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## Improving Teachers' Attitudes Toward the Teaching of Intellectually Disabled Students through Training in Evidence-Based Practices

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**Abstract.** Evidence-based practices (EBPs) implemented by qualified teachers are witnessing remarkable success in the education of students with intellectual disability (ID) and may hold promise for improving teachers' attitudes toward their profession. To test this idea, the current research prepared a training program based on EBPs. The research sample consisted of 72 teachers in intellectual education programs attached to general education schools in Al-Ahsa, Saudi Arabia. A quasi-experimental approach was adopted. The sample was divided into two groups: an experimental group (n = 34) and a control group (n = 38). Two instruments were utilized in this research: (a) the Attitudes toward the Profession Scale (ATPS) prepared by Al-Ajmi (2015), and (b) a training program based on EBPs developed by us. The results of the study show that there was a difference between the experimental and control groups in the post-test of the ATPS in favor of the experimental group. In addition, there was a difference between the mean scores of the experimental group in the pre- and post-tests of the ATPS in favor of the post-test. The findings suggest that intellectual education teachers' (IETs) professional development programs should focus on improving evidence-based training and continuously evaluate their impact on students with ID's classroom performance for long-term effectiveness. Finally, the research could be expanded to examine the impact of EBP training on IETs' attitudes toward their students in a larger sample representative of the community.

**Keywords:** evidence-based practices; intellectual disability; intellectual education teachers; special education; teaching profession

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## 1. Introduction

Qualified teachers are the cornerstone of special education, since they are the most influential component in the educational process. However, recognition of their skills and competencies is often dwarfed by other elements that enter the process, such as curricula and organizational practices. As a result, negative attitudes toward the profession can develop, causing psychological tension, anxiety, and stress—setbacks that teachers face in general (Esmail, 2017). These problems are exacerbated among special education teachers due to the nature and requirements of their job. As Ibrahim and Al-Ridi (2011) have shown, working with students with disabilities may negatively affect both job performance and job satisfaction. In recognition of the many difficulties inherent to the teaching profession, the Kingdom of Saudi Arabia has devoted efforts to raising its standard of education by updating and improving the quality of its teacher training programs across the board. These efforts have focused on implementing evidence-based practices (EBPs), particularly among students with disabilities (Council of Economic and Development Affairs, 2016).

Intellectual education teachers (IETs) play an important role in applying EBPs to students with intellectual disability (ID). Through their attitudes, beliefs, and knowledge, experienced teachers choose certain practices to adopt and others to avoid, as the wrong practices can exacerbate educational difficulties and behavioral problems rather than reduce them. Research has shown that the more EBPs are implemented by teachers, the higher the achievement scores of ID students (Al-Otaibi, 2022). Hence, it is necessary for IETs to be aware of EBPs, the extent of their importance, the criteria used to judge which EBPs should be implemented, and the difficulties that may prevent their use (Al-Hussein, 2017). There is no doubt that students with ID are among those most in need of teaching and training through EBPs due to their neurodevelopmental disorders (Wehmeyer & Shogren, 2016). These students suffer from deficiencies in general mental abilities, as demonstrated by a reduced ability to solve problems, plan, judge, and learn from experience. They also suffer from deficiencies in adaptive performance, as shown in their comparative lack of personal independence and social responsibility (American Psychiatric Association, 2022). EBPs are important components of special education because they offer a framework for using research to guide practice and policy (Buren et al., 2021). In intellectual education, the use of EBPs for teaching students with ID requires full awareness of how to choose and apply these practices to improve educational outcomes. Furthermore, it may contribute to increasing teachers' competencies, thus improving their attitude toward their profession.

Research field trips conducted by us in intellectual education programs attached to general education schools in Al-Ahsa showed a decline in IETs' attitudes toward their profession. This has been indicated by low levels of creativity and a lack of effort in carrying out curriculum activities and those of individual educational programs offered to students with ID. Based on our direct observation of classroom practices and specific questions posed to teachers, we concluded that IETs, including teachers of students with ID, are insufficiently prepared and qualified. Hence, they lack the basic skills to implement effective

strategies and consequently experience a low level of job satisfaction, despite their recognition of support services. Their education is not based on EBPs, which leads them to act on personal opinions, unfounded beliefs, or biases toward certain decisions or practices in order to achieve the required goals.

