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Effectiveness of Individualized Educational Plans in Reducing Behavioral Issues in Individuals with Intellectual Disabilities

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Abstract

This study aimed to evaluate the effectiveness of an individual educational plan (IEP) in reducing behavioral challenges of students with intellectual disabilities in Rafha province. The researcher developed a tailored IEP that included both school-based and extracurricular activities targeting social skills and behavior development. After discussing and reviewing the plan with a team of experts, the study was conducted with two groups: a test group and a control group, each consisting of six students enrolled in a special education school in Rafha, Saudi Arabia. The students' IQ scores ranged from 55 to 69, according to the Wechsler scale, and their ages ranged from 7 to 10 years, with a mean age of 8.75 years ($SD = 1.13$). Behavioral problems were assessed before and after the intervention using Burks' scale. The IEP was implemented over 8 weeks during the 2nd semester of the 2020 academic year. Statistical analysis, including the Wilcoxon and Mann-Whitney tests, showed significant improvements in the test group's behavioral problems post-intervention.

Keywords: Behavioral Issues, Individual Educational Plan, Educable Intellectually Disabled Students

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Introduction

An individual educational plan (IEP) is designed to address the unique educational needs of each child, taking into account their strengths and weaknesses. This personalized approach ensures that educational objectives are tailored to the student's specific needs, allowing for more effective instruction and facilitating their social and emotional growth. According to Alzurikat [1], the IEP not only targets educational benefits but also supports the overall development of intellectually disabled students. The framework of the IEP guarantees that education remains focused on academic goals, with instructional procedures and decisions that are more beneficial to the child's development.

The importance of individualized education is fundamental to special education, as emphasized by Batinon and Blackburn. It acknowledges the unique differences of students with special needs, as traditional general education programs often fail to meet these diverse requirements. Behavioral problems have been widely studied in students with intellectual disabilities [2-4]. Intellectually disabled children often share common behavioral issues, prompting researchers to recommend specific educational methods to address these challenges and help children adapt to societal expectations while maximizing learning opportunities.

Kirk *et al.* [5] define behavioral problems as deviations from age-appropriate behavior that hinder the child's development and affect others. Ibrahim *et al.* [6] highlight that children in the Arab world experience various behavioral and psychological issues, influenced by rapid social changes and a lack of specialized psychological services. Tuma [7] found that 11% of



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children experience mental and behavioral disorders, with the prevalence higher among those with milder issues that do not require medical intervention. Intellectually disabled children, who often struggle with learning challenges, make up a significant portion of this group.

Research indicates that intellectually disabled children are more prone to behavioral problems than others. According to Alsabah [8], these children often display various undesirable behavior patterns. Alkhatib [9] supports this, noting that intellectually disabled children tend to have difficulty identifying socially acceptable behavior and often express frustration through aggression due to limited verbal skills. Their frequent experiences of failure, social stigma, and intellectual limitations contribute to their behavioral challenges.

Alrosan [10] identifies common behavioral issues among intellectually disabled individuals, including poor learning abilities, attention deficits, depression, and memory problems. Mursi [11] further notes that such children lack essential skills, exacerbating emotional issues like anxiety, stress, and social withdrawal. Suliman [12] stresses the importance of behavior training programs designed to suit the abilities of intellectually disabled individuals, helping to reduce behavioral problems and enhance their capacity to navigate daily life and societal expectations.

Given these challenges, Alyamani [13] emphasizes the significance of behavioral interventions for intellectually disabled children. He suggests strategies like positive reinforcement, teaching problem-solving and communication skills, and fostering respect for the children's abilities. These interventions help alleviate behavioral issues and contribute to the child's personal development.

Educational institutions must offer tailored services to meet the needs of intellectually disabled students. Designing an IEP for each student is essential, as these students often have diverse and complex needs. While they may fall under the same category of disability, they differ significantly in abilities, learning speeds, and independence [14].

This study, therefore, aims to investigate the impact of using an IEP to address and alleviate behavioral problems among intellectually disabled children. The findings of this research may contribute to improving educational and family environments by highlighting the positive effects of IEPs on the well-being of these children.

