's tendency to release impulsivity freely without careful calculation.
- 3) *Appropriate Control* is individual control in an effort to control impulses precisely.⁴⁷

⁴⁴ Puteri and Dewi.

⁴⁵ Angela L. Duckworth, Tamar Szabó Gendler, and James J. Gross, "Situational Strategies for Self-Control," *Perspectives on Psychological Science* 11, no. 1 (2016): 35–55, <https://doi.org/10.1177/1745691615623247>.

⁴⁶ MN *Psychological Theories*; Dwi Marsela and Supriatna, "Self-Control: Definitions and Factors."

⁴⁷ Dwi Marsela and Supriatna, "Self-Control: Definitions and Factors"; MN *Psychological Theories*; Duckworth, Gendler, and Gross, "Situational Strategies for Self-Control."

b. Self Direction

Self-direction is the power that gives direction to individuals to be responsible for the consequences of their choices and actions. Individuals who have the ability to direct themselves will live their lives effectively and can avoid disturbing situations in achieving goals, so that they can achieve their goals to achieve optimal development. In fact, self-direction is not only seen in determining activity plans and goals, but also in individual efforts to find a number of alternatives in achieving goals. Whatever efforts an individual makes in achieving initiatives without relying on the help of others, the ability to inventory learning disabilities, plan and choose strategies to achieve goals, identify parties and facilities that can be used as sources in achieving goals, choose and implement effective learning strategies, and the ability to evaluate learning outcomes are indispensable self-direction skills.⁴⁸

So the essence of self-direction proficiency is the ability to actualize initiatives into action responsibly. Initiative in the concept of self-direction implements that self-direction is a proactive behavior, not an action.⁴⁹ Self direction can also be said to be learning independence, learning independence is a process in which individuals take the initiative in planning, implementing and evaluating their learning system.⁵⁰ Self direction can also be interpreted as active learning, which is driven by the intention or motive to master a competency to overcome a problem and is built with the knowledge or competence that you already have.⁵¹

The factors that can form *self direction* are;

- 1) Social resources, namely adults in the student environment such as parents, coaches, family members and teachers. These adults can communicate the value of *self-direction in learning* by modeling, providing direction and regulating the behaviors to be raised.
- 2) Habituation, which is an opportunity to practice *self-direction* in learning. Students who are constantly governed directly by their families or parents and teachers.⁵²

⁴⁸ Ulfiah, "Adjustment of Self Direction Skills of Students of the Cipadung Cibiru Universal Islamic Boarding School, Bandung City."

⁴⁹ Ulfiah.

⁵⁰ Ade Riza and Rahma Rambe, "Correlation between Parental Social Support and Self-Directed Learning in High School Students" 37, no. 2 (2010): 216–23.

⁵¹ Liliza Agustin, Sutardjo A.W, and Makmuroh Sri Rahayu, "Group Counseling Based on Tazkiyatun Nafsi Self-Management Technique: A Psychological Intervention in Improving Self-Direction in Student Learning," *Journal of Psychology* 13, no. 1 (2018): 1, <https://doi.org/10.24014/jp.v13i1.2399>.

⁵² Agustin, A.W, and Sri Rahayu.

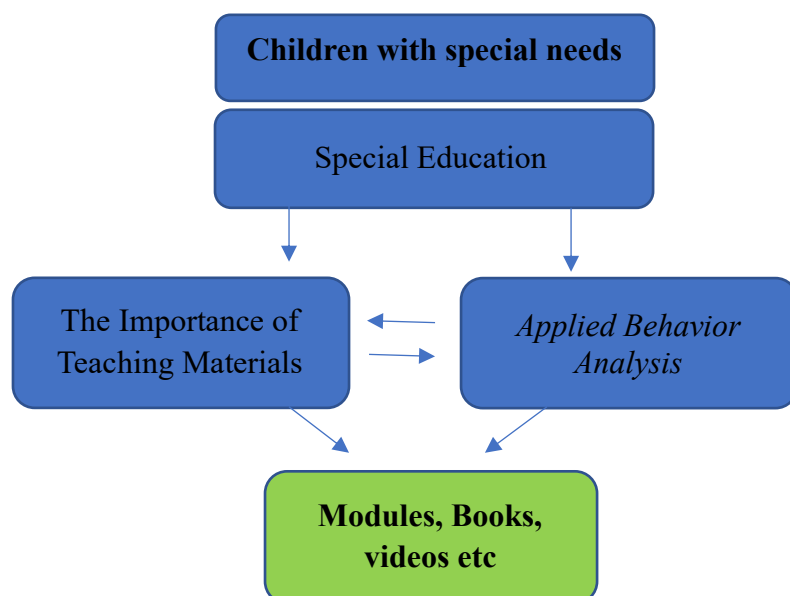


Figure 1. Children with special needs

CONCLUSION

The development of Islamic religious education teaching materials based on *applied behavior analysis* is very important because *applied behavior analysis* (ABA) is a behavior management method that is used intensively in children with autism. Then it turns out that this method is also very useful for dealing with children with other behavioral disorders, such as Asperger's, ADHD, etc. Normal children are actually very good at being educated with this method by their parents. In this case, visually impaired children who are not mentally the same as normal children in general need to get this method in their learning process.

