

## Establishing the Governmental Policy to Promote Engagement within the Inclusive Education System in Indonesia

Warman<sup>1</sup>

### Abstract

This research was aimed to examine teacher perception on Inclusive Education (IE) and its impact on IE design management. To analyze the data, this study used descriptive design and quantitative strategy. This study, involving 38 participants from elementary school, junior school and senior school, took place in Samarinda, Indonesia. Data of this study were collected using questionnaire to measure teacher' pedagogical competence and the effect of pedagogical competence on the IE management. Results show that the competence of teachers in pedagogical skills reaches an average of 71. Out of 38, IE teacher competence is divided into fair competence 22 (57.9%), good 8 (21.1%) and very good 8. (21.1%). There are 8 themes found in the design of IE teachers. Our evidence shows that teacher competence specifies themes on children with special needs (CWSN), CWSN categories, CWSN features, CWSN recognition, Modified CWSN curriculum, Individual development plan, CWSN coping method, and CWSN instruction assessment. The results of hypothesis testing indicate that pedagogical competence has a significant impact on holistic teaching competence in general, and pedagogical competence has a significant impact on IE management. In a policy level, management of IE varies from general education to CWSN, so teachers require trainings to adapt the influences. Implementing IE is also an alternative way for teachers who have already have teaching experience to gain a new understanding of the growth in education and training technologies.

*Keywords: teacher expertise, inclusive education, in-service training.*

### Introduction

Recently, Inclusive Education (henceforth, IE) is becoming critical so that the particular management needs to be more significantly prepared. In almost every country, IE has emerged as one of the most powerful education issues. With the publication of the Salamanca Declaration, a large number of developing nations started reformulating their plans to engage specific challenge students into normal schools in 1994. The country's future citizens are all school-going children, no matter their socioeconomic status (UNESCO, 2009a; 2009b; UN, 1993). All school-going children, be they deprived or not, are entitled to education because they are the country's future people. IE is an education that offers students with special disabilities, but is theoretically empowered with outstanding skills and/or abilities, so that children with

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<sup>1</sup> Dr., Mulawarman University, Samarinda, Indonesia, : [cahaya.warman@gmail.com](mailto:cahaya.warman@gmail.com)

specific challenges can be integrated into an educational setting with students without special needs (Charema, 2010; Education Ministry, 2009; Gearheart, 1976; Indonesia Disability Convention Team, 2017; Juniar, 2020; Nkomo, Dube, & Marucchi, 2020; Peters-Burton & Johnson, 2018; Salim, 2016; Sunardi, 2011; UN, 1993).

IE studies indicate that teachers work more closely and spend more time practicing in inclusive settings, learning new approaches from each other, developing their skills more, showing a greater commitment to using more creative approaches to meet the needs of students (Akturk, 2020; Alzahrani & Flynn-Wilson, 2021; Daher & Anabousy, 2020; Doloksaribu & Triwiyono, 2021; Juniar, 2020; Landicho, 2020; Namyssova et al., 2019; Ozturk, Demir, & Akkan, 2021; Singh, 2016; Ulusoy & Argun, 2019; UNESCO, 2009c; UN, 1993; Utomo, 2021; Walters et al., 2018). Despite the potential of IE, implementation has faced barriers to the quality of the teaching competence of teachers. A fair amount of attention has been given to the concept of "inclusion" in the modern educational system, and today, it is accepted by most people that it leads to optimal outcomes for the majority of students and protects their rights. In developing countries, more than 90% of children with disabilities (CWDs) are unable to enter schools (Tahir & Khan, 2010; Balta, Arslan & Duru, 2015) and only 50% of those enrolled will be in high school. UNESCO (2009a) estimates that 67,000,000 primary school children are out of school, one-third of whom reside in South Asia and sub-Saharan Africa, and one-third are CWDs (UNESCO, 2009b).

In Indonesia, the establishment of IE has been shown to be significantly aimed at solving the problem created by the small number of special education schools. Only 1% of the children with special needs have been able to receive proper education (without making any progress toward CWSN), which is why the country needs to accelerate progress on CWSN in the educational system (Ministry of Education and Culture, 2016; Indonesia Disability Convention Team, 2017; Salim, 2015). IE was initially launched in Indonesia by 2003, and there were 2,100 inclusive schools were open by 2016 (Ministry of Education and Culture, 2016). Due to general lack capacity among IE teachers, most IE schools have not been well served by the quality of their educational services. These education teachers have been specifically recruited for teaching general education students and CWSN in IE schools (Yusuf, et. al., 2014; Honegger, 2020; Negassa & Engdasew, 2017; Juniar, et, al, 2020; Yusuf, et. al. 2014; Salim, 2015).

Indonesia's public schools have sought to implement the 2013 curriculum following its adoption, including traditional schools providing CWSN with educational access, rendering

them comprehensive schools. Teachers must also be informed of the 2013 curriculum and how to adapt it to CWSNN (Kuntarto, 2014; Aronson, et. al., 2020; Ediyanto, et. al, 2017). The need for a 2013 curriculum familiarization plan and a strategy to amend the standard curriculum to fit CWSNN is a complicated concern for IE (Budiharso & Tarman, 2020; McKenzie, 2009; Ministry of Education and Culture, 2016). Some IE school teachers need to improve their skills for special education needs (Juniar, 2020; Bekele & Ago 2020). With the advancement of science and technology, theories, teaching, and information can be modified. One way that teachers can learn about the latest trends in educational methods and technology is to engage in IE. Many research studies reveal that the quality and student attainment of a school depends significantly by educators (Balta, 2015; Borko, 2004; Ediyanto, et. al, 2017; Fendler, 2003; Juniar, et, al, 2020; Waychunas, 2020).

