

# The Analysis of Teachers' Competence in Participating the In-Service Training Program of Inclusive Education in Indonesia

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## Abstract

Theory, strategy, learning method, technology, and curriculum of inclusive education for both regular children and children with special needs (CWSN) are changing from time to time. Teachers require In-Service Training (IST) which enables them to adapt to these changes. One of the alternative ways for teachers who were already employed to obtain a new development access in education and educational technologies is to get IST. This research aimed to classify the teachers' competence in inclusive schools based on their participation in the In-Service Training program of inclusive education. The research subjects were the 38 inclusive school teachers, taken by purposive random sampling. The data was collected by using questionnaire and analyzed by using descriptive and parametric statistic. The results reveal that there was a significant difference in pedagogic competence of teachers based on their participation in the In-Service Training (IST) program of inclusive education. The more often the teachers participate in the In-Service Training program, the better their pedagogic competence can be.

**Keywords:** teachers' competence, inclusive school, in-service training

## 1. Introduction

Inclusive education is an education system which provides a great amount of opportunities for all learners with special needs, however are potentially bestowed with special intelligence and / or talent that enable them to be equalized in enjoying common educational environment along with general students. (Gearheart, 1976; Ministry of Education, 2009; Charema, 2010; Sunardi, 2011; Salim, 2016). In Indonesia, the implementation of inclusive education significantly aimed at overcoming the limited number of the existing special schools for special schools are proven to have been able to educate around 1% of children with special needs (CWSN) which aims to accelerate the achievement of the CWSN compulsory education program (Ministry of Education and Culture, 2016).

Inclusive education in Indonesia was initially programmed since 2003. In 2016, there are 2,100 inclusive schools (Ministry of Education and Culture, 2016). The large number of inclusive schools has not been complemented by the quality of education services since most teachers in inclusive schools have limited competence to educate CWSN. The formal education background of the teachers are non-special education graduates (Yusuf, 2014), consequently their competency of pedagogic, professional, social and personality in inclusive schools have not fulfilled the criteria as professional teachers in inclusive schools to educate regular children and CWSN (Yusuf, 2014a; Salim, 2015).

Teachers in inclusive schools are required to increase their competence in educating the CWSN (Gunarhadi, 2016). In addition, theories, teaching strategies, teaching methods, technology and curriculum also change and develop over time. Teachers need training and refreshment to adapt to changes and advances in science and technology (Demirtaş, 2010; Charema, 2010; Celik, 2011). One way for teachers to obtain access to new developments in education and educational technology is to participate in an in-service training program (IST). According to the results of many research, the quality of schools and the quality of school graduates depends largely on teachers and teacher professional development (Fendler, 2003; Borko, 2004; Balta, 2015). With IST program, it gives impacts for teachers on positive development and student learning success (Castillo, Fernández-Berrocal, & Brackett, 2013).

Since 2013, regular schools in Indonesia have attempted to implement the 2013 curriculum, including regular

schools providing services and educational access to children with special needs (CWSN) and they are called inclusive schools. Teachers need socialization of the implementation of curriculum 2013 and also how to implement the curriculum for CWSN (Kuntarto, 2014). The need for the 2013 curriculum socialization program and the strategy of adapting the regular curriculum to CWSN are sophisticated issues that need to be addressed in inclusive schools.

This condition has also happened in many of the developing countries such as in Malaysia (Manisah, 2006), Northern Ireland (Lambe, 2007), Serbia (Kalyva, 2007), Dubai (Gaad & Khan, 2007), and some other developing countries such as Russia (Shchipanova, 2016; Zvoleyko, 2013). Many aspects have not been fulfilled so that schools could not implement inclusive education as they should (Munawir, 2014) such as (1) the institutional aspect; (2) curriculum and learning, (3) student, (4) human resources, (5) facilities and infrastructure, (6) community participation, and (7) financing aspect. Due to the existence of the inclusive education movement in Indonesia, many IST programs have been served for teachers in inclusive schools, related to the 2013 curriculum and its implementation as well as strategies for adapting the curriculum and learning and assessment of CWSN in inclusive schools. How is the competence of teachers in inclusive schools viewed from their participation in IST program? The answer will be found by looking at the result of this research.

**2. Method**

*2.1 Participants*

The number of sample subjects were 38 teachers of inclusive schools, consisting of 27 people (71%) female teachers and 11 (29%) male teachers. They were selected by purposive random sampling, consisting of 24 people (63.2%) of primary school teachers, 10 people (26.3%) of junior high school teachers and 4 (10.5%) of high school teachers in Central Java province.

Research subjects are required to have (a) at least 5 years of experience as a teacher, (b) have an interest in teaching a children with special education in public schools, (c) having assignment / appointment letter as special teacher / mentor from the Regional Educational Service ‘Dinas Pendidikan Daerah’/ City, (d) are willingly to participate in a series of activities in this research.