The problem of behavioral issues among children with intellectual disabilities arises from various factors. These children often struggle with adapting to societal demands, have poor sensory and mental perception of their environment, and face difficulties in understanding these environmental stimuli in a way that aligns with socially accepted behavior. These challenges significantly affect their ability to acquire necessary educational skills, and they can hinder their social integration within their family and community. Many societies have been actively seeking solutions to help these children overcome such difficulties. This study aims to investigate two main questions: What are the most significant behavioral problems that educable intellectually disabled students face? And what impact does using an IEP have on alleviating these behavioral problems among them?

This study holds importance as it provides new insights into the effectiveness of the IEP in addressing behavioral problems in intellectually disabled students. Additionally, it offers a practical tool for special needs centers in Saudi Arabia by introducing an IEP designed to help alleviate such issues.

The primary aim of the study is to evaluate how the IEP can reduce certain behavioral problems among intellectually disabled students. This research seeks to understand the plan's impact in a specific educational setting.

Research Literature

Behavioral problems refer to any actions or behaviors that cause concern or dissatisfaction for the student, their family, or educators. These behaviors often prompt individuals, particularly teachers or family members, to seek expert help in addressing them. Such problems are deemed significant enough for educational and clinical intervention due to their abnormal severity. Examples of these behaviors include vandalism, theft, hyperactivity, defiance of instructions, and extreme shyness [15].

Educable intellectually disabled children are those with IQ scores ranging from 55 to 69. These students cannot fully benefit from a regular curriculum under typical conditions, but they possess the potential to learn motor, academic, and social skills. This learning is feasible if the curricula are modified or if individualized educational plans are developed specifically for them [16].

The concept of the IEP is a significant framework for addressing the needs of intellectually disabled students. According to Alrosan [17], an IEP is a tailored plan designed for each student to address their unique needs. It outlines the goals to be achieved within a set timeframe, and this plan is developed by a committee that includes all relevant parties. Additionally, the committee is responsible for monitoring and evaluating the IEP at the beginning of each semester.

The IEP has two primary conceptual frameworks. The administrative concept outlines how cooperation is structured among the various stakeholders involved in the child's education, including the child, educational team, family, and other entities. The educational concept focuses on diagnosing, measuring, and evaluating the needs of the intellectually disabled student, ensuring that appropriate supporting services are provided. This concept is designed by a dedicated academic team [18].

The goals of an IEP are crucial to the education of intellectually disabled children. First, the IEP serves as the foundation for all educational activities, guiding the teaching process and ensuring that the necessary educational services are provided. Second, it protects the rights of the child by outlining clear steps and procedures to ensure that the child receives appropriate educational support [19]. Third, the IEP helps to deliver an organized and planned approach to education. By setting deliberate objectives, it ensures that the educational process is effective. Moreover, the IEP serves as a basis for assessment, allowing teachers to measure their effectiveness based on pre-established goals. Finally, the IEP facilitates communication between members of the multidisciplinary team, including teachers and parents [20].

The importance of the IEP cannot be overstated. It acts as a formal document that consolidates the efforts of various specialists working together to educate and support intellectually disabled children. The IEP is a comprehensive report that provides an in-depth understanding of the child's abilities and needs. It guarantees parental involvement in the educational process, recognizing that parents are key sources of information about the student. The plan is created by educational experts with appropriate qualifications, and it often involves the collaboration of parents. The IEP also includes an assessment of the child's current abilities and performance level, sets clear responsibilities for those involved in the education process, and serves as a tool for evaluating the relevance and effectiveness of the services provided. Additionally, the IEP outlines educational objectives, specifies the timeframe for achieving them, and defines the necessary services to enhance the child's abilities in alignment with those goals [19].

The IEP consists of several essential elements that help structure and guide its implementation. At the core of these is the educational objectives, which lay the foundation for the plan. These objectives outline the desired outcomes and ensure the plan is aligned with specific educational goals. Another crucial component is the strategies, which outline how the learning process is to be carried out. These strategies are adapted to the needs of the child and depend largely on the teacher's creativity. Additionally, providing the right equipment is important for making the educational experience more effective. This includes tools that help facilitate learning. Another critical element is focusing on the student's skills, particularly their strengths, to ensure that the plan plays to their abilities. The plan should also incorporate relevant learning resources such as visual aids, games, and cards, which support diverse learning methods.