Based on the foregoing findings, the importance of this research lies in the scarcity of research on EBPs in teacher training programs, especially in the area of special education. This research examines the effectiveness of training programs based on EBPs and, more specifically, the extent to which they can improve attitudes toward teaching students with ID.

Two research questions were posed:

1. Are there statistically significant differences between the mean scores of the control and experimental groups in the post-test of the Attitudes toward the Profession Scale (ATPS)?
2. Are there statistically significant differences between the mean scores of the experimental group in the pre- and post-tests of the ATPS?

## 2. Literature Review

The concept of EBPs was first introduced in the field of medicine, where doctors used evidence-based medicine to make treatment decisions and best practice recommendations for patients (Drahota et al., 2014). Its application soon expanded to the field of psychology. Here, its main goal was to promote empirically supported principles by integrating the best available scientific research from laboratories and the field with clinical experience to provide effective psychological services that respond to the patient's culture, preferences, and characteristics (APA, 2015). Since these early applications of EBPs, the concept has been utilized in many areas, including mental health, criminal justice, social work, and education (Taxman & Belenko, 2012). From an international scientific point of view, EBPs have become essential to education, although Arab governmental and private institutions in the educational field have yet to direct their full attention to them. EBPs are an emerging focus in Saudi Arabia, especially as they apply to the education of students with disabilities and the standards set by the Council for Exceptional Children (CEC) (Eid, 2020). EBPs in special education are those specific educational practices that are supported by multiple, high-quality empirical studies that show meaningful positive effects on the outcomes of students with disabilities (Cook et al., 2015). They are distinguished from "promising" and "effective" practices by the degree of empirical support they have accrued. Whereas practices that are deemed promising or effective are considered to have a positive impact on student results, not enough research has been conducted to verify their effectiveness (Cook et al., 2015; NSTTAC, 2023). By contrast, an EBP is defined as a practice that has a positive impact that appears clearly in experimental, quasi-experimental, and single-case studies.

Torres et al. (2012) devised ten steps regarding the utilization and dissemination of EBPs: (1) evaluate the characteristics of the teacher, the student, and the environment; (2) scout for EBPs; (3) choose an EBP; (4) determine the main elements of the chosen EBP; (5) adopt the EBP through a loop of adequate

teaching; (6) examine the application integrity of the EBP; (7) record students' performance; (8) implement changes where needed; (9) determine teaching choices on the basis of the recorded performance data; and (10) encourage the use of the chosen EBP.

In a review of literature on EBPs used for teaching students with ID in the Kingdom of Saudi Arabia, Al-Shammari et al. (2021) found that 11 out of 36 studies focused on practices that met the criteria of the CEC. These practices were effective for teaching students with ID. In another Saudi Arabian study, Al-Omari and Al-Zaraa (2021) aimed to verify the extent to which EBPs are applied in programs for students with ID. Their study, which was based on teachers' perspectives, showed a significant degree of application, with teachers applying 25 EBPs in IET programs for students with ID. Al-Gahtani and Al-Johani (2022) aimed to determine the extent to which EBPs are applied in integrating students with ID into general education in Yanbu Governorate. The results of the study show a high degree of EBP application aimed to integrate students with significant levels of disability. A study by Al-Otaibi (2022) sought to distinguish between the attitudes of special education teachers (including IETs) toward EBPs. The results show that overall attitudes were positive, despite obstacles to EBP implementation. These included a lack of financial support for the tools and equipment needed and limited communication between researchers and teachers. Furthermore, Fouad (2022) implemented a training program to improve the efficiency of teachers applying EBPs to students with autism spectrum disorder. He concluded that the training program was successful. Finally, two recent studies were conducted showing the use of EBPs for students with ID. Al-Malky and Al-Rasheed (2023) investigated teachers' perspectives on implementing EBPs in teaching ID students as well as differences in their implementation according to the variables of student gender, educational level, and teaching experience. The study's findings demonstrate a high degree of implementation of EBPs for students with ID across the board. The survey research conducted by Casale-Giannola et al. (2023) sought to better understand EBPs for teaching adolescents with ID in an inclusive classroom. The usefulness and efficacy of the activities implemented were appraised by the participants (adolescents with ID) and the findings revealed that teachers consistently used visual assistance and behavioral modification, which they considered useful in integrating students with ID into general education.