*2.2 Measurement*

There are two data exposed in this study, namely the data of (1) teachers’ pedagogic competency and (2) needs of inclusive education training according to teachers. Teachers’ pedagogic competency is measured by using the indicator of Peraturan Menteri Pendidikan Nasional Republik Indonesia Number 16 Year 2007 About Academic Qualification and Teacher Competency Standards. The indicators include:

Table 1. Indicators of pedagogic competence mastery

Pedagogic competence	Indicator	Total item
		4
	Mastering learning theories and learning principles.	3
	Developing a curriculum related to subjects that are taught.	4
	Organizing learning that educates.	3
	Utilizing information and communication technology for the benefit of learning.	2
	Facilitating potential development to actualize various possessed potentials.	2
	Communicating effectively, empathetically, and courteously with learners.	1
	Organizing assessment and evaluation of learning process and outcomes.	4
	Utilizing assessment results for learning purposes.	1
	Performing reflective actions to improve the quality of learning.	1

The data was collected by using closed questionnaire as the research instrument with 5 assessment scales (Likert’s scale) starting from point 0 to point 4. For favorable statement, point 0 was for *highly not mastered* and point 4 was for *highly mastered*. Meanwhile, for unfavorable statement, point 0 was for *highly mastered* and point 4 was for *highly not mastered*. Measurement was administered to determine self-assessment of pedagogic competence mastery of teachers.

Field trials of the instrument were conducted before using the questionnaire. It was found from the results of data

analysis that there were 23 valid and 2 invalid items with the reliability coefficient of 0.910 and P of 0.000. So it can be concluded that 23 statements developed are reliable.

In term of data on teacher needs for the need of inclusive education training, teachers are given a list of training themes that teachers may need. Teachers choose the available answer options by cross-marking (x) on the selected answer option.

Table 2. Training themes offered

No.	Inclusive Education Training Theme	Answer option*)			
		hi	I	u	Hu
1.	Definition of children with special need				
2.	Causes of disability				
3.	Type of children with special need				
4.	Classification of handicapped CWSN				
5.	Classification of intellectual disability				
6.	Classification of Attention Deficit Hyperactive Disorder				
7.	Characteristic of children with special need				
8.	Obstacles faced by CWSN				
9.	Identification of CWSN				
10.	Development of identification tool				
11.	Implementation of formal assessment				
12.	Implementation of informal assessment				
13.	Modification of learning goals				
14.	Modification of learning materials				
15.	Modification of learning process				
16.	Individual Learning Program				
17.	Learning strategy for CWSN				
18.	Learning evaluation of CWSN				
19.	Regulation of the Minister of National Education number 70 year 2009				
20.	Special teachers' duty in inclusive school				
21.	Organization of inclusive class				

Note: hi = highly important; i = important; u = unimportant; hu = highly unimportant

### 2.3 Procedure

The research subjects were gathered in one place on socialization activities of inclusive education for teachers, Central Java Province. After the opening ceremony was over, teachers were asked to fill in the questionnaire for 20 minutes and then the questionnaire was collected for analysis.

### 2.4 Data Analysis

The data was analyzed by using descriptive statistics and statistic parametric to describe the competence of teachers about teachers' competency analysis viewed from the participation in inclusive education training.

## 3. Result and Discussion

### 3.1 Result

Teachers Competence Level at Inclusive School

### 3.2 Research Data

The results of data collection of inclusive school teacher competency at primary, junior and senior high schools are as follows:

Table 3. The achievement score of teacher pedagogic competence in inclusive schools

Subject	Achievement score of pedagogic competence	Participating in inclusive education training frequency	Criteria
1	70	1	Good
2	74	0	Good
3	64	1	Good
4	88	3	Very Good
5	56	0	Fair
6	58	1	Fair
7	58	0	Fair
8	48	0	Fair
9	71	1	Good
10	73	1	Good
11	73	0	Good
12	59	0	Fair
13	44	0	Fair
14	79	1	Good
15	42	0	Fair
16	52	0	Fair
17	54	0	Fair
18	40	0	Poor
19	40	0	Poor
20	44	0	Fair
21	56	0	Fair
22	70	1	Good
23	54	0	Fair
24	71	1	Good
25	69	1	Good
26	69	1	Good
27	69	1	Good
28	71	1	Good
29	77	2	Good
30	53	1	Fair
31	46	0	Fair
32	55	0	Fair
33	61	1	Good
34	50	0	Fair
35	61	1	Good
36	59	0	Fair
37	74	2	Good
38	85	3	Very Good

3.3 Descriptive Statistical Analysis

Based on the data above, it was then conducted descriptive statistical analysis by using SPSS 20. It was obtained result as follows.