An ongoing assessment process is key to measuring progress and ensuring the plan remains relevant. This flexibility allows the IEP to evolve as necessary to meet the child's needs. Another important component is creating a structured timetable that allows for the efficient use of time. Furthermore, regular updates are essential, reflecting changes in the child's progress, the teacher's methods, or the learning environment. Lastly, evaluation is a vital step that connects the objectives with the outcomes. The evaluation ensures the IEP was implemented successfully and reflects its ability to meet the educational goals. The IEP's contents can be divided into two sections. The first section includes personal information about the student, offering insights into their background and specific needs. The second section encompasses the core elements of the plan, such as the student's current performance, the establishment of short-term and long-term goals, and the identification of the support services required. The plan also specifies when these services should begin and end, the educational alternatives available, and the methods of service delivery. Additionally, performance measurement standards, evaluation procedures, and participant responsibilities are clearly outlined to ensure comprehensive support for the student.

To create, implement, and assess the IEP, a collaborative team is formed. This team typically includes the school principal or their representative, special education teachers, regular education teachers, the student's family, and any relevant specialists. Once a diagnosis is made, the team drafts the IEP within a specified timeframe. After the plan is created, it is implemented, and ongoing evaluation is conducted to track progress. These evaluations are done through various methods, such as direct observations and feedback from the family or through formal assessments.

Regarding behavior, it is defined as any action, verbalization, or movement made by a person, whether desired or not. Behavior can be categorized into two types: overt, which is visible and easily observable, such as actions and gestures, and covert, which involves internal physiological responses like heart rate changes or emotions such as anxiety or sadness. Behavior can be understood as a sequence of coordinated actions that enable individuals to achieve specific goals or desires.

The Definition of Behavioral Problems

Behavioral problems, as defined by Bower [21], encompass a range of characteristics. These include challenges with learning, difficulties in building and maintaining social relationships, the occurrence of inappropriate behavior in typical situations, feelings of depression and unhappiness, as well as the manifestation of physical symptoms or concerns about personal and academic matters. These issues are often seen as significant barriers to normal development and functioning [22]. Additionally, Kauffman describes individuals with behavioral problems as those who engage with their environment in socially unacceptable or inappropriate ways. However, he notes that such individuals can be taught to adopt socially and personally accepted behaviors [23].

To determine if a behavior is abnormal or disturbed, researchers have suggested various criteria, including:

- Behavior frequency measures how often a behavior occurs within a given timeframe.
- Behavior duration indicates how long the behavior persists.

- Behavior intensity refers to the strength or force of the behavior, whether it is undesired and intense or desired but weak [23].

Factors Leading to Behavioral Problems

Behavioral problems can stem from a variety of factors, with the most significant being biological and environmental influences.

Biological Factors

Biological factors often play a central role in more severe behavioral issues. Research has shown a strong correlation between biological conditions and behavior problems. For example, organic causes can be found in disorders such as schizophrenia and bulimia, where physiological and genetic factors contribute significantly to the development of these issues.

Environmental Factors

Family

The family environment has a profound influence on the development of behavioral problems in children. Negative family dynamics and poor parenting practices, particularly in early childhood (the assimilation stage), can lead to significant issues. For instance, overindulgence and overprotectiveness may result in a child becoming disobedient or overly dependent. Unstable parenting methods can create fear and anxiety in children, while favoritism can breed resentment and lead to aggressive behavior. Family size, parental illness, and negative family role models can also contribute to behavioral difficulties in children [24].

School

Schools significantly affect students' ability to adapt socially and emotionally. The teaching methods employed—whether authoritarian, permissive, inconsistent, or democratic—can greatly influence a child's behavior. Authoritarian, permissive, or inconsistent approaches fail to address the social and psychological needs of children, while a democratic approach tends to be more successful in meeting those needs. The general atmosphere in the school, along with the relationships between students, teachers, and administration, also play a role in students' ability to conform socially. Teachers influence students not only through their direct interactions but also by setting expectations and providing reinforcement. When teachers are untrained or fail to consider the individual differences of students, it can lead to frustration and aggressive responses. Moreover, children may exhibit disordered behaviors as a way to mask underlying issues, such as learning difficulties.