In Saudi Arabia, interest in developing IETs has increased in recent years, leading to a need for scientific and educational research on the knowledge, competencies, and strategies required by IETs for students with ID. The importance of appropriate teaching strategies and methods, classroom management skills, and support for positive behavior have been especially highlighted (Al-Hossyan, 2022). According to Layden et al. (2022), administrators should concentrate on identifying the factors that promote the professional happiness of IETs, which may involve assisting with preparation time or offering relevant professional development opportunities. Teachers who have a positive attitude toward their profession will find it relatively easy to develop their students' intrinsic motivation for learning, establish effective communication with them, and

improve the learning process for the benefit of students and teachers (Andronache et al., 2014).

This study defines *attitudes toward the profession* as “the outcome of ideas, emotions, and behaviors, whether positive or negative, which the teacher shows as a result of his experiences regarding an idea, an individual, an object, or a specific topic” (Al-Ajmi, 2015, p. 168). Attitude is an acquired psychological trait characterized by the relative stability of beliefs that an individual holds about a subject or a situation, beliefs that prepare the individual to respond in a way that is personally satisfying (Al-Azzam, 2017). With respect to the intellectually disabled, Abo El-Naga (2020) defined attitude as the positive or negative personal experiences that ordinary members of society have about these individuals and their ways of dealing with them, their rights, and their need for care and integration.

Few studies have been conducted on the attitudes of special education teachers, including their intentions to quit or remain in the teaching profession and the factors influencing their choices (Layden et al., 2022). Al-Ajmi (2015) aimed to identify the attitudes of teachers of intellectual education in the Kingdom of Saudi Arabia considering variables such as gender, education, qualification, and teaching experience. To achieve the aim of the study, the researchers developed a scale, the ATPS, which they used to measure attitudes toward the profession. The results of the study show that moderate attitudes toward the profession exist among both male and female IETs. In another study, Al-Ajmi and Al-Dosari (2016) showed that IETs possessed only a moderate level of teaching competencies. Ben Moussa and Ben Zamoush (2017) confirmed a decrease in the level of teaching competencies among IETs and argued that educational qualifications played a role in raising the level of teaching competencies of these teachers.

Jarish (2018) aimed to determine job satisfaction and its relationship to professional performance among special education teachers, including IETs, in the Arab Republic of Egypt. The results reveal a statistically significant positive correlation between job satisfaction and the professional performance of special education teachers. Lotfy (2018) sought to determine the academic needs of special education teachers in the preparatory stage in the Kingdom of Saudi Arabia and the relationship between these needs and attitudes toward the teaching profession in light of certain variables. The results show an inverse potential relationship. Al-Dosari’s (2022) research analyzed private elementary school teachers’ attitudes toward including pupils with ID in general education classrooms in the Kingdom of Saudi Arabia. It was found that private school teachers had a slightly unfavorable attitude toward the inclusion of pupils with ID. There was no correlation between teachers’ attitudes and their age or education level. However, a correlation was found between teachers’ perceptions of including students with ID and the type of disability, the teacher’s gender, the role of the teacher (special education vs general education), and the teacher’s training in inclusive education.