Table 4. Result of descriptive analysis of teacher pedagogic competence in inclusive school

Descriptive Statistics				
N	Mean	Std. Deviation	Minimum	Maximum
Pedagogy 38	61,50	12,580	40	88

The result of descriptive statistic above showed that from 38 teachers, it was obtained that the mean of pedagogic

competence was 61.50, the lowest (minimum) score was 40, and the highest (maximum) score was 88.

### 3.4 Data Normality Test

To determine whether the teacher pedagogic competence is meaningful or not in terms of differences in frequency of inclusion education training, parametric statistical technique of Anova one-way test was employed. However, before the parametric test was applied, normality and homogeneity test were applied.

The result of data normality test of teacher pedagogic competence of inclusive education was:

Table 5. Visualization of data normality test result by using Kolmogorov-Smirnov test

One-Sample Kolmogorov-Smirnov Test Pedagogy		
N		38
Normal Parameters <sup>a,b</sup>	Mean	61,50
	Std. Deviation	12,580
Most Extreme Differences	Absolute	,146
	Positive	,079
	Negative	-,146
Kolmogorov-Smirnov Z		,897
Asymp. Sig. (2-tailed)		,397

a. Test distribution is Normal.

b. Calculated from data.

Based on the table above, it shows that the value of  $z = 0.897$  with  $p = 0.397$  ( $P = \text{Value } 0.397 > 0.05$ ). It is concluded that data is normally distributed.

### 3.5 Homogeneity Test

The next step as precondition test of parametric statistic test was employing data homogeneity test as follows.

Table 6. Visualization of data homogeneity test result

Test of Homogeneity of Variances			
Pedagogy			
Levene Statistic	df1	df2	Sig.
,799	2	35	,458

Based on the data above, it shows that the value was 0.799 with  $p = 0.458$ . Since  $P\text{-Value } 0.458 > 0.05$ , it can be said that the data was obtained from homogeny sample.

### 3.6 Parametric Statistic Test

Parametric statistical analysis of pedagogical competence data of inclusive education teacher or CWSN teacher in regular school is as follows:

Table 7. Visualization of Anova one Way test of Teacher Pedagogic Competency

Anova One Way Test					
ANOVA					
Pedagogy					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3444,040	2	1722,020	24,993	0,000
Within Groups	2411,460	35	68,899		
Total	5855,500	37			

Based on Anova One Way test result above, it can be seen that the value of  $F = 24.993$  with  $P (P\text{-value}) = 0.000$ . It can be concluded that there was a significant difference in teacher pedagogic competence based on the participation of inclusive education training.

Table 8. The mean difference at the 0.05 level

Multiple Comparisons							
Dependent Variable: Pedagogy							
	(I)	(J)	Mean	Std.	Sig.	95% Confidence Interval	
	Intenc	Inten	Difference	Error		Lower	Upper
	ity	city	(I-J)			Bound	Bound
Tukey HSD	0	1	-14,425*	2,867	,000	-21,44	-7,41
		2	-28,158*	4,566	,000	-39,33	-16,98
	1	0	14,425*	2,867	,000	7,41	21,44
		2	-13,733*	4,671	,016	-25,16	-2,30
	2	0	28,158*	4,566	,000	16,98	39,33
		1	13,733*	4,671	,016	2,30	25,16
LSD	0	1	-14,425*	2,867	,000	-20,24	-8,60
		2	-28,158*	4,566	,000	-37,43	-18,89
	1	0	14,425*	2,867	,000	8,60	20,24
		2	-13,733*	4,671	,006	-23,22	-4,25
	2	0	28,158*	4,566	,000	18,89	37,43
		1	13,733*	4,671	,006	4,25	23,22

\*. The mean difference is significant at the 0.05 level.

The result showed that there was a statistically significant difference in teacher pedagogic competence in terms of the frequency of their participation in inclusive education training.

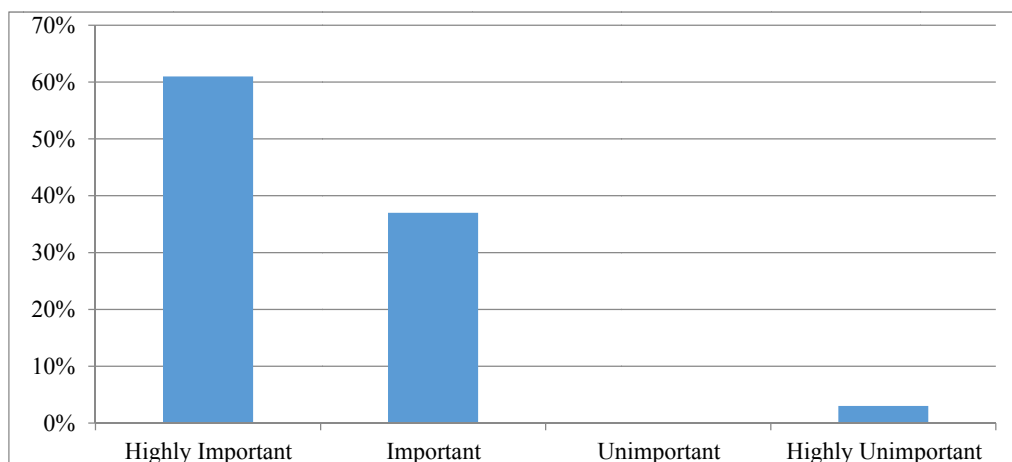
**The need for teacher inclusive education training**