Kauffman suggests five strategies for schools to adopt to reduce behavioral problems:

1. Recognize and respect individual differences in interests and abilities.
2. Set realistic expectations for behavior and academic achievement.
3. Address behavioral problems consistently, avoiding both extreme flexibility and excessive strictness, which can exacerbate issues.
4. Reward desired behaviors while ignoring undesired ones.
5. Make the study environment as engaging and appealing as possible to meet the educational needs of the child [23].

Cultural Factors

Cultural influences play a significant role in shaping behavioral issues in individuals. The values, habits, traditions, and norms of a society can contribute to the development of behavioral problems, particularly in children. A society's cultural values and behavioral standards, including taboos and social expectations, influence emotional, social, and behavioral development. For example, cultural practices in treating children—such as the differential treatment of males and females—can lead to problematic behaviors. In some communities, aggression may be encouraged in males, while females are expected to avoid such behaviors, creating conflicts and stress [25]. Additionally, mass media can exacerbate behavioral problems by promoting violence, drug use, and alcohol consumption, which may further affect children's behavior.

The Classification of Behavioral Problems:

Various frameworks classify behavioral problems, with one widely accepted model being Quay's dimensional classification, which evaluates behavior based on assessments by parents, teachers, and case history. It includes four dimensions:

1. Conduct disorder: Includes behaviors like mistrust of others.
2. Personality disorder: Exhibited as withdrawal, anxiety, and depression.
3. Immaturity: Characterized by short attention spans, submission, and daydreaming.
4. Social aberration: Encompasses behaviors like theft, recklessness, law violations, and involvement with deviant peer groups.

Behavioral problems are generally categorized as either externalizing or internalizing:

- Externalizing behaviors are actions directed outward, such as aggression, theft, and hyperactivity.
- Internalizing behaviors reflect inward-focused issues, including social withdrawal, anorexia, bulimia, depression, and phobias [22].

The Prevalence of Behavioral Problems among the Intellectually Disabled

Children with intellectual disabilities are particularly prone to behavioral problems. Research indicates that approximately 11% of children with intellectual disabilities also exhibit behavioral issues. These children often display specific challenges that make them more susceptible to behavioral problems, including limited learning abilities, attention deficits, depression, feelings of failure, and memory issues [10].

Previous Studies on Behavioral Problems Among Intellectually Disabled Children

Several studies have explored behavioral problems in intellectually disabled children.

Alzahrani's [26] study compared the behavioral problems of students with mild intellectual disabilities in integrated public schools and specialized educational institutions. It found significant behavioral issues, including aggression, hyperactivity, indiscipline, social behavior problems, and emotional disorders, in both settings. However, students in integrated programs showed fewer behavioral problems, particularly in aggression and hyperactivity.

Totsika *et al.* [27] conducted a study that tracked the behavioral problems of intellectually disabled children above the age of eleven. They found chronic physical aggression, self-harm, and stereotypical behavior were the most common issues, persisting into adulthood.

Mackenzie-Davies and Mansell [28] evaluated therapy units for intellectually disabled individuals and noted that the same behavioral problems identified two decades ago, such as aggression and self-harm, continue to be prevalent.

These studies highlight the ongoing challenges in managing behavioral issues in intellectually disabled children, emphasizing the need for specialized and consistent interventions across educational and therapeutic settings.

Karen *et al.* [29]: This study focuses on the comparison of psychological disorders between normal children and intellectually disabled children, ages 6-18. The results indicate that intellectually disabled children exhibit higher levels of behavioral problems compared to their typically developing peers, with significant differences found in aggression and attention issues.

Hogue *et al.* [30]: Hogue *et al.* investigated 172 intellectually disabled boys in reformatory institutions with varying levels of protection. The results showed that boys with a higher level of protection displayed more physical aggression, but there were no significant differences between the two groups in terms of externalizing behaviors like verbal aggression, disobedience, and hyperactivity. However, those in higher-protection programs exhibited more internalizing behaviors, such as anxiety, depression, and low self-esteem.

Musaad [31]: Mus'ad's study explored the effectiveness of family counseling in reducing attention problems and hyperactivity among intellectually disabled children. The study involved a test group and a control group, each consisting of educable intellectually disabled children. The results demonstrated significant improvements in attention and reductions in hyperactivity and impulsiveness in the test group.