In many other nations, such as Malaysia and Indonesia (Manisah, 2006), Northern Ireland (Lambe, 2007), Serbia (Kalyva, 2007), Dubai (Gaad & Khan, 2007), Russia (Gaad & Khan, 2007), a similar problem has also arisen (Shchipanova, 2016; Zvoleyko, 2013). Some are often not fully implemented, which prevents schools from not adopting IE as effectively as they should be (Yusuf, et. al., 2014), including (1) institutional aspects; (2) curricula and education; (3) students; (4) personnel; (5) utilities and facilities; (6) community participation; and (7) financing (Widodo, et. al, 2019; Juniar, et, al, 2020).

Teachers at IE need pedagogical competence to serve their education programs. The foundation of the excellence of teachers in their performance and formative ethics is pedagogical competence. Surprisingly, studies on the teacher competence of Indonesian teachers differ. Susanto, Rozali & Agustina (2019) estimate that pedagogical skill at 46.7 percent contributed 94.50 percent to the learning results and success of elementary school teachers. In addition, 51% (2.92 teachers) were not eligible for pedagogical and technical skills (Ministry of Education of the Republic of Indonesia, 2012). Yusuf, et. al., (2014) indicate pedagogical ability of Jakarta primary school teachers to conduct learning and quality output is 30.4%.

As far as the curriculum is concerned, special-needs children have been allowed to have a seat at the table. These are the students who face obstacles when trying to learn in the classroom. Because there are many more minority pupils in general education classrooms, teachers experience the importance of accepting each student as unique (UNESCO, 2009a). Programs that involve all students are helpful and ensure that students are included in all activities. All IE students learn a lot by attending the IE curriculum. Academic achievements of children depend on the development of relationships between children and peers. This includes the

features such as friendship, ability to socialize, skills, and good classroom environment. This is one of the weaknesses of leadership of IE (Inclusive Education in Action, 2020; Juniar, et. al., 2020).

## **Review of Literature**

### **Inclusive Education**

IE or inclusion is education that includes everyone, serving people of all abilities and bringing everyone together to learn in mainstream educational settings, from secondary school through post-secondary institutions. IE as a matter of policy, certainly means that all children are in the same classes, in the same schools allowing students of all backgrounds to learn and grow together, benefiting all (<https://www.allfie.org.uk>. 2021). In addition, the principle of inclusion is reinforced by the standard principles of the United Nations has issued a declaration proclaiming equal participation and equality for all. IE eliminates barriers within and around the learning environment to help match various needs of all learners, enrolling the child in the child's age-appropriate class, along with individualized attention (UNICEF, 2007). All societies benefit from inclusive systems (Mgomezulu, 2017).

The concept of inclusiveness was made official in the Salamanca Declaration of 1994, and that topic was looked at the World Education Forum in 1998 (Dakar, Senegal 2000). It says that states must ensure education systems are accessible to people with disabilities, with the highest priority. Students who are not categorized as having a learning disability get together with students who have special needs to form a collective that goes by the acronym ISNS (for non-special needs students sharing time with students with specific challenges). Though the students are not in IE, they can still get extra help because of their low achievement levels. Inclusive classrooms can give students with special needs with heightened empathy for people of disabilities (Friend & Cooks, 2009; Balta, 2015).

There needs to be a system that adapts to people with disabilities. Inclusive Education will make it possible for Disabled Learners to get an equal education. There are students and pupils who may require accommodations or support with the curriculum. It ensures that all learners are given access to the main stream of education. All learners are valued and receive the support they need to pursue their ambitions. A disabled learner's education will benefit the general student population, as well as others who are not disabled (Burman 2000; <https://www.allfie.org.uk>. 2021; Regulation of the Ministry of National Education, 2009).

The United Nations Convention on the Rights of the Child has stated in its Article 2 that it strictly forbids discrimination and encourages nations to follow these words:

All children (regardless of race, religion, or abilities) are eligible for participation in the Convention; they can think or say anything they want, or belong to any family structure they want. No matter where a child lives, no matter what language they speak, no matter whether they are boys or girls, no matter what their family's background is, no matter whether they have a disability, and no matter how much money they have, it makes no difference. No child should be treated unfairly due to his or her sex, ethnic, or any other personal characteristic (Mgomezulu, 2017; UN, 1993).

It is thanks to international conventions and human rights mechanisms that education for people with disabilities is protected and afforded to everyone (Byrne & Lundy, 2011). Generally, international steps have been laid down as a right to education in general, such as the Universal Declaration of Human Rights, Article 26(1) (UDHR, 1948), Article 28 and 29 (CRC, 1990), the International Convention on Economic, Social and Cultural Rights, Article 13 and Article 14 (ICESCR, 1976) and UNESCO Convention against Discrimination I. (Zvoleyko, Kalashnikova & Klimenko, 2013).

An expansion in the accessibility of regular schools for disabled was also enacted in the UNGA World Programme of Action on Persons with Disabilities (Fina, 2017) in 1982, which was later reinforced by the UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities (UN Standard Rules, 1993) and the Salamanca Declaration and Mechanism for Action on Special Needs Education The Salamanca Statement offers an opportunity to turn the education model for disabled pupils into model justice to change the school model for society and government (Hernandez-Torrano et.al., 2020) (Hernandez-Torrano et.al., 2020). Sadly, both the Salamanca Declaration and the United Nations Standard Rules are not legally binding instruments (Byrne & Lundy, 2011; Mastropieri, 2005; Scruggs, 2007; Byrne & Lundy, 2011; Mastropieri, 2005; Scruggs, 2007).

