Development of Filipino Inclusive Education Attitude Scale (FIEAS)
Darlina B. Formoso

Abstract--- The Philippines follows the lead of other countries in embracing and practicing inclusive education. It recognizes that all children must be educated in the regular schools together with children their age. Teachers in the public schools are mandated by the law and by the Department of Education (DepEd) to practice inclusion in their classrooms. To be successful, researchers say that it is important for the teachers as implementers of the policy, to have a positive attitude towards inclusion, otherwise all efforts will be futile. This paper intended to adapt and develop an attitude scale that will measure how the Filipino teachers accept inclusion. It was based on the attitudes scale originally developed by Noto (2015) for teachers in the United States of America (USA). Four experts in the field of research and two in the field of Special Education examined the items for content validity. One hundred eighty one pre-service teachers participated in the first field testing. Scores on the field testing were subjected to internal consistency for reliability and factor analysis for construct validity. Results show that the instrument is valid and reliable measure of Filipino pre-service teachers’ attitudes toward inclusion. The study recommends to administer the attitude scale to in-service teachers in both the elementary and secondary schools. Comparative studies may be undertaken for further validation of the instrument.

Keywords--- Inclusion, Inclusive Education, Pre-service Teachers, In-service Teachers, Attitude Scale.

I. INTRODUCTION
The United Nations International Convention on the Rights of Persons with Disabilities (2007) declares that states parties must ensure that persons with disabilities are not excluded from the general education system on the basis of disability, and to make national policies to make sure that children with disabilities are not excluded from free and compulsory primary education, or from secondary education, on the basis of disability. Furthermore the 92 government signatories of the United Nation declaration are enjoined to make sure that the persons with disabilities have access to an inclusive, quality, and free primary education and secondary education on an equal basis with others in the communities in which they live.

Inclusion is a philosophy of education that integrates children with disabilities into general educational settings in which meaningful learning occurs (Osgood, 2005 as quoted by Hussain, 2012). Different countries look at inclusion as a philosophy but with different interpretations. For example in Manitoba, Canada inclusion is seen as a way of thinking and acting that allows every individual to feel accepted, valued, and safe.

Translated to action for special needs individuals, it is the stand of the local government that students with special needs should experience school as much as possible like their peers without special needs, (Manitoba Government, n.d.). The research of Renzaglia (2003) defines inclusion as a philosophy that urges schools,
neighborhoods, and communities to welcome and value everyone, regardless of differences which is based on the belief that everyone belongs, diversity is valued and everyone can learn from each other.

In the United States of America (USA), inclusion, after many years of a battle, is now seen as a way of thinking and a way of providing services to children with special needs. The activism of parents, some professionals and people with disabilities improved the situation of children and youth from being excluded in the regular public schools to the current situation in which all students with special needs receive a free, appropriate public education and most spend a significant portion of their school day in classrooms alongside peers without disabilities, (Marling and Burns, 2014). In Europe, there is likewise a recognition of the rights of individuals to equality and quality education. But in a time series study of D’allesio and Watkins (2009) of 31 countries in Europe for years 2004, 2006 and 2008, there has been no significant movement in the placement of children and youth with special needs. Most of the 31 countries still practice segregation in the provision of education for students with special needs.

Inclusive education is defined by the Philippine Department of Education (DepEd) as an environment where school-aged children with disabilities are given appropriate education within the regular school setting. It embraces the philosophy of accepting all children regardless of race, size, shape, color, ability or disability with support from school staff, students, parents and the community, and it includes students with visual impairment, hearing impairment, intellectual disability, learning disability, autism spectrum disorder, communication disorder, physical disability, emotional and behavioral disorder, multiple disability with visual impairment, and to those who are orthopedically handicapped, chronically ill, and gifted and talented.

The policy on inclusive education was officially adopted in the country in 1997 but it started in bringing the children with special needs within the regular schools and providing them a “school” that caters to their specific needs. This is like having a “school within a school”. The children with special needs are separated from the regular children and they have their own rooms and facilities. They do not have any interaction with the children without disabilities.

Based on the 2017 statistics released by DepEd, there are now 648 “schools” within the regular school called SPED Centers catering to elementary and high school students with special needs. But with the given number of SPED schools, only 2% of the total school-aged population of children and youth with special needs (CYSN) are being served. This means that of the 2.2 million identified CYSN in the country, only 44,000 are enrolled in the schools.