Qasim and Abdulrahman [32]: This study aimed at designing a recreational program and assessing its impact on life skills, psychology, and motor abilities in educable intellectually disabled children. The findings showed that the recreational program positively influenced life skills, reduced the severity of behavioral problems, and helped the children adapt to themselves and their communities.

Suliman [12]: Suliman emphasized the importance of training programs tailored to the capabilities of intellectually disabled individuals. Such programs help reduce the severity of behavioral issues and aid these individuals in developing the skills necessary to manage daily life demands and integrate into society.

Hash (2001): This study examined the effect of a social skills development program on behavioral disorders in intellectually disabled children. The results showed that the test group exhibited significant improvements in social skills, as indicated by pre- and post-test comparisons.

Bakhsh [33]: Bakhsh focused on the impact of a training program designed to reduce hyperactivity in intellectually disabled children. The study found significant differences between the pre- and post-program scores of the test group, with improvements in both overall behavior and specific sub-skills.

Allumithi [34]: This study investigated the effectiveness of a behavior program in enhancing social skills in intellectually disabled children. The results revealed statistically significant improvements in the social skills of the test group compared to the control group, suggesting that behavior programs can effectively address these issues.

Dailey [35], Dailey's research explored the relationship between IEPs and the academic achievement of fifth-grade students in special education classes. The study found a positive correlation between IEPs and students' academic performance. Special education teachers indicated that IEPs were an effective tool in assessing and meeting the academic needs of students with special needs.

Thomas *et al.* [36]: Thomas and colleagues investigated the prevalence of behavioral disorders in a community-based sample of intellectually disabled individuals aged 16-64 years. The study found that 60.4% of the sample had behavioral disorders, with 18% suffering from severe issues like violence, destruction, and self-harm. Factors contributing to behavioral disorders included gender (with females more affected), the severity of intellectual disabilities, and the presence of cramping episodes.

Summary of Previous Studies

The studies collectively highlight that intellectually disabled individuals often experience various behavioral problems, ranging in intensity and impact on psychological and social adaptation. The studies also emphasize the variety of interventions used to address these issues, including counseling, medical treatments, environmental adjustments, and behavior programs. These methods aim to reduce behavioral problems and improve the quality of life for intellectually disabled individuals, helping them integrate better into society.

Methods

The study sample consists of 12 students from special education schools in Rafha Province. These students have IQs ranging from 55 to 69 according to the Wechsler scale, and they are between the ages of 7 and 10 years, as per official school records. The participants are divided into a test group and a control group, each consisting of six students. The students were selected based on nominations from the school's psychologist, who also used the Burks scale to diagnose them with behavioral problems.

To assess the effects of the IEP, the study uses several tools. These include the IEP developed by the researcher, the Burks scale [37], and an observation checklist to monitor the student's behavior directly. This checklist was also designed by the researcher to gather accurate behavioral data.

The methodology of the study involves a design with two groups: test and control. Both groups will undergo pre- and post-testing to evaluate the impact of the IEP on their behavioral issues.

The study is guided by a few key hypotheses. First, it assumes there will be no significant difference in the behavioral problems of the test group before and after the IEP is implemented, based on their performance on the Burke behavior rating scale. Similarly, it predicts no significant difference in the control group's results before and after the intervention. Lastly, the study hypothesizes that there will be no statistically significant difference between the test and control groups after the IEP is applied.

In the context of this study, the term "individual educational plan" refers to a tailored educational strategy designed to meet the specific needs of students with intellectual disabilities. The plan includes clear goals, teaching methods, and timelines to ensure effective learning, and it specifies both what the students must learn and what the teachers are required to teach.

Study Procedures

Study Sample and Population

The study sample includes 12 educable intellectually disabled students from Haroon Al-Rashied Elementary School in Rafha Province. The students' IQ scores range from 55 to 69, based on the Wechsler scale, and their ages are between 7 and 10 years, according to official records. The sample is split equally into test and control groups. The students were selected based on the recommendation of the school psychologist, following a diagnosis of behavioral issues using the Burks scale [38].