Using Islamic religious education teaching materials based on *applied behavior analysis* (ABA), we try to provide special education for children with special needs in accordance with the National Education System Law No. 20 of 2003 in article 5 paragraph 2. Thus we help the government to implement the law properly.

REFERENCE

- Adjeng, RAden Roro Jane, and M Ilmi Hatta. "The Effect of ABA Therapy on Social Interaction of Autistic Children at SLB Autis Prananda Bandung." *Research Proceedings of Unisba Academic Community (Social and Humanities)* 2 (2014): 430–36.
- Agustin, Liliza, Sutardjo A.W, and Makmuroh Sri Rahayu. "Group Counseling Based on Tazkiyatun Nafsi Self-Management Technique: A Psychological Intervention in Improving Self-Direction in Student Learning." *Journal of Psychology* 13, no. 1 (2018): 1. <https://doi.org/10.24014/jp.v13i1.2399>.
- Cahyadi, Rahmat Arofah Hari. "Development of Teaching Materials Based on Addie Model." *Halaqa: Islamic Education Journal* 3, no. 1 (2019): 35–42. <https://doi.org/10.21070/halaqa.v3i1.2124>.
- Duckworth, Angela L., Tamar Szabó Gendler, and James J. Gross. "Situational Strategies for Self-

- Control." *Perspectives on Psychological Science* 11, no. 1 (2016): 35–55. <https://doi.org/10.1177/1745691615623247>.
- Dwi Marsela, Ramadona, and Mamat Supriatna. "Self-Control: Definitions and Factors." *Journal of Innovative Counseling: Theory, Practice & Research* 3, no. 2 (2019): 65–69. http://journal.umtas.ac.id/index.php/innovative_counseling.
- Grey, Ian M. "EEvaluating the Effectiveness of Teacher Training in Applied Behaviour Analysis Ian Grey, Rita Honan, Brian McClean, Michael Daly." *Journal of Intellectual Disabilities* 9, no. 3 (2005): 209–27. http://www.ncbi.nlm.nih.gov/pubmed/16144826%5Cnhttp://jld.sagepub.com/cgi/doi/10.1177/1744629505056695%5Cnhttps://www.researchgate.net/publication/7616267_Evaluating_the_effectiveness_of_teacher_training_in_Applied_Behaviour_Analysis.
- Handojo. *Autism*. Jakarta, 2006.
- Hernawan, Asep Herry, Hj Permasih, and Laksmi Dewi. "Teaching Material Development." *Directorate of UPI, Bandung* 4, no. 11 (2012): 1–13.
- Khasanah, Siti Badroti. "Development of Learning Methods in Islamic Religious Education (Cooperative Learning)." *Treatise, Journal of Islamic Education and Studies* 9, no. 1 (2023): 422–30.
- Kirkham, Patrick. "'The Line between Intervention and Abuse' – Autism and Applied Behaviour Analysis." *History of the Human Sciences* 30, no. 2 (2017): 107–26. <https://doi.org/10.1177/0952695117702571>.
- Larasati, Manggi Asih, and Meita Santi Budiani. "The Relationship Between Self-Control and Impulse Purchase of Clothes in Psychology Students of the State University of Surabaya who made online purchases." *Character : Journal of Psychological Research* 02, no. 1 (2014): 1–8. <https://ejournal.unesa.ac.id/index.php/character/article/view/11000>.
- Lass, Scott. "The contribution of comprehensive professional counseling services to BMB3 strategy and the formation of structured positive behaviors towards problem alleviation and prevention of early marriage." *Educatum: Journal of Educational Sciences* 1, no. 1 (2022): 181–93. <https://educatum.marospub.com/index.php/journal/article/view/50>.
- Latifah, Sri, and Ardini Utami. "Development of Interactive Teaching Materials Based on Social Media of Schoology." *Indonesian Journal of Science and Mathematics Education* 2, no. 1 (2019): 36–45. <https://doi.org/10.24042/ijmsme.v2i1.3924>.
- Magdalena, Ina, Fitri Ramadanti, Rideva Az-Zahra, Keywords, : Learning, and Teaching Materials. "Analysis of Teaching Materials in Learning and Teaching Activities at Sdn Karawaci 20." *EDITION: Journal of Education and Science* 3, no. 3 (2021): 434–59. <https://ejournal.stitpn.ac.id/index.php/edisi>.
- Magdalena, Ina, Tini Sundari, Silvi Nurkamilah, Dinda Ayu Amalia, and University of Muhammadiyah Tangerang. "Analysis of Teaching Materials." *Journal of Education and Social Sciences* 2, no. 2 (2020): 311–26. <https://ejournal.stitpn.ac.id/index.php/nusantara>.
- Maulana, Mirza. *Autistic children*. Yogyakarta, 2008.
- MN, Ghufro and Risnawati. *Psychological Theories*. Yogyakarta, 2012.
- Mufida, Elly, Martini Martini, and Ady Hermawan. "Designing Parenting Applatization to Strengthen Children's Positive Behavior by Android-Based Parents." *Journal of MATRIC* 17, no. 2 (2018): 1–12. <https://doi.org/10.30812/matrik.v17i2.78>.
- Prastowo, Andi. "Creative Guides Make Innovative Teaching Materials Create Interesting and Fun Learning Methods," 2019.
- Prihantana, M. A. S., I. W. Santyasa, and I W. S. Warpala. "E-Journal Postgraduate Program of Ganesha University of Education DEVELOPMENT OF INTERACTIVE TEACHING