The IE provides a new approach to education for the kids with disabilities and learning disabilities within the same roof. The curriculum helps students from all backgrounds work together and succeed. Promoting inclusive and tolerant societies is most effectively done by giving every primary school child a chance to learn at school. Children out of school in 2010 totaled 70 million, compared to 110 million in the mid-1990s. Close to 80% of India's population lives in rural areas without any specialized educational facilities. According to conservative estimates, over seven million Indian children are missing school because of such issues as poverty, gender, disability, and caste (Singh, 2016; Mgomezulu, 2017).

To meet diverse learning needs, IE was built to set variety of surroundings to students with disabilities (Arthaud, 2007). IEDC was established in 1974 to provide disabled children with equal opportunities in general schools and to encourage their long-term retention. As governments are making it easier for disabled people to catch up with the rest of the population, they are also helping people of all abilities to approach life with greater courage and trust. It has been since 2009 that everyone who is six to fourteen has been guaranteed the right to free and compulsory education (Singh, 2016; Regulation of the Ministry of National Education, 2009).

Chapter V of Persons with Disability Act, 1995, must be followed. Under the PWD Act, every child with a disability receives free education until the age of 18. To make sure everyone has an equal opportunity to learn, inclusivity is an effort. Everybody receives the same treatment, regardless of their strengths and weaknesses, ensuring IE is gradually a key aim of education (Baker, 1995; Bunch & Valeo, 2004; Juniar, et. al, 2020).

Using Internet Explorer improves the education system's ability to serve all learners. To meet their basic needs, all people were declared able to benefit from educational opportunities at the Jometin World Conference (1990) in Thailand. Inclusion is a school philosophy that gives all students academic and social success (Singh, 2016; UN, 1993; UNESCO, 2009c). A wide range of non-academic activities can be added to this list, including recreational, social, creative, sports, music, and childcare programs (UNESCO, 2009b).

### **Pedagogical Competence**

For pedagogical competence, one must possess knowledge of various subject matters and the ability to teach various subject matters within and across subject areas (Ball, Thames & Phelps 2008; Sunardi, et. al., 2011). This represents teacher understanding with regard to how subject matter, instructional approaches, and student characteristics all work together (Shulman, 1986). Shulman (1986) discovered the most useful approaches to communicate concepts, methods for comparing objects, visual aids, analogies, examples, descriptions, and presentations, and methods for communicating ideas so that others can understand. The learner's conceptions and preconceptions regarding study of different topics are understood by the pedagogical knowledge (Pulsifer, 2017; Rahmadi et al, 2020).

In essence, teacher knowledge is distinct from pedagogical subject area to know how students grasp a particular area of study (Magnusson, Krajcik & Borko, 1999). A teacher should have an extensive knowledge of subject topics, issues, and problems as well as the needs and abilities of their learners. The distinguishing characteristic of pedagogical material knowledge is the fact

that it results from the transfer of information from other contexts As stated in the Republic of Indonesia's National Education System Law No. 20, 2003, pedagogical competence comprises learners' characteristics, learning theories, curriculum development, instructional practices, the possibilities of developing learners, and feedback and assessment (Widodo, et. al, 2020).

The best quality that a university teacher should have is "experience." However, there have been debates in recent years about the need to develop the pedagogical thinking and abilities of university teachers as well. As a result, many nations have recently implemented university teacher training as a widespread practice (Postareff et. al., 2007). Teaching effectiveness appears to be able to be improved in university professors. This study's previous research is more descriptive than evaluative, and as such, educational development units should design their courses based on previous research (Gibbs & Coffey, 2004; Pulsifer, 2017). Students gained improved teaching methods, teaching skills, and learning approaches after teachers received pedagogical skills training (Gibbs & Coffey, 2004; Shulman, 1986; Pulsifer, 2017). A number of nations, such as Norway, the United Kingdom, and Sri Lanka have set standards for teacher training at the university level. Most Finnish universities organize introductory teaching seminars for new teachers in order to help new teachers establish pedagogical thought and skills (UNICEF, 2012).

Teaching deals with knowledge development, skills growth and values structures and effective means of learning as a way of guiding learners. This happens if the instructor is able to choose, plan, organize and apply the different methods and techniques of teaching (Gibbs & Coffey, 2004). In order to better understand the different teaching approaches and strategies, teachers must read, study, and discover about these problems. Everything they gain and everything they learn from each other is essential (Clark & Star, 1996). To put it another way, in terms of teaching methodology, the content of professional learning includes both pedagogical and academic content. Teachers must quickly adapt to stay relevant in their field. Excellence is critical because changing demands put more pressure on teachers, such as dealing with large class difficulties and learners with different qualities (Gibbs & Coffey, 2004; Pulsifer, 2017; Shulman, 1986).

## **Methods**

### **Design**

Using experimental design and quantitative approach, this study analyzed the data (Cresswell, 2014). The study's main objectives were to evaluate teachers' abilities to implement inclusive education strategies. To define perceptions of instructors regarding IE and ANOVA tests, the

statistical analyses were conducted to determine the general tendencies of the teacher's views on these tests. This study took place in Samarinda, Indonesia.

### Participants

This study's sample appeared in table 1 comprised 38 teachers at inclusive schools in Samarinda, East Kalimantan Province, Indonesia, and these were selected through purposive random. Of these 27 (71%) were female and 11 (29%) were male, while 24 (63.2%) were SD teachers, 10 (26.3%) were SMP teachers, and four (10.5%) were SMA teachers. The participating teachers were required to have (a) five years of teaching experience, (b) interest in teaching CSWN at public school, (c) a letter of assignment/appointment from the Provincial Education Office (Dinas Pendidikan Provinsi) as a special needs teacher/mentor, and (d) a willingness to engage in a series of activities.

**Table 1.**  
*Respondents of this study*

| No | School | F         | %          |
|----|--------|-----------|------------|
| 1  | SMA    |           |            |
|    | Male   | 2         | 5.3        |
| 2  | Female | 2         | 5.3        |
|    | SMP    |           |            |
| 3  | Male   | 6         | 15.8       |
|    | Female | 4         | 10.5       |
| 3  | SD     |           |            |
|    | Male   | 10        | 26.3       |
|    | Female | 14        | 36.8       |
|    |        | <b>38</b> | <b>100</b> |

### Instruments

The main instrument of this study was a closed questionnaire designed in a Likert Scale option, and a list of themes in the IE implementation. The questionnaire examined about the pedagogical competency of teachers and the need for comprehensive teacher-specific education. The closed questionnaire used a four-point Likert scale, where for favorable comments, one represents a poor degree of mastery and four represents a high degree of mastery, while for unfavorable comments, this worked the other way around, so one point represents strong mastery and four points represents a lack of mastery. This measurement was conducted to allow teachers to self-evaluate their mastery of pedagogic skills.

The pedagogical competence of the teachers was assessed using the Permendikbud No. 16/2007 metrics for academic degree and teacher competence requisites, which are detailed in Table 2.



**Table 2.**  
*Indicators of mastery of pedagogic skill*

| Pedagogic competence | Indicator   | Total item |
|----------------------|---|------------|
|                      | Mastery of learning ideas and concepts                                | 3          |
|                      | Creation of a program for topics learned                              | 4          |
|                      | Organization of school instruction                                    | 3          |
|                      | Use of information and communication technology for learning purposes | 2          |
|                      | Facilitation to exploit different potential possibilities             | 2          |
|                      | Efficient, empathic, and courteous contact with students              | 1          |
|                      | Organized assessment and review of learning processes and outcomes    | 4          |
|                      | Use of learning outcomes test   | 2          |
|                      | Reflective behavior to enhance learning experiences                   | 2          |

Before distributing the questionnaire, instrument field trials were conducted. We were able to find 23 accurate items but we discovered two incorrect ones which have validity test values of 0.279 and 0.387. The 23 valid items were therefore deemed suitable for use. Additionally, a list of training themes for teacher training in IE was supplied. Teachers marked their answers with a cross to indicate their opinions.

**Table 3.**  
*Offered educational themes*

| Inclusive Education Training                                       | Theme Answer (mark with an x) |       |       |        |
|--|-------------------------------|-------|-------|--------|
|  | Hi (4)                        | I (3) | U (2) | hu (1) |
| Description of special needs children                              | 20                            | 14    | 3     | 1      |
| Disability triggers  | 27                            | 11    | 0     | 0      |
| Classes of children with particular needs                          | 26                            | 11    | 1     | 0      |
| Classification of CWSN conditions                                  | 29                            | 8     | 1     | 0      |
| Intellectual disability category                                   | 28                            | 8     | 2     | 0      |
| Classification of attention deficit hyperactive disorder           | 23                            | 12    | 3     | 0      |
| CWSN features  | 31                            | 4     | 3     | 0      |
| Obstacles to CWSN education  | 29                            | 8     | 1     | 0      |
| CWSN recognition   | 31                            | 7     | 0     | 0      |
| Identifying device creation  | 27                            | 10    | 1     | 0      |
| Implementation of systematic assessment                            | 29                            | 9     | 0     | 0      |
| Implementation of casual assessment                                | 31                            | 3     | 4     | 0      |
| Improving learning goals   | 27                            | 10    | 1     | 0      |
| Improving learning materials                                       | 28                            | 10    | 0     | 0      |
| Improving the learning process                                     | 31                            | 6     | 1     | 0      |
| Custom learning software   | 28                            | 10    | 0     | 0      |
| CWSN education plan  | 26                            | 11    | 1     | 0      |
| CWSN skills assessment   | 31                            | 6     | 1     | 0      |
| Regulations of the Minister of National Education, number 70, 2009 | 27                            | 10    | 1     | 0      |
| Additional instructor roles in inclusive school                    | 25                            | 11    | 2     | 0      |
| Organizing an inclusive class                                      | 27                            | 8     | 3     | 0      |

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

**Data Collection**

At one site, Samarinda, the research data was collected for schools offering IE. In general, by distributing the questionnaire and checklist to 38 participants, data was obtained. The Likert Scale questionnaire was distributed and responses were administered from the 38 respondents. The answers were scored referring to scale responses. Researchers discovered that the Likert Scale results had a frequency, percentage rate, and mean score. Furthermore, the list of issues relating to the introduction of the IF was also administered in order to see its key patterns in terms of frequency and rate percentage.