In a study of IETs in Sudan, Amin and Muhammed (2022) found that IETs lack self-efficacy as a result of a lack of available resources and adequate support

services. To remedy this situation, they sought to prepare a training program and verify its effectiveness in improving the self-efficacy of teachers of intellectual education. The program succeeded in achieving its intended objectives. Another study by Maghraby (2022) aimed to identify the nature of the relationship between the psychological hardiness of IETs and their attitudes toward students with mild ID. The results show that teachers' attitudes toward their students with mild ID were positive.

A recent study by Al-Solami and Vaughan (2023) investigated teachers' opinions regarding the inclusion of students with ID in mainstream school settings in the Kingdom of Saudi Arabia. According to the findings, many teachers perceive that they lack the academic credentials and training needed to include students with ID, although they do not hold this view with regard to students with learning disabilities. Inadequate educational resources, a lack of time to devote sufficient attention to students with ID, insufficient knowledge about IDs, and unsuited classrooms for students with ID were all identified as hurdles to inclusion. This study highlighted an evident need not only for teacher training to educate students with ID but also, and more importantly, for methods to execute these strategies more successfully in ordinary educational settings.

Burikeet and Talafha (2023) sought to assess the educational competencies of teachers of students with ID in the Kingdom of Saudi Arabia from the viewpoint of their supervisors and managers. The results indicate a moderate level of competency. A previous study by Al-Suhaimi and Al-Zaraa (2021) aimed to determine the level to which the standards of the CEC are applied in individual educational programs for students with ID. The results indicate that, according to teachers, the general level of application was high.

Several of the studies mentioned above, including both foreign and Arab studies, focused on limiting the EBPs of IETs to determine the extent to which teachers are aware of them in teaching students with ID. Some of these studies were descriptive, such as those by Cook et al. (2015), Eid (2020), Alomari and Al-Zaraa (2021), Al-Shammari et al. (2021), Al-Malky and Al-Rasheed (2023), whereas others were experimental, such as Fouad's study (2022). In addition, several studies focused on IETs, including the study of Al-Ajmi (2015), Al-Dosari (2022), and Al-Solami and Vaughan (2023). Most studies tended to study teaching competencies and self-efficacy. Notable here are the studies of Al-Ajmi and Al-Dosari (2016), Amin and Muhammed (2022), and Burikeet and Talafha (2023). However, no Arab programmatic study has been conducted within the limits of our knowledge that focuses on the extent to which training programs based on EBPs can improve attitudes toward the profession. This study aims to fill this research gap.

### **3. Methodology**

In this section, we discuss the materials and techniques used in our study to meet the research objective and answer the research questions. The following sub-sections present a full summary of the research design, participant selection criteria, research instrument, and data analysis methodologies used in this study.

### 3.1 Study Design and Participants

The research followed a quasi-experimental approach. The chosen methodology was considered appropriate for the research because of its ability to determine the effect of one variable on another. The main independent variable in this research was the training program used with the experimental group, which was based on EBPs. The control group did not undergo any kind of training. The dependent variable in this research was attitudes toward the profession. We thus followed a group-based design with control subjects and pre- and post-treatment tests.

The study population consisted of all IETs who worked with students with ID in Al-Ahsa, Saudi Arabia in the third semester of the academic year 2022–2023. This population was estimated to be about 369 teachers: 284 male and 85 female. Before conducting the study, we obtained the necessary permissions to apply the research methodology to the research sample. These permissions consisted of approval from a scientific research ethics committee and a letter facilitating the task. A sample of 72 teachers—52 male and 20 female—was selected through purposive sampling. The sample was randomly divided into two groups, one of which was experimental ( $n = 34$ ) and the other control ( $n = 38$ ). We verified the homogeneity of the two research groups through a number of variables (chronological age, teaching experience, and attitude toward the profession). The results clearly show no statistically significant differences between the mean scores of the experimental and control groups with respect to chronological age, teaching experience, and attitude toward the profession, which means that the two groups were homogeneous.