Currently the DepEd special education instructional programs that the department implements are the following, (DepEd Press Release, 2017):

1. Self-contained/Special Class – a separate class for only one type of exceptionality which serves moderate to severe types of disabilities;

2. Itinerant Teaching – a traveling teacher reaches out to children with special needs in other schools or at home to provide direct and consultative services;
3. **Resource Room** – a designated place where the child with special needs enrolled in the regular school program goes to in order to make use of the specialized equipment, either in a tutorial situation or in a small group session handled by a SPED teacher;

4. **Pull-out** – a kind of program where the child enrolled in the regular class reports to the resource room for a period of time for special instructions by the SPED teacher;

5. **Integration/Mainstreaming** – refers to the enrollment of a child with special needs in a regular class with support services. There are two degrees of integration: Partial Integration and Full Integration. In Partial Integration/Mainstreaming, a child with special needs enrolled in a special class is integrated with regular children in non-academic activities like work education, physical education, arts, school programs, etc, then gradually integrated in the academic subjects if qualified. Meanwhile, in Full Integration/Mainstreaming, a child with special needs sits in the regular class in all academic and non-academic subjects; and

6. **Inclusion** – all children with disabilities, regardless of the nature and severity of their disability and need for related services, receive their total education within the regular education classroom.

Alongside the DepEd policy on inclusive education is the act being initiated by Senator Bam Aquino in the senate entitled “Inclusive Education for Children and Youth with Special Needs Act” where inclusive education is defined as a process of addressing and responding to the diversity of needs of all learners by increasing participation in learning, cultures and communities, and reducing exclusion within and from education. This and the DepEd policy call for full inclusion of children with special needs in the regular classrooms in the Philippines leading the author to question whether or not the Filipino teachers are ready to include all types of students in the teaching and learning process of all students.

Part of the readiness that needs to be looked at is the attitude of teachers on inclusion as a philosophy and as a policy of professional practice in the Philippine schools. There are many researches done in different countries relating to the attitudes of teachers and pre-service teachers on inclusion but in the literature in the Philippines, this researcher only found two: that of De Castro (2013) and Salcdanan (2013). These two researchers looked at the attitudes of students and teachers using an instrument scale that they made but did not subject the instruments to scale development psychometric testing.

Attitude is a mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related, (Allport, 1935). Attitude involves three things: an attitude object, a set of beliefs and a tendency to behave, Culvertson (1968). Attitudes are very important because according to researches, attitudes have predictable and very powerful effects on behavior, (Bines, 2011; Costelo, 2013; De Castro, 2013; Greenwald, 1989 as quoted by Eaton and Visser 2008; Richardson, 1996; and Yada, 2015). According to the study of Charema (2010) on the implementation of inclusion in Africa, the practice of inclusion is not an easy one and it calls for change in attitudes and shift in values.

To measure teachers’ attitude towards inclusion, many researches embarked on the development of attitude scales such as the works of Wilczenski (1992), Ernst and Rogers (2009), Cullin, Gregory and Noto (2010), and
Ahmad (2012). But all the instruments done were made for the teachers of the country from where the researchers originated. The scales, though proven valid and reliable, reflected the policies of their governments on inclusion and are not suitable to measure the attitudes of Filipino teachers toward inclusion. Thus, this paper was conducted in order come up with a means of measuring the attitude of Filipino in-service and pre-service teachers toward inclusion and to check the validity and reliability of the instrument.

Based on the attitude scale originally developed by Noto (2015) for teachers in the United States of America (USA), the researcher developed the Filipino Inclusive Education Attitude Scale (FIEAS). The FIEAS intended to measure the attitudes of Filipino pre-service as well as in-service teachers toward the implementation of inclusion in the country. The use of the scale will be useful to the following:

1. **Teachers.** Knowing the teachers’ attitudes toward inclusion will guide them in enhancing their positive attitudes towards inclusion and will help also in finding ways to overcome negative attitudes by seeking more information and training on inclusive education.

2. **Principals and administrators.** The FIEAS results when conducted, will guide the principal and administrators in the process of assigning the teachers who will handle inclusive education classes and in providing in-service training programs for their schools.

3. **Department of Education (DepEd).** The FIEAS can be adapted by the DepEd as a valid and reliable measure of Filipino teachers’ attitude toward inclusion, and use the results as bases for policy formulation and revision.

4. **Filipino students.** The FIEAS which measures the Filipino teachers’ attitude toward inclusion will eventually benefit the Filipino students in general as FIEAS hopes to pave the way to creating a more inclusive schools in the country.

### II. METHODS

The FIEAS which measures the Filipino teachers’ attitude toward inclusion was developed based on the Attitudes towards Accepting All Students (ATTAS) by Noto (2015) having the following sub-scales:

- **Sub-scale 1: Cognitive.** Believing all students can succeed in general education classrooms
- **Sub-scