INVESTIGATING EFFECTIVENESS OF DISABILITY FRIENDLY EDUCATION TRAINING MODULES IN INDONESIAN SCHOOLS

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ABSTRACT

This study aimed to determine the effect of disability friendly education training on teachers' understanding by applying disability-friendly education training modules. The research design adopted the pre-posttest method given to the same group before and after training on imparting disability friendly education. Classroom teachers in inclusive schools under the Ministry of Religion in Surakarta were the subjects of this research. The validity of the instrument was tested by using content validity on the feasibility or relevance of the contents of the test instrument through rational analysis by expert judgment. The results showed that the paired sample T-Test score was -17.736 with significant level at 0.000, which means <0.05. It suggests that there is a significant difference in the score of the average teacher's understanding of disability-friendly education before and after training, and the difference is statistically significant too. It can therefore be concluded that disability friendly educational training is effective to improve teachers' understanding in public schools.

Contribution/Originality: The primary contribution of this research is to find out whether training modules can prove effective in developing understanding among teachers of public school about persons with disabilities. This study is unique in proving that training intervention can make schools become disability-friendly schools for persons with disabilities.

1. INTRODUCTION

Persons with disabilities have special needs, academically, socially and emotionally. In Indonesia, persons with disabilities are categorized into having physical, mental, intellectual and sensory disabilities (Pandji and Wardani, 2013; Pratiwi and Murtaningsih, 2013; Salim, 2017). Persons with disabilities need special education services, both in special schools (special schools) and in public schools (inclusive / integrated schools).

Inclusion schools are a form of education that unites persons with disabilities with normal children in order for them to learn together (Daroni *et al.*, 2018). Inclusion has a philosophy to bring students, families, educators and community members together to form a social institution based on acceptance, and mutual recognition (Salend, 2011; Faradina, 2016). Inclusion schools must accommodate all children regardless of their physical, intellectual, social emotional, linguistic or other conditions (Tarmansyah, 2007; Charema, 2010). Effective Inclusive Education is based on principle of sensitivity and accepts advantages and challenges and individual differences (Salend, 2011;

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Balta *et al.*, 2015). Indonesia Law No. 8 of 2016 concerns persons with disabilities. Its article 10 states that the right of education for persons with disabilities includes the right to obtain quality education in education units of all types, paths and levels of education in an inclusive and special manner. The Salamanca (1994) states that all children should be educated despite experiencing severe learning and development barriers; hence inclusive education must provide education that will prevent children from developing poor self-esteem and other consequences it might cause. Inclusive education aims to create cooperation between friends and all personalities in schools, not competition (Charema, 2010; Salim, 2019). Children in inclusive schools help and cooperate with one another, whether they are persons with disabilities or normal.

In order to establish a disability friendly inclusive education environment, the role of school community and school environment is very much needed. Haller (2006) showed that many schools accept persons with disabilities but schools are not friendly to people with disabilities. There is no flexible curriculum, accessibility is not widely available, and only about 39% of schools provide special programs according to disability needs. Unfriendly schools would lead to bullying behavior, discrimination including cyber bullying, depression and other maladaptive social interactions (Cross *et al.*, 2012). Rejection from peers and school members further make educational service meaningless for the children (Slam, 2016). In some cases, unfriendly attitude come from several factors such as having new friends, non-accessibility, transition, and lack of knowledge about disabilities (Harounan *et al.*, 2013). In addition, poor creativity, poor school management and limited facilities also contribute to stressful impact on children with disabilities (Oluremi, 2012). According to UNESCO (2007) there are several factors that support implementation of friendly education for persons with disabilities in inclusive schools, namely: (1) Strong policies and their compliance in schools on inclusive education, (2) High accessibility in school environment, (3) Skills, knowledge and attitudes in the form of teachers' acceptance, (4) Teacher's competency on disability services in inclusive schools, (5) Meeting equality needs for students, (6) Providing accommodating curricula and assessments, (7) Specific lessons / compensatory programs for persons with disabilities, and (8) Strong community support. Alimul *et al.* (2018) too reiterates these factors and emphasizes that schools should become friendly schools for persons with disabilities and meet their scholastic needs by providing to them (a) qualified human resources, (b) facilities that are accessible to persons with disabilities, (c) financial support, (d) standard operational services for students with disabilities, and (e) such learning models that are easily accessible to persons with disabilities.

In the context of teacher's view of persons with disabilities in inclusive schools, there are some negative views from teachers such as those explained by Syafrida and Aryani (2013) that negative attitudes of teachers towards inclusive education are shown in (1) Teacher's rejection to place person with disabilities in inclusion classes; and (2) The views of persons with disabilities that they do not have the ability to attend education in class with normal children. This negative view creates a lack of friendliness in schools for inclusive education. According to Ni'matuzahroh (2015) about school readiness as an inclusive school, some teachers (44.6%) stated that their school was not ready to become an inclusive school, because it would only burden the school without bringing benefits, and a majority of teachers (73.2%) said that not all schools need to be converted into inclusive schools.

The philosophical foundation for the implementation of inclusive education is the religious views associated with it (especially of Islam) which affirm that: (1) Humans are born in a holy state, (2) Someone's position before God (Allah) is not physical but because of Taqwa/ obedience to God (Allah), (3) Allah will not change the fate of a people unless they themselves change it, (4) Humans are created differently to be mutually friendly (Black-Hawkinsa, 2014). From the explanation, inclusion schools in the Ministry of Religion in Indonesia should have implemented friendly education for persons with disabilities, but the reality is still not optimal. This can be seen in the results of preliminary research on the understanding school teachers assigned as inclusive schools within the Ministry of Religion. They understand about disability-friendly education, 78% stated that they did not understand, and only 11% stated that they understood (Risnawati, 2013).

Based on the survey results on the attitude of teachers' acceptance in the Ministry of Religion towards friendly education for persons with disabilities, 17% of acceptance attitudes were low, 72% were moderate, and 11% were high (Nugraheni, 2018). Based on these results, the attitude and understanding of teachers towards friendly education for persons with disabilities within the Ministry of Religion needs to be improved. For this reason a friendly education training module for persons with disabilities should be developed in public schools.

This study aims to determine the effectiveness of the implementation of friendly education training modules for persons with disabilities to increase the understanding of teachers in public schools selected as inclusive schools.

2. METHODOLOGY

2.1. Research Design

This study adopted the pre-posttest design method to the same group in order to assess the impact of training. The study began with collecting preliminary data through a pre-test to teachers to assess their understanding of education services for people with disabilities. It was followed by training modules to teach how to implement disability-friendly education. These training modules had been developed prior to the commencement of this study. The training ended with a final test (post-test).

2.2. Participants

The research subjects included class teachers and subject teachers in inclusive schools within Surakarta Ministry of Religion. The selection of participants depended on following conditions: (a) he/she must be a class teacher or subject teacher in a school with persons with disabilities, (b) he/she should have a formal educational background not from a Special Education program (c) he/she should possess at least 2 years of teaching experience, (d) he/she should be willing to take part in training activities on the application of education training modules that are friendly to persons with disabilities, and (e) willing to take part in pre-test and post-test.

2.3. Data Collection Techniques

Data was collected by using a test method with the intention to accumulate teachers' understanding about disability-friendly education in inclusive schools. The data on disability-friendly education ensured that (a) the school guarantees to fulfill the rights of children with disabilities in every aspect of life in a planned and responsible manner as outlined in school policies and regulations, (b) there is accessibility in the school environment (c) there is an acceptance among teachers and school community for persons with disabilities to study together with non-disabled children, (d) there are programs to improve teachers' competency, (e) flexible curricula and assessments are available, (f) there are compensation programs and (g) schools rewards persons with disabilities for achievements, and (h) schools have a safe, healthy, clean and cultured environment.

2.4. Data Collection Procedures

Data was collected through several stages, namely: (a) it commenced with taking permission to conduct research in Madrasah Ibtidaiyah (Elementary Schools), Madrasah Tsanawiyah (Junior High Schools) and Madrasah Aliyah (Senior high schools). (b) It was followed by a random selection of teacher subjects. (c) The teachers were collected at one place for the pre-test, a tool to collect initial data about teachers' understanding of disability-friendly education. (d) After pre-test, there was training in disability-friendly education through specialized modules designed for the education of people with disabilities for teachers. (e) Final test (post-test).

2.5. Instruments

The research test instrument consisted of several sub-variables developed into a blue print instrument as shown in the Table 1.

Table-1. The blue print of test instrument on the understanding of friendly education for persons with disabilities in inclusive schools.

No	Sub variable	Total item
1.	Understanding of disability concept	3
2.	Understanding of inclusive education concept	3
3.	School rules contain guarantees for existence of persons with disabilities	2
4.	Accessibility at school both outside and inside of classroom, laboratory, library, and school office.	3
5.	School community's acceptance of persons with disabilities / non-discrimination	1
6.	Flexible curriculum and assessment	2
7.	Availability of compensatory training program	2
8.	Safe, healthy, clean, and cultured school environment	4
	Total	20 items

Source: Researcher document.

2.6. Validity and Reliability of Instrument

Validity of the test instrument was tested by using content validity on the feasibility or relevance of the contents of the test instrument through rational analysis by expert judgment (Anwar, 2012). The experts consisted of special education experts and inclusive education experts. Reliability of the instrument was to know the consistency of the results of the test instrument. In this study, the reliability was tested by using split-half reliability with the reliability level of 0.85 of alpha Cronbach.

2.7. Data Analysis Techniques

The data analysis technique was a paired T-sample parametric statistical technique used to find out how effective was training in improving teachers' understanding of friendly education for persons with disabilities. If the results show significance <0.05 or $p = <0.05$, then it means that the training carried out was effective, and vice versa. The data obtained was processed by using SPSS 20.

3. RESULTS

As explained earlier, the research data was collected through a pre-test and a post-test. Data collected was related to the teacher's understanding of disability-friendly education. Based on the results of the pre-test, the following descriptive analysis was evident (Table 2).

Table-2. Results of pretest data descriptive statistical analysis of teachers' understanding about disability-friendly education.

Descriptive statistics

Data	N	Range	Minimum	Maximum	Sum	Mean	Std. deviation	Variance
Pretest	30	35	35	70	1645	54,83	9,603	92,213
Valid N (list wise)	30							

Source: Results of descriptive analysis of pretest data.

Table 2 exhibits that the pretest score of teachers' understanding about friendly education for persons with disabilities was 35 at the lowest and the highest score was 70. It was classified into: very poor = 35 - 45, poor = 46 - 55, fair = 56 - 65, good = 66 - 75, very good> = 76. The average score of the pretest was 54.83 showing the level of teacher's understanding about the friendliness of persons with disabilities.

After obtaining the results of the pretest, teacher-participants were provided 2- day training to improve teachers' understanding about persons with disabilities. After the completion of training, the training participants were given a posttest. Data was analyzed by descriptive statistics whose results are shown in Table 3.

Table-3. Results of posttest data descriptive statistical on teacher understanding about disability-friendly education.

Descriptive statistics

Data	N	Range	Minimum	Maximum	Sum	Mean	Std. deviation	Variance
Posttest	30	35	60	95	2445	81,50	9,206	84,741
Valid N (list wise)	30							

Source: Results of descriptive analysis of post test data.

Table 3 illustrates that the score of teacher's understanding in the posttest on friendly education for persons with disabilities was 60 at the lowest and 95 at the highest. The score was classified into: very poor = 35 - 45, poor = 46 - 55, fair = 56 - 65, good = 66 - 75, very good = >76. The average score of the posttest was 81.50 including teacher's understanding about friendly education for persons with disabilities at a very good level.

Before conducting a paired sample T-test, parametric statistical prerequisite test was done, namely the normality test to find out whether the data obtained was normally distributed, because the requirements to conduct a paired sample T-test was to ensure that the data must be normally distributed. The following are the results of the normality test for pretest and posttest data, shown in Table 4.

Table-4. Results of the normality test of the pretest and posttest data of the teachers' understanding about the education of persons with disabilities.

Tests of normality

Data	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pretest	,205	30	,002	,934	30	,063
Posttest	,127	30	,200*	,948	30	,150

*. This is a lower bound of the true significance.
a. Lilliefors significance correction.

The normality test was performed on pretest and posttest data as shown in Table 4 with Shapiro-Wilk table section. The significance obtained from the pretest was 0.063 which means > 0.05 and the posttest was 0.150> 0.05. Similarly significance obtained was > 0.05, which proves that the pretest and posttest data scores were normally distributed.

Having found the data on pretest and posttest normally distributed, the data was then tested by using paired T-test samples to find out how effective the implementation of training modules for friendly education of persons with disabilities to the understanding of teachers in public / inclusive schools. The results of the paired sample T-test are shown in Table 5.

Table-5. Results of the paired sample T-Test of teachers' understanding about friendly education for persons with disabilities.

Paired samples t-test

		Paired differences							
				Std. error mean	95% confidence interval of the difference				
		Mean	Std. deviation		Lower	Upper	t	Df	Sig. (2-tailed)
Pair 1	Pretest – Posttest	-26,667	8,235	1,504	-29,742	-23,592	-17,736	29	,000

Source: Results of statistical data analysis t test samples in pairs.

From the results of the paired sample T-test (Table 5), it is revealed that *t* value is -17.736 with the significance level of 0.000, which means <0.05. It means that there is a significant difference in the average score of teachers' understanding about friendly education for persons with disabilities between before and after training, and the difference is statistically significant. It can be concluded that the implementation of friendly education training modules for persons with disabilities was effective in increasing teachers' understanding in public schools.