Study Tools

1. The Burks Scale

The Burks scale is a behavioral assessment tool designed to identify disordered behavior patterns in children with behavioral issues. The scale includes 110 items, covering 19 different behavioral problems that form the scale's sub-categories. Five of these problems, considered the most common among intellectually disabled children, were selected: care, attention, emotional regulation, anger, and social conformity. The scale's main purposes are to identify problematic behavior patterns in children, aid in developing individualized educational plans, track changes in behavior over time, and assess the effectiveness of treatment programs. The reliability and validity of the scale have been verified, with high and appropriate correlation coefficients across all sub-categories [37]. The scale is filled out by the psychologist, parents, or any individual with direct contact with the child, who rates each item from 1 to 5. After the responses are scored, the scale determines if the behavioral issues are significant, minor, or highly significant.

2. IEP The IEP is a plan developed by the researcher to address the behavioral issues of the students. It consists of 13 activities that take place both inside and outside the school. These activities include role-playing, acting, puppet theater, leadership tasks within the school, gardening activities, assisting the teacher in the classroom, participating in school morning announcements, social visits, involvement in school committees, additional sports activities, watching videos related to specific behavioral patterns, and joining workgroups and social committees. The plan is based on the researcher's expertise,

input from experienced teachers, and advice from professionals working with intellectually disabled students. It incorporates therapeutic teaching strategies aimed at students with attention and hyperactivity issues, and it includes activities that engage students outside the classroom. The IEP is reviewed by a team of Ph.D. holders and field-based experts, who provide feedback and adjustments based on the student's interests, attitudes, and age, with a focus on physical activities.³ Bottom of Form

Study Methodology

The study utilizes a two-group test design (test and control groups) with both pre- and post-testing. The independent variable is the IEP, while the dependent variable focuses on behavioral issues. The research incorporates two primary tools: the IEP designed by the researcher and the Burke behavior rating scale [37].

Procedural Steps

Following consultations with the school psychologist and an examination of the student's psychological and social records, a group of children with similar age and cognitive levels is selected for testing. The students' IQ scores range from 55 to 69 on the Wechsler scale, and their ages are between 7 and 10 years old, with a mean of 8.75 years and a standard deviation of 1.13. Both the test and control groups are assessed using the Burks behavior rating scale to identify key behavioral problems and their severity. This initial testing reveals significant behavioral issues within both groups, with findings analyzed through the Mann–Whitney test (see **Table 1**).

For the test group, a tailored IEP incorporating social, motor, and emotional activities is developed. Teachers, psychologists, activities teachers, physiotherapists, social workers, and vocational trainers are trained on how to implement and manage the activities outlined in the plan. This plan is applied five days a week for eight weeks. Children who show engagement are rewarded with verbal praise as well as social and tangible reinforcements. Weekly meetings between the teacher and psychologist are held to assess the frequency of undesired behaviors, evaluate the flexibility of the activities and reinforcements, troubleshoot any potential issues, and provide ongoing feedback to the teachers and experts involved.

At the end of the intervention, the Burks scale is re-administered to both the test and control groups. The results of the pre- and post-tests for both groups are then compared statistically to evaluate the effectiveness of the IEP in addressing behavioral issues among intellectually disabled students.

Statistical Methods

To validate the hypotheses, the study employs the Wilcoxon test and the Mann–Whitney test. Additionally, the Z-value is calculated to assess the statistical significance.

Results and Discussion

Table 1. The results of the Mann–Whitney test show the non-existence of differences between the test and control groups before applying the IEP

Area	Mean		Mean Rank		The sum of the ranks		U	W	Z	Significance
	Test	Control	Test	Control	Test	Control				
Attention deficiency	19.33	19.66	6.25	6.75	37.5	40.5	16.5	37.5	-0.248	0.804
Low capacity of action control	19.16	18.66	7.17	5.83	43.0	35.0	14	35	-0.659	0.510
Weak ability to restrain anger	14.83	14.33	6.67	6.33	40.0	38.0	17	38	-0.165	0.869
Stubbornness and resistance	19.16	18.66	7.25	5.75	43.5	34.5	13.5	34	-0.744	0.457
Weak social conformity	22.83	22.66	6.33	6.67	38.0	40.0	17	38	-0.162	0.871

Table 1 illustrates the most prominent behavioral issues observed among intellectually disabled children in both the test and control groups. These findings align with the research by Ross and Cornish (2002), Karen *et al.* [29], and Hogue *et al.* [30], which all indicate a high prevalence of aggression and attention deficits among intellectually disabled children. The table reveals that no statistically significant differences existed between the test and control groups before the implementation of the IEP, suggesting that both groups were similar in terms of their behavioral challenges. This similarity supports the validity of using the IEP and reinforces its potential impact on both groups.