**Techniques of Data Analysis**

The recent research was to examine how teachers increase their pedagogical capabilities to support the use of IE. All the information collected through the questionnaire was arranged and categorized using tables in order to achieve the goal. The study used various procedures and measurement techniques to identify procedures and their effects, as well as their frequencies and percentages. It needs an in-depth view of data presented in figures, doing the hard work of understanding the concepts and points being made by the participants, and summarizing their responses. The knowledge was evaluated using descriptive and parametric statistics to clarify the self-assessment of the abilities of participants in IE. To define the data, percentages, means, and tabulations were used. Basically, SPSS Release 25 was used to process the data in order to operate the statistical process. Descriptive and inferential statistics were both used in this study. To see the key patterns of frequencies, rate percentages, tables and graphs, descriptive statistics were used. In addition, to see the impact of pedagogical competence on the application of IE, hypothesis testing using the ANOVA test was used.

**Results**

Results of this study are classified into two sections, teacher competence on IE and the hypothesis testing. The first part is elaborated into the display on rate percentage and diagram where descriptive statistics are based upon. The hypothesis testing is described into classical assumption analysis, namely homogeneity test and normality test.

**Teachers' Level of Competence for IE**

A summary of the gathered data for teachers' skills at SD, SMP, and SMA is shown in Table 4.

**Table 4.**  
*The quality ranking of teacher education skills in inclusive schools*

| Subject | Attainment rate on pedagogical competence | Participating in IE | Criteria frequency |
|---------|---|---------------------|--------------------|
| 1       | 77  | 3                   | Very Good          |
| 2       | 76  | 2                   | Good               |
| 3       | 76  | 2                   | Good               |
| 4       | 79  | 3                   | Very Good          |
| 5       | 74  | 1                   | Fair               |
| 6       | 84  | 3                   | Very Good          |
| 7       | 76  | 0                   | Fair               |
| 8       | 71  | 1                   | Fair               |
| 9       | 78  | 1                   | Fair               |
| 10      | 76  | 1                   | Fair               |
| 11      | 77  | 0                   | Fair               |
| 12      | 77  | 2                   | Good               |
| 13      | 77  | 1                   | Fair               |
| 14      | 81  | 2                   | Good               |
| 15      | 81  | 3                   | Very Good          |
| 16      | 77  | 0                   | Fair               |
| 17      | 77  | 1                   | Fair               |
| 18      | 79  | 1                   | Fair               |
| 19      | 81  | 2                   | Good               |
| 20      | 74  | 0                   | Fair               |
| 21      | 79  | 3                   | Very Good          |
| 22      | 74  | 0                   | Fair               |
| 23      | 73  | 0                   | Fair               |
| 24      | 78  | 3                   | Very Good          |
| 25      | 75  | 0                   | Fair               |
| 26      | 80  | 2                   | Good               |
| 27      | 78  | 1                   | Fair               |
| 28      | 79  | 2                   | Good               |
| 29      | 78  | 1                   | Fair               |
| 30      | 76  | 1                   | Fair               |
| 31      | 78  | 0                   | Fair               |
| 32      | 78  | 2                   | Good               |
| 33      | 77  | 0                   | Fair               |
| 34      | 79  | 0                   | Fair               |
| 35      | 81  | 3                   | Very Good          |
| 36      | 78  | 1                   | Fair               |
| 37      | 77  | 1                   | Fair               |
| 38      | 77  | 3                   | Very Good          |

Results teachers' competence are summarized as in table 5 stating that of 38, teachers' competence in IE is distributed into fair competence 22 (57.9%), good 8 (21.1%) and very good 8 (21.1%).

**Table 5.**  
*Summary of teacher competence in IE*

| No | Level of Competence | F  | %    |
|----|---------------------|----|------|
| 1  | Fair                | 22 | 57.8 |
| 2  | Good                | 8  | 21.1 |
| 3  | Very good           | 8  | 21.1 |
|    |                     | 38 | 100  |

### Descriptive Statistical Analysis

A very good pedagogical competence means that teachers know the students' characteristics, they can develop a curriculum and creating a good atmosphere in the classroom,

they have feedback from students, and also they give an evaluation at the end of learning material. Based on the results, a descriptive statistical analysis was then performed using SPSS 25, resulting in the values given in Table 6.

**Table 6.**  
*Descriptive statistics*

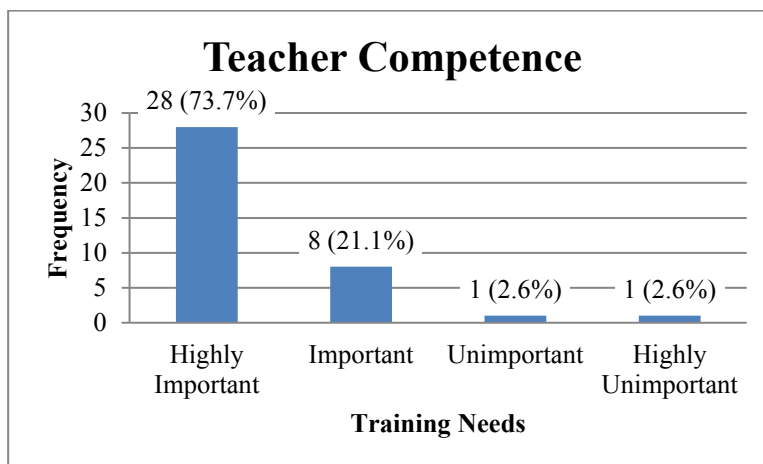
|                    | N  | Minimum | Maximum | Mean  | Std. Deviation |
|--------------------|----|---------|---------|-------|----------------|
| Pedagogy           | 38 | 71      | 84      | 77.45 | 2.490          |
| Valid N (listwise) | 38 |         |         |       |                |

The descriptive statistics showed that for the 38 teachers, their mean pedagogical competence was 77.45, the lowest 71, and the highest 84. The researchers found, based on questionnaire sheet, that most answers have done by the students is in the agree category. In other words, the students said that teachers have very good pedagogic competence.