4. DISCUSSION

Based on the test results on the effectiveness of disability-friendly education training for teachers in public schools, it was concluded that training for friendly education for persons with disabilities was effective to increase the understanding of teachers in public schools about friendly education for persons with disabilities. These conclusions and results are in line with those of Risnawati (2013) who found that child-friendly schools are schools that consciously strive to guarantee and fulfill children's rights in every aspect of life in a planned and responsible manner. In addition to fulfill the rights for normal children, they also have to fulfill the learning rights of persons with disabilities to create an environment for friendly education.

The result of the research is also in line with the research finding by Cross *et al.* (2012;2018) who claimed that intervention reduces multi-level intimidation behavior among the educational staff after 3 years of training. The research by Cross *et al.* (2012) as noted, was addressed to children without disabilities. Even though this research focused on disabilities, the results indicated that training succeeded in changing the staffs' bullying behavior into friendlier attitude towards disabilities. The findings of this study also suggest that for a school to move on towards disability-friendly environment, it is the power of intervention that changes the negligence of teachers and staffs into positive attitude. Similarly, it was also felt that family members and peers too needed training and intervention practices to develop a positive attitude towards disabilities (Slam, 2016; Cross *et al.*, 2018). Henceforth, training and intervention plays a paramount role in changing people's behavior from relatively negative to positive attitude towards disabilities. Disability- friendly attitude among school members is likely to change through the intensity of training and intervention. In addition, for a school to be disability-friendly, the inclusive child-friendly environment needs special attention from the government as well as the school management. This is in line with the research by Oluremi (2012); Santos and Miguel (2019) stating that school with child-friendly classrooms as well as accessible infrastructure for all children could create a discrimination and bullying free environment, and make all students in school feel at home. According to Hartono and Pamungkas (2010) child-friendly schools aim to create a learning environment that encourages children to grow up safely, properly and pleasantly to get the right to good education and environment. Especially for public schools to be designated as inclusive schools and termed as schools with friendly education, they must provide a safe, feasible and enjoyable learning environment to even persons with disabilities. This need includes both physical and non-physical needs. This is in accordance with the results of Alimul *et al.* (2018) that to be friendly schools for persons with disabilities, public schools need (a) qualified human resources, (b) fulfilling disability-accessible facilities, (c) financial support (d) standard operational services for students with disabilities, and (e) easily accessible learning models for persons with disabilities.

Applying child-friendly education according to Utari (2016); Daroni *et al.* (2018) is that children will get their rights in good schools in terms of comfort, security, and freedom of expression, well conveyed in the delivery of learning materials and children feel comfortable. Children can learn without pressure and without coercion. The school also provides facilities and infrastructure both academically and non-academically. With this friendly education implemented, learning will be carried out maximally. Therefore it is necessary to implement friendly education for persons with disabilities in inclusive schools / public schools (Irawati, 2015).

The effectiveness side of friendly education to persons with disabilities training is that teachers finally understand that persons with disabilities need the eight aspects that must be applied to create friendly education in public schools, namely: (1) There are policies and support from schools on inclusive education, (2) Accessibility in the environment school, (3) The acquisition of skills, knowledge and attitudes by teachers, (4) Increasing teacher competency for disability services in inclusive schools, (5) Fulfilling equal needs for students, (6) Accommodating curricula and assessments available, (7) There are special lessons / compensatory programs for persons with disabilities, and (8) There is community support.

Disability-friendly education training for teachers in public schools has often shown effective results, but any improvement mechanism for teachers' understanding of disability-friendly education cannot necessarily be

implemented. This depends on the consistency of each teacher to implement friendly education for persons with disabilities. Haller (2006) and Hasan and Handayani (2014) explained that after teachers have received training, it turned out that only 40% of schools provided disability services and only 39% of schools provided curricula and learning materials that were suitable to the needs and abilities of persons with disabilities. This suggests that schools do not provide specific programs for disability services and nor their curriculum and learning materials are suitable to the needs of persons with disabilities. This research also faced a few limitations: (1) This model of training for friendly education for persons with disabilities was developed in public schools only under the management of the Ministry of Religion. (2) The sample used in this study was only for teachers in public school schools within the Ministry. That is why in future it needs to be developed more broadly into public schools which are not only within the Ministry of Religion. From the discussion, it can be concluded that training for disabled-friendly education for teachers in public schools can be effective in increasing teachers' understanding of disability-friendly education.

5. CONCLUSION

The results of the study concluded that training in the application of modules on friendly education for people with disabilities was effective in increasing teachers' understanding in public schools. Some recommendations for future researchers are (a) Friendly education modules for people with disabilities should be used more often in public schools, (b) the application of training modules should be able to include teachers from other broader regions so that several regions can provide friendly education services to people with disabilities.

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