### 3.2 Research Tools

#### 3.2.1 Attitudes toward the Profession Scale (ATPS)

In this research, we used the ATPS prepared by Al-Ajmi (2015) for use among IETs. The scale consists of 24 statements, each of which has five response alternatives: 5 = *always*; 4 = *often*; 3 = *sometimes*; 2 = *rarely*; 1 = *never*. The scale was designed to be comprehensive as it was originally applied to a large sample of male and female IETs ( $N = 224$ ) in the Kingdom of Saudi Arabia. Possible scores range from 24 to 120, where a high score indicates a positive attitude toward the teaching profession and a low score indicates the opposite.

The validity of the scale was verified through the peripheral comparison method. This was done in a random manner, where 30 male and female teachers from intellectual education programs were selected as a sample to standardize the scale. Their ages ranged from 25 to 45 years. A copy was applied and the correlation coefficient of each statement was calculated, with the total score obtained as a whole and based on upper and lower ratios. By referring to Flanagan's tables of binary correlation, we found that all statements were true and positive, with the exception of two non-significant statements that were omitted. The initial version consisted of 26 statements.

The stability of the scale was verified through re-testing, where the test was re-tested on the same rationing at an interval of 11 days. The correlation coefficient between the two applications was calculated at 0.78, which is a significant value at the level of 0.01. Cronbach's alpha coefficient was used, measuring at 0.076. In

addition, the semi-partition method was used, which involves calculating the correlation coefficient between the responses of the sample of the rationing on the odd- and even-numbered statements, respectively. We calculated stability using Spearman's equation and found that it attained a score of 0.84. These values all indicate that the scale was stable. Finally, the modal probability method was used by calculating separately the frequency and relative frequency of the participants' responses to each of the five possible answers to each statement and calculating the stability coefficient for each of them. In its final form, the scale consisted of 24 statements.

### *3.2.2 Training program*

The training program based on EBPs aims to improve attitudes toward the profession (nature and conditions of work, self-motivation, and professional relations) among teachers of intellectual education. The program was implemented over a period of 3 months and included 36 training sessions. The teachers of the experimental group were evaluated on the ATPS. After completing the program, the teachers of the experimental group were trained in the following order.

The **first two sessions** were devoted to introducing the teachers of the experimental group to the researchers and vice versa. After introducing the training program and showing its importance in improving attitudes toward the profession, we conducted the ATPS pre-test for the teachers in the experimental group.

**Sessions 3 to 34** were devoted to improving attitudes toward the profession among the teachers in the experimental group by improving their teaching efficiency and providing them with a set of EBPs intended to enable them to optimize their interactions with students with ID. The teachers were also advised to disregard personal opinions, which are often misconceptions and tend to lead to frustrations that negatively affect attitudes toward the profession. The training included learning how to locate appropriate EBPs. This requires reviewing the variables, namely the school, the classroom (e.g., the chronological age of the students and their individual needs), and the teacher; and determining the extent to which certain practices can be applied. It also emphasized the cost of implementing the practice in light of funding by the school administration. After identifying the essential components of relevant EBPs, the teachers were advised to locate the exact application list, if available. Implementing EBPs in the classroom involves identifying and preparing the necessary materials accurately, and then implementing the practice. The accuracy of the application needs to be verified.

The teachers in the experimental group were trained to identify the safety features of the application and how to use it in self-assessment, as well as how to request feedback through the use of this list to monitor the achievement of student learning outcomes. They were also trained on how to be able to choose or set up a tool to monitor progress. It is often necessary to modify the practice; thus, we emphasized the need to review the application list and obtain more feedback in the absence of improvement in learning outcomes. Moreover, the teachers were

advised to make educational decisions based on progress review data, and if modifications were made, to collect student progress data on an ongoing basis so as to analyze, interpret, and assess EBP effectiveness. Finally, we trained the teachers to share practices and exchange results with other teachers in the school by publishing successful results obtained and the lessons learned from the practice. This instilled in them a spirit of leadership and trained them on how to become advocates for their practice.