The results of the research have been developed to determine the level of teacher needs in inclusive education training for the future. The result was obtained as follows:

Table 9. Teacher needs in inclusive education training

Training Needs	Total	Percentage
Highly Important	23	61%
Important	14	37%
Unimportant	0	0%
Highly Unimportant	1	3%
Total	38	100%

Based on the table above, the needs of teachers in training on inclusive education can be broken down into some parts, 61% states that it was very important, 37% important, and 3% highly unimportant. The data can be presented in the diagram below:



If it was reviewed deeper, this study identified the need for inclusive education training materials. It was elaborated as follows.

- 1) The concept of children with special needs (CWSN)
- 2) Types of children with special need,
- 3) Characteristics of children with special need,
- 4) Identification of CWSN,
- 5) Adapted curriculum for CWSN,
- 6) Individual Learning Program,
- 7) Learning strategy for CWSN,
- 8) Evaluation of CWSN learning,
- 9) Regulation of the Minister of National Education No. 70 of 2009,
- 10) Understanding of full inclusion and segregation, and
- 11) The assignment of special teachers in inclusive schools.

#### **4. Discussion**

Teachers who have participated in the inclusion education training have better pedagogic competence than those who have not participated. Similarly, teachers, who have more training frequency, will have better pedagogic competence, whether related to the mastery of the theory, as well as the skills to educate the CWSN.

The result is in line with theory of Kurt Lewin (1961) about "Field Theory". Lewin states that behavior is the result of two sets of forces working constantly against each other either in the individual or in the independent situation. Change forces produce pressure to move toward a desired goal, resisting forces produce pressure to resist the driving forces. When driving force are strong and retraining forces weak, behavior will be toward attaining the goal.

The implementation of this behavior change theory is that teachers who participate in the training can improve their conceptual understanding, skills and have positive attitude towards inclusive education and CWSN. Thus, all teachers who educate CWSN in regular schools should be prepared in such a way, both in pre-service training and in-service training programs so that teachers are ready to educate CWSN and can engage together with other teachers in schools. McKenzie (2009) states that in the USA where the history of inclusion is over three decades old, current special educator's professional standards clearly expect that certified special educators will enter the field with adept collaboration and co-teaching skills in order to optimize services for students with disabilities in inclusive settings. Coursework in collaboration for pre-service or in-service special educators is a common mechanism for providing this training within the United States.

The result of this study is in line with Arthaud's (2007) study of a partnership between general and special education, Friend and Cooks' (2009) on pedagogical competence training through collaboration training between special teachers and regular teachers in teaching CWSN at inclusive school. Balta (2015) on the effect of in-service training courses on teacher achievement: a meta-analysis study. Birman (2000) on designing of teacher's professional development, also in line with Blank's (2010) research on the effects of teacher professional development on gains in student achievement: how meta-analysis provides scientific evidence useful to education leaders.

Friend and Cooks (2009) require the cooperation of special education teachers with general school teachers, namely (a) collaboration is based on mutual goals, (b) collaboration partnerships on shared responsibility, (c) collaborative partners share resources, and (d) collaboration includes shared accountability for students with special needs (p. 911). The result of this study is also in line with the result of research from Mastropieri (2005) and research from Scruggs (2007). Conclusion can be drawn that with IST for inclusive school, teachers can improve their pedagogical competence.

#### **5. Conclusion**

Based on the results of the study, it can be concluded that (1) there is a significant difference in pedagogical competence of teachers based on their participation in inclusive education In-Service Training programs that have been attended. Teachers, who have more training frequency, will have better pedagogic competence. (2) The teacher's needs in the inclusive education in-service training program showed that 61% teachers state that it is highly important, 37% important, and 3% highly unimportant, (3) In-service training materials considered

important by teachers include: (a) The concept of CWSN (b) Type of the concept of children with special needs, (c) the characteristics of the concept of children with special needs, (d) Identification of CWSN, (e) adapted curriculum for CWSN, (f) Individual Learning Program, (g) learning strategies for CWSN, (h) CWSN learning evaluation, (i) inclusive education regulation, (j) full inclusion and segregation concepts, and (k) special teachers' duty in inclusive schools.

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