**Table 7.**  
*Teaches' requirements for an inclusive curriculum*

| Training Needs     | F  | %    |
|--------------------|----|------|
| Highly Essential   | 28 | 74%  |
| Important          | 8  | 21%  |
| Unimportant        | 1  | 3%   |
| Highly Unimportant | 1  | 3%   |
| Total              | 38 | 100% |

Table 7 indicates participants' requirements for IE preparation can be split over a few groups, with 73.7% saying it was essential, 21.1% saying it was important, 2.6% saying it was unimportant, and 2.6% saying it was highly unimportant. This is illustrated further in Figure 1.



**Fig. 1.** Teachers' perceived importance of inclusive education preparation

This research established a need for inclusive educational programs to be discussed in further detail. This was formulated as:

- 1) Concepts related to special needs for children (CWSN)
- 2) Categories of CWSN
- 3) Features of CWSN
- 4) Recognition of CWSN
- 5) Changed CWSN curriculum
- 6) Single plan of progress
- 7) Strategy for coping with CWSN
- 8) An analysis of CWSN training

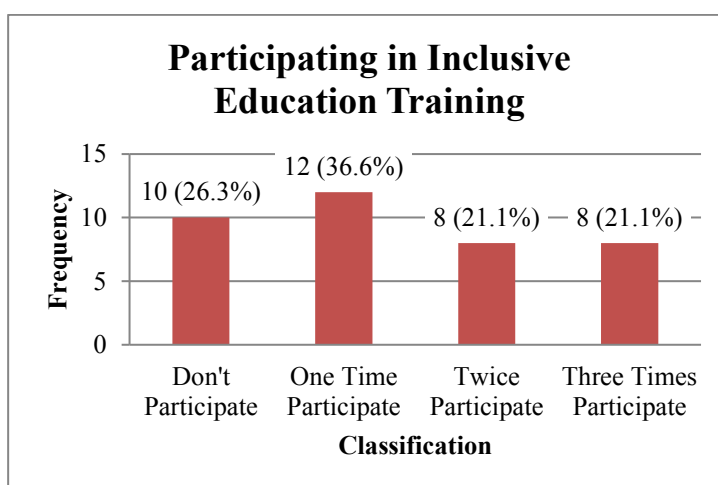
In addition to the IE topics, table 8 suggests teacher's commitment to apply the policy of the Minister of National Education, No. 70 of 2009 and Awareness of complete inclusion.

**Table 8**

*Participating in inclusive education training*

| Classification         | Total | Percentage |
|------------------------|-------|------------|
| Doesn't Participate    | 10    | 73.7%      |
| Once Participate       | 12    | 21.1%      |
| Twice Participate      | 8     | 2.6%       |
| Three Time Participate | 8     | 2.6%       |
| Total                  | 38    | 100%       |

Table 7 describes preparation for teachers to participating in inclusive education training can be split over a few groups, with 73.7% saying it was doesn't participate, 21.1% saying it was once participate, 2.6% saying it was twice participate, and 2.6% saying it was three time participate. See Figure 2.

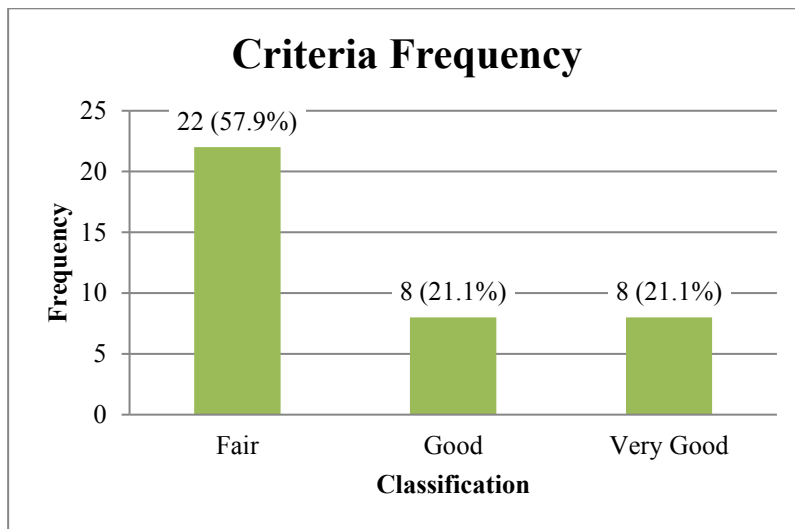


*Figure 2. Participating in inclusive education training*

**Table 9**  
*Criteria Frequency*

| Classification | Total | Percentage |
|----------------|-------|------------|
| Fair           | 22    | 57.9%      |
| Good           | 8     | 21.1%      |
| Very Good      | 8     | 21.1%      |
| Total          | 38    | 100%       |

Data in Table 8 depict teachers’ requirements for criteria frequency can be split over a few groups, with 57.9% saying it was fair, 21.1% saying it was good, and 21.1% saying it was very good. This is illustrated further in Figure 3.



**Figure 3.**Criteria Frequency

**Normality of Data Test**

To see if teacher pedagogical skills were significantly influenced by their involvement in inclusive education training, a one-way ANOVA test was performed. However, checks for normality and homogeneity were required before we could apply this parametric test.

The outcome of the data normality check using the Kolmogorov-Smirnov test appears in Table 10.