**Sessions 35 and 36** were devoted to evaluating the performance of the teachers in the experimental group. Evaluation was based on their implementation of the targeted skills in the program as determined based on the ATPS post-test. The training program included a range of techniques, most notably brainstorming, discussion and dialogue, role-playing, feedback, and home assignments.

#### 4. Results

In the following sub-sections, we present the results of our research and provide a brief analysis of the data collected. We begin by presenting the results of the independent samples *t*-test, a test of two independent samples, followed by the paired samples *t*-test of two related samples in an attempt to answer the research questions.

##### 4.1 Research Question 1: Are There Statistically Significant Differences between the Mean Scores of the Control and Experimental Groups in the Post-Test of the ATPS?

To answer the first question, we used the independent samples *t*-test. Table 1 presents the results.

**Table 1: *t*-test results showing the difference in mean scores between the control and experimental groups in the ATPS post-test**

ATPS	Group	n	Mean	SD	df	<i>t</i>	<i>p</i>
The nature and conditions of work	Exp. group	34	37.79	2.64	70	26.996	< 0.001**
	Con. group	38	24.05	1.61			
Self-motivation	Exp. group	34	31.56	1.69	70	34.606	< 0.001**
	Con. group	38	19.24	1.32			
Professional relationships	Exp. group	34	35.53	1.62	70	34.356	< 0.001**
	Con. group	38	22.21	1.66			
Total	Exp. group	34	104.88	3.71	70	48.072	< 0.001**
	Con. group	38	65.50	3.24			

Note. \*\*  $p < 0.01$

As seen in Table 1, there is a statistically significant difference between the mean scores of the experimental and control groups in the post-test of the ATPS in favor of the experimental group. The value of  $t$  for the total score of the scale is 48.072 and the  $p$ -value is  $< 0.001$ , which is lower than 0.01.

#### 4.2 Research Question 2: Are There Statistically Significant Differences between the Mean Scores of the Experimental Group in the Pre- and Post-Tests of the ATPS?

To answer the second question, we used the paired samples  $t$ -test. The results are presented in Table 2.

**Table 2:  $t$ -test results showing the difference between the mean scores of the experimental group in the pre- and post-tests of the ATPS**

ATPS	Test	n	Mean	SD	df	$t$	$p$
The nature and conditions of work	Pre-test	34	23.56	1.88	33	-47.186	$< 0.001^{**}$
	Post-test	34	37.79	2.64			
Self-motivation	Pre-test	34	18.82	1.49	33	-39.193	$< 0.001^{**}$
	Post-test	34	30.91	1.73			
Professional relationships	Pre-test	34	21.24	1.60	33	-21.937	$< 0.001^{**}$
	Post-test	34	33.59	2.74			
Total	Pre-test	34	63.62	4.05	33	-56.734	$< 0.001^{**}$
	Post-test	34	102.29	3.66			

Note.  $** p < 0.01$

Table 2 shows that there is a statistically significant difference between the mean scores of the experimental group in the pre- and post-tests of the ATPS in favor of the post-test. The value of  $t$  for the total score of the scale is -56.734 and the  $p$ -value is  $< 0.001$ , which is lower than 0.01.

## 5. Discussion

The results of the research show that the training program, which was based on EBPs, was effective in improving the attitudes of IETs toward teaching their students with ID. As for the research questions, there were statistically significant differences between the mean scores of the experimental and control groups in the post-test of the ATPS. In addition, there were statistically significant differences between the mean scores of the experimental group in the pre- and post-tests of the ATPS. Participants in the control group, who did not receive any training on how to select or apply EBPs that would improve their attitude toward the profession, thus fared worse than those in the experimental group. By improving their attitudes toward the profession through training in EBPs, teachers in the experimental group were in a better position to support school administration and fellow teachers and improve their own job satisfaction.