Results of the First Hypothesis

The first hypothesis posits that there is no statistically significant difference between the mean ranks of the test group's pre- and post-test scores on the Burks behavior rating scale. The Wilcoxon test is used to determine whether there is a significant difference between the mean ranks for the test group's pre- and post-test scores on the Burks scale.

Table 2. The results of the Wilcoxon Test and its statistical significance between the mean ranks of the test group's grades regarding the pre- and post-tests on the Burks scale.

The dimensions of the Burks scale	Ranks	Number	Mean rank	Sum of the ranks	Z-value	Significance level
Attention deficiency	Negative	5	3.90	19.50	-1.892	0.058
	Positive	1	1.50	1.50		
	Equal	0				
	Sum	6				
Low capacity for action control	Negative	6	3.50	21.00	-2.264	0.024
	Positive	0	0.00	0.00		
	Equal	0				
	Sum	6				
Weak ability to restrain anger	Negative	5	3.00	15.00	-2.032	0.042
	Positive	0	0.00	0.00		
	Equal	1				
	Sum	6				
Stubbornness and Resistance	Negative	6	3.50	21.00	-2.232	0.026
	Positive	0	0.00	0.00		
	Equal	0				
	Sum	6				
Weak social conformity	Negative	6	3.50	21.00	-2.207	0.027
	Positive	0	0.00	0.00		
	Equal	0				
	Sum	6				

Table 2 demonstrates that there are statistically significant differences in the behavioral problems between the test group's pre- and post-test mean ranks, with the post-test scores showing improvement. The IEP helped reduce the severity of some behavioral issues, such as the ability to control actions, restrain anger, stubbornness, resistance, and social conformity. However, the plan did not affect the issue of attention deficiency.

The researcher attributes these findings to the nature of the plan's activities, which are primarily based on motor and social activities, including farming, physical exercises, participation in the social and morning assembly committees, and taking on leadership tasks in the school. These activities contributed to reducing hyperactivity and promoting emotional release, which in turn reduced tantrums. Additionally, social involvement and adherence to the school's rules and regulations positively influenced discipline. However, attention deficiency was not addressed by the plan, as this was not a specific focus.

These findings are consistent with the study by Qasim and Abdulrahman [32], which showed that similar programs effectively alleviate behavioral problems and improve the child's adaptation to themselves and their surroundings. The current study's results also align with Shash's [38] research on the positive impact of social skills development programs on behavioral disorders among intellectually disabled children.

However, the results of this study diverge from Musaad's [31] research, which found a positive impact of behavior programs on attention enhancement. This discrepancy may be due to differences in the nature, content, and methods of the behavior programs used in the different studies.

Results from the Second Hypothesis

The second hypothesis suggests that there is no statistically significant difference between the control group's pre- and post-test scores on the Burks behavior rating scale. The Wilcoxon test will be used to determine the statistical significance between the pre- and post-test mean ranks for the control group.

Table 3. The results of the Wilcoxon test, and its statistical significance between the mean ranks of the control group's grades regarding the pre- and post-tests on the Burks scale

The dimensions of the Burks scale:	Ranks	Number	Mean Rank	Sum of the ranks	Z-Value	Significance Level
Attention deficiency	Negative	3	2.50	7.5	0.00	1.000
	Positive	2	3.75	7.5		

Low capacity for action control	Equal	1				
	Sum	6				
	Negative	3	3.33	10.0	-0.707	0.480
	Positive	2	5.50	5.0		
	Equal	1				
Weak ability to restrain anger	Sum	6				
	Negative	4	2.63	10.5	-0.828	0.408
	Positive	1	4.50	4.5		
	Equal	1				
	Sum	6				
Stubbornness and Resistance	Negative	3	3.00	9.0	-0.447	0.655
	Positive	2	3.00	6.0		
	Equal	1				
	Sum	6				
	Negative	2	3.00	6.0	-0.447	0.655
Weak social conformity	Positive	3	3.00	9.0		
	Equal	1				
	Sum	6				