**Table 10.**  
*Data normality test using the Kolmogorov-Smirnov test*

|                                  |                | Pedagogy           |
|----------------------------------|----------------|--------------------|
| N                                |                | 38                 |
| Normal Parameters <sup>a,b</sup> | Mean           | 77.45              |
|                                  | Std. Deviation | 2.490              |
| Most Extreme Differences         | Absolute       | 0.139              |
|                                  | Positive       | 0.123              |
|                                  | Negative       | 0.139              |
| Test Statistic                   |                | 0.139              |
| Asymp. Sig. (2-tailed)           |                | 0.061 <sup>c</sup> |

Based on Table 10, the test gave a value of 0.139 with  $p = 0.061 (> 0.05)$ . The data could therefore be assumed to follow a normal distribution.

### Homogeneity Test

The next step was to apply a homogeneity test, the results of which appears in Table 11.

**Table 11.**  
*Test for homogeneity of variances*

|          |                                      | Levene<br>Statistic | f1 | f2     | Sig.  |
|----------|--------------------------------------|---------------------|----|--------|-------|
| Pedagogy | Based on Mean                        | 0.135               | 3  | 34     | 0.938 |
|          | Based on Median                      | 0.133               | 3  | 34     | 0.940 |
|          | Based on Median and with adjusted df | 0.133               | 3  | 28.354 | 0.939 |
|          | Based on trimmed mean                | 0.149               | 3  | 34     | 0.930 |

This indicates that the value was 0.133 to 0.135, with  $p = 0.938$  to 0.940 based on the results in Table 9. All p-values are greater than 0.05, so the results can be assumed to have been derived from a homogeneous sample.

### Hypothesis Testing

To test the hypothesis, researchers used the F test. Table 10 represents a comparative study of the data for the pedagogical skills of the IE teachers. The results of the tests appear in table 12.

**Table 12.**  
*The one-direction ANOVA test for teachers' pedagogic knowledge*

| Pedagogy       |                   |    |                |       |      |
|----------------|-------------------|----|----------------|-------|------|
|                | Sum of<br>Squares | Df | Mean<br>Square | F     | Sig. |
| Between Groups | 72.478            | 3  | 24.159         | 5.235 | .004 |
| Within Groups  | 156.917           | 34 | 4.615          |       |      |
| Total          | 229.395           | 37 |                |       |      |

Results of the one-direction ANOVA test (Table 9), the F-value was 5.235 with a p-value of 0.004 indicate that there is a substantial gap in teacher's pedagogical abilities in terms of their holistic teaching performance and in IE.

**Table 13.**  
*Multiple Comparisons (mean deviation to point 0.05)*  
Dependent Variable: Pedagogy

|           | (I) Frequency | (J) Frequency | Mean<br>Difference<br>(I-J) | Std.<br>Error | Sig. | 95% Confidence<br>Interval |                |
|-----------|---------------|---------------|-----------------------------|---------------|------|----------------------------|----------------|
|           |               |               |                             |               |      | Lower<br>Bound             | Upper<br>Bound |
| Tukey HSD | 0             | 1             | -.583                       | .920          | .920 | 3.07                       | 1.90           |
|           |               | 2             | -2.500                      | 1.019         | .086 | 5.25                       | .25            |

|     |   |   |         |       |      |       |       |
|-----|---|---|---------|-------|------|-------|-------|
|     |   | 3 | -3.500* | 1.019 | .008 | 6.25  | -.75  |
|     | 1 | 0 | .583    | .920  | .920 | 1.90  | 3.07  |
|     |   | 2 | -1.917  | .981  | .225 | .56   | .73   |
|     |   | 3 | -2.917* | .981  | .026 | 5.56  | -.27  |
|     | 2 | 0 | 2.500   | 1.019 | .086 | -.25  | 5.25  |
|     |   | 1 | 1.917   | .981  | .225 | .73   | 4.56  |
|     |   | 3 | -1.000  | 1.074 | .789 | 3.90  | 1.90  |
|     | 3 | 0 | 3.500*  | 1.019 | .008 | .75   | 6.25  |
|     |   | 1 | 2.917*  | .981  | .026 | .27   | 5.56  |
|     |   | 2 | 1.000   | 1.074 | .789 | -1.90 | 3.90  |
| LSD | 0 | 1 | -.583   | .920  | .530 | -2.45 | 1.29  |
|     |   | 2 | -2.500* | 1.019 | .019 | -4.57 | -.43  |
|     |   | 3 | -3.500* | 1.019 | .002 | -5.57 | -1.43 |
|     | 1 | 0 | .583    | .920  | .530 | -1.29 | 2.45  |
|     |   | 2 | -1.917  | .981  | .059 | -3.91 | .08   |
|     |   | 3 | -2.917* | .981  | .005 | -4.91 | -.92  |
|     | 2 | 0 | 2.500*  | 1.019 | .019 | .43   | 4.57  |
|     |   | 1 | 1.917   | .981  | .059 | -.08  | 3.91  |
|     |   | 3 | -1.000  | 1.074 | .358 | -3.18 | 1.18  |
|     | 3 | 0 | 3.500*  | 1.019 | .002 | 1.43  | 5.57  |
|     |   | 1 | 2.917*  | .981  | .005 | .92   | 4.91  |
|     |   | 2 | 1.000   | 1.074 | .358 | -1.18 | 3.18  |

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

Outcomes in terms of extent of involvement in IE preparation were statistically significant gaps in the teachers' pedagogic skill. Having established a need for preparation for inclusive teaching, we then needed to assess the teachers' potential requirements for an IE.