These results are consistent with those of various studies indicating the active role played by EBPs in the field of special education and its positive impact on both the teacher and the student (Al-Gahtani & Al-Johani, 2022; Al-Malky & Alrasheed, 2023; Al-Omari & Al-Zaraa, 2022; Al-Otaibi, 2022; Al-Shammari et al., 2021;

Andronache et al., 2014; Casale-Giannola et al., 2023; Fouad, 2022; Layden et al., 2022). These results also agree with Maghraby's study (2022) in that the attitudes of IETs toward their students with ID were positive. We attribute this success to the appropriate choice of EBPs used in this study. Applying EBPs in an effective manner requires precise steps to be taken. These steps involve identifying reliable sources for EBPs, selecting effective strategies, and developing individual training plans that will allow teachers to monitor, evaluate, and supervise students in a way that enables them to face challenges that would otherwise limit their ability to teach. The choice of EBPs must be made by conducting research and distinguishing between more and less accurate sources, which the training program in this study facilitated. It is not enough for a teacher to apply an EBP to a student with an ID if the teacher does not know which EBP to select or how to successfully implement it. Training in EBPs includes learning the necessary steps that need to be taken to ensure the appropriate practice is implemented, properly applied, and continuously monitored in relation to student performance.

Teachers in the experimental group learned the abovementioned steps, which involved identifying the characteristics of the student and the environment. They also learned how to search for EBPs, define an EBP, identify its basic components, and implement the practice effectively while also verifying the accuracy of implementation through monitoring. The latter is essential since flexibility is required in implementing an EBP to achieve optimal results. For this reason, also, teachers need to share their practices and exchange results with other teachers, as mentioned by Torres et al. (2012) in relation to their ten-step method for ensuring the successful application of EBPs. Training in EBPs was thus shown to benefit both the teacher and the student, preventing psychological burnout, low self-efficacy, and low teaching efficacy. The training program had a positive effect on the experimental group by helping to reduce many of the frustrations to which IETs are exposed. It also lessened their need to improvise, which can impede the progress of students with ID, reveal a low level of teaching competencies, and result in negative attitudes among teachers toward their profession.

## **6. Limitations**

Despite the positive results of this research, a number of limitations were encountered. The sample used in the research may be limited or not representative of all teachers who work with students with ID. Moreover, it may be difficult to measure the change in attitudes and behaviors of IETs accurately and objectively. There may be variables other than chronological age, teaching experience, and the degree of application of EBPs that affect changing attitudes toward educating students with ID, such as gender, specialization, school environment, and appropriateness of the classroom. Future studies should pay attention to these variables. It can be difficult to determine whether changes in attitudes actually lead to improvements in the educational process and learning outcomes for students with ID.

## **7. Conclusion and Recommendations**

The outcomes of this study demonstrate how the practical level of IETs can have an impact on the students. In-service or pre-service professional development

programs can be used to increase the awareness of IETs about the value of EBPs by standing as a support system for IETs to mend the gap between research and practice, which is part of the goals of this research. By training IETs on the latest effective, evidence-based educational strategies and raising awareness on their positive effects on students with ID, the attitudes of IETs toward their students should also improve. Prior to conducting this study, none of the IETs in the sample had undergone training on EBPs. Thus, we recommend that professional development programs must be applied before or during service to increase the awareness of IETs about EBPs in the field of intellectual education. Particularly, their ability to apply those practices on their students should be improved according to the Torres model, the training program that served as the basis of this research. This training program can be considered a first step toward helping IETs improve their attitudes toward their students.

Based on the results of the research, we recommend that professional development programs for IETs focus on developing and improving evidence-based training programs for IETs. Additionally, to attain long-term effectiveness, training programs provided to IETs must continuously be evaluated, including their impact on the performance of students with ID in the classroom. The scope of research should also be expanded to study the factors that may influence changes in the attitude toward IETs, including the educational background and previous experience of the teachers. Barriers that IETs may face in applying EBPs should be assessed and strategies developed to overcome them. Future research can evaluate the impact of training based on EBPs on relationships between IETs, students with ID, and their families. Research can also evaluate the effect of training on EBPs on the job satisfaction of IETs. Finally, the research can be expanded to study the effect of training on EBPs on special education teachers' attitudes toward their students with other types of disability.

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