Table 3 demonstrates that no significant differences were found in the severity of behavioral problems between the test and control groups' scores on the pre- and post-assessments. This suggests that the behavioral issues of the control group remained unaffected by any interventions. The researcher attributes this outcome to the fact that the control group primarily relied on verbal instructions rather than engaging in hands-on activities that might break the routine and help address the behaviors. Therefore, the behavior issues reemerged once the verbal guidance was no longer in effect.

Results for the Third Hypothesis

The third hypothesis proposes that there are no significant differences between the test and control groups' post-test scores after the implementation of the IEP. To test this hypothesis, the Mann–Whitney test was used to compare the post-test scores of the test and control groups.

Table 4. The results of the Mann–Whitney test show the existence of differences between the test and control groups after applying the IEP

Area	Mean		Mean Rank		The sum of the ranks		U	W	Z	Significance
	Test	Control	Test	Control	Test	Control				
Attention deficiency	17.00	19.66	5.25	7.75	31.5	46.5	10.50	31.5	-1.207	0.227
Low capacity of action control	12.66	18.33	3.50	9.50	21.0	57.0	0.00	21.0	-2.898	0.004
Weak ability to restrain anger	11.83	13.83	4.25	8.75	25.50	52.50	4.50	25.5	-2.201	0.028
Stubbornness and resistance	18.50	18.50	3.67	9.33	22.0	56.0	1.00	22.0	-2.761	0.006
Weak social conformity	22.83	22.83	3.50	9.50	21.0	57.0	0.00	21.0	-2.887	0.004

As shown in **Table 4**, significant differences were found in the severity of behavioral problems between the test and control groups after the implementation of the IEP. The test group, which consisted of educable intellectually disabled students, exhibited notable differences in several behavioral issues identified on the Burks scale. These issues include action control, anger management, stubbornness, resistance, and social conformity. However, no significant differences were observed between the two groups concerning attention deficit.

The researcher suggests that the success of the IEP can be attributed to the fact that it introduced new motor and social activities into the test group's routine. These activities, which were previously missing, helped address behaviors related to anger, hyperactivity, and social conformity. The plan did not, however, include activities aimed at improving attention and focus. These findings align with the studies of Shash [38], Bakhsh [33], and Alhumithi [34], which showed the effectiveness of social skills programs in reducing behavioral issues among intellectually disabled children.

Conclusions

In this study, the researcher concludes that the IEP's success in alleviating certain behavioral problems is due to its holistic approach, which incorporates various behavioral therapy methods, including physical, social, and motor activities. These activities are effective in engaging the test group and addressing their behavioral challenges.

Recommendations

- Hold guidance sessions with parents to offer support and information on how to interact with their children in a manner suited to their intellectual abilities, avoiding physical or psychological punishment to reduce behavioral issues.
- Encourage special education and rehabilitation professionals to create preventive and therapeutic programs to address behavioral disorders among students with special needs.
- Provide ongoing training for teachers of intellectually disabled students to improve their skills and competence in handling children with special needs.
- Incorporate topics on intellectual disabilities into the academic curriculum to help shift societal attitudes toward intellectually disabled individuals.
- Conduct more research involving larger sample sizes of intellectually disabled children to obtain more comprehensive results.
- Standardize IEPs across all public, private, and voluntary special education institutions in line with the approach used in this study.
- Implement annual evaluations of the IEPs for intellectually disabled children to ensure continuous improvement.

Proposed Researches

- A comparative study examining the different parenting methods used for raising normal children versus intellectually disabled children.
- Investigating the effectiveness of inclusive programs aimed at integrating educable intellectually disabled students into general education schools.
- Conducting surveys on intellectual disabilities to assess the severity and prevalence of the condition.
- Developing and testing preventive and therapeutic programs designed to address behavioral disorders and evaluating their impact on reducing behavioral issues.
- A comparative study to explore the variations in behavioral disorders across different categories of intellectually disabled individuals.

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