### Discussion

This study reveals that pedagogical competence of teachers are crucial in designing IE, providing figures that 57% of the teachers have fair competence level. Our evidences show that teacher competence in IE pertains to define CWSN, Categories of CWSN, Features of CWSN, Recognition of CWSN, Modified curriculum for CWSN, Individual development plan, Coping method for CWSN, and Assessment of CWSN instruction. Results of the hypothesis testing confirm that teacher competence in holistic teaching affects significantly on IE implementation.

The findings above promote a discussion that teacher competence is crucial to increase and understand concepts of IE. Teachers who enrolled in training for inclusive education had greater pedagogical competencies than those who did not participate. In addition, teachers with more teaching experience should have stronger pedagogical abilities according to our understanding of the theory, and this should apply to abilities for teaching CWSN. This finding is compatible with Kurt Lewin's (1961) theory of *Area Analysis*. Lewin argues that action is the product of two sets of powers that continuously act upon each other, whether in social circumstances or an isolated one. Transition forces generate energy to drive a shift to a



predetermined target, creating resistance to combat the oncoming force. If the driving force is high and the resisting force is low, the target is achieved; otherwise, the effort fails (Susanto, Rozali & Agustina, 2019; Ministry of Education of the Republic of Indonesia, 2012; Yusuf, et. al., 2014; Negassa & Engdasew, 2017).

The consequence of this behavioral-improvement hypothesis is that teachers who engage in IE will improve their intellectual awareness and abilities and develop an optimistic outlook toward the equitable education of CWSN (Salim, 2016; Gibbs & Coffey, 2004). Therefore, all teachers who are tasked with educating CWSN in inclusive schools should be adequately trained for this job prior to taking on their teaching responsibilities as well as during service, so that they will be prepared to work alongside CWSN students (Zvoleyko, Kalashnikova & Klimenko, 2013; Negassa & Engdasew, 2017; Juniar, et, al, 2020; Yusuf, et. al. 2014).

McKenzie (2009) noted that existing educators in the United States, where the tradition of integration stretches back more than three decades, explicitly required qualified special educators to approach them and develop sufficient teamwork and teaching expertise to improve their teaching of disabled children in IE. Collaborative materials in IE are a popular method for providing such instruction (Widodo, et. al., 2019; Juniar, et. al, 2020). The findings of this study agree with Arthaud's (2007) analysis on relationship between regular and IE, and Friend & Cooks' (2009) study on pedagogical competency for CWSN teaching within inclusive schools through collaboration between special educators and non-special teachers (Negassa & Engdasew, 2017; Juniar, et, al, 2020; Yusuf, et. al. 2014).

Balta (2015) found the influence of training on instructor attainment in courses. Burman (2000), meanwhile, studied the nature of teachers' professional development, and in line with Juniar, et. al. (2020) work on the impact of this on student performance gains, found that a meta-analysis could give valuable statistical data to instructional leaders. Friends & Cooks (2009) stated that IE teachers should cooperate with normal schoolteachers, such that (a) cooperation is focused on common interests, (b) collaborative relationships focus on joint responsibilities, (c) mutualized resources, (d) coordinated reciprocal transparency of CWSN. The findings of our analysis are also in line with those of Mastropieri' (2005) and Scruggs' (2007) research. Overall, it can be concluded that teachers can develop their pedagogical skills for IE.

Further study results show that mainstream teachers are more favorable to kids with visual and hearing impairments, as well as those with mild to moderate physical disabilities, and children with deafness, cerebral palsy, and the majority of speech disorders don't have a positive

outlook towards students with hearing disabilities, cerebral palsy, and epilepsy (severe disabilities). Pulsifer (2017) discovered that acceptance into the school for disabilities pupils in physical, visual, and hearing impairments is more likely. A typical example of this group would be that staffs are more likely to accept disabled or impaired pupils compared to mental retarded children. Instructors believe they can deal with children with mild, fair and severe challenges are hard to handle in the regular classroom. Less favourable attitude toward the pupils is due to restricted capacity of instructors, and assistive technologies that are out of reach (Juniar, et. al., 2020; Widodo, 2019; Shchipanova, et. al., 2016).

IE increases the likelihood of CWDs being incorporated socially through their engagement, socialization and friendly interactions with peers, despite teachers' perception that CWDs are being mocked and hooted by people without disabilities. There are higher chances for CWDs to socially integrate in inclusive classrooms (Baker, 1995; Bunch & Valeo, 2004; Iriyanto, 2019). Teachers provide additional time for CWDs, but they still cannot match their single requirements because they lack of instructional capacity and school-provided resources. Rose (2001) has also found that teachers must receive training to help CWDs better address their individual needs. It is up to instructors making CWD mainstream and effective implementation of the IE program relies entire instructor competence and wish to match students educational needs.

### **Conclusion**

To sum up, our findings reveal that (1) there are substantial gaps in teachers' pedagogical abilities according to their involvement with in-service training programs for IE, with teachers with a greater level of preparation showing better pedagogical skills. In addition, (2) the expectations of teachers for IE show that 61% of teachers believe it is extremely relevant, 37% believe it is relevant, and 3% find it unimportant. Finally, (3) the subjects for in-service training materials deemed most important by teachers include (a) defining types of disabilities children, (b) features framework for teacher-training plans.

However, this study has its drawbacks in that small participants are engaged in this research affecting limited figures of pedagogical competence and management of teachers to describe IE. The general results of this study could be made broader by assigning number of the participants and metrics of the pedagogical skill can be expanded in the field of e-learning scopes. Furthermore, future research is proposed to combine an in-depth case study where it is possible to design exploration on different sites and school categories.

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