- MATERIALS BASED ON CHARACTER EDUCATION IN THE SUBJECT OF ANIMATION STOP Learning Technology Study Program, e-Journal Postgraduate Program of Unive Postgraduate Program." *E-Journal of Graduate Program of Ganesha University of Education* 4, no. 1 (2014): 1–12.
- Pulsation, Hydraulic, and Filtering Technology. “液压脉动滤波技术研究陈耿彪 1 , 贺尚红 2 2.” 4, no. 12 We study a family of 'classical' orthogonal polynomials which satisfy (apart from a three-term recurrence relation) an eigenvalue problem with a differential operator of Dunkl type. These polynomials can be obtained from the little q -Jacobi polynomials (2015): 10–14. <https://doi.org/10.3969/j.issn.1008-0813.2015.03.002>.
- Puteri, Adhita Paramitha, and Damajanti Kusuma Dewi. "The Relationship Between Self-Control and Social Support and Learning Motivation in Psychology Students of State University of Surabaya." *Journal of Psychological Research* 8, no. 6 (2020): 1–13. <https://ejournal.unesa.ac.id/index.php/character/article/view/41517>.
- Ramadhani, Rio. "Interpersonal Communication of Parents and Children in Shaping Children's Positive Behavior in Students of SDIT Cordova Samarinda." *E-Journal of Communication Science* 1, no. 3 (2013): 112–21. <https://ejournal.ilkom.fisip-unmul.ac.id/site/?p=865>.
- Ritonga, Adelia Priscila, Nabila Putri Andini, and Layla Iklmah. "The Development of Media Teaching Materials." *Dehasen Multidisciplinary Journal (MUDE)* 1, no. 3 (2022): 343–48. <https://doi.org/10.37676/mude.v1i3.2612>.
- Riza, Ade, and Rahma Rambe. "Correlation between Parental Social Support and Self-Directed Learning in High School Students" 37, no. 2 (2010): 216–23.
- In fact, Sigit. "Theory and Application of Behavioristic Approaches in Abstract Counseling Preliminary Theories and Behavioristic Approaches." *Paradigm*, no. 14 (2012): 1–11.
- Setia Lestari. "The Influence of Management Commitment, Positive Behavior of Health Workers and Health Office Support on the Quality of Service at Uptd Puskesmas in South Barito Regency, Central Kalimantan Province." *Kindai* 17, no. 2 (2021): 227–41. <https://doi.org/10.35972/kindai.v17i2.651>.
- Soeriawinata, Rury. *Verbal Behavior and Applied Behavior Analysis (ABA) help children with autism and ABK find language functions*. Jakarta, 2016.
- Suciati, et al. "Guidelines for the Development of Interactive Teaching Materials." *Open University*, 2018, 79. <http://repository.ut.ac.id/id/eprint/9408>.
- Syaifullah, Muhammad, and Nailul Izzah. "A Theoretical Study of the Development of Arabic Language Teaching Materials." *Arabic : Arabic Journal* 3, no. 1 (2019): 127. <https://doi.org/10.29240/jba.v3i1.764>.
- Ulfiah, U. "Adjustment of Self Direction Skills of Students of the Cipadung Cibiru Universal Islamic Boarding School, Bandung City." *Islamic Education: Journal of Islamic Education* 10, no. 01 (2021): 507–26. <http://jurnal.staialhidayahbogor.ac.id/index.php/ei/article/view/1377>.
- Zain, Muhammad. "Development of Learning Strategies and Selection of Teaching Materials." *Inspirative Education* 6, no. 1 (2017): 172. <https://doi.org/10.24252/ip.v6i1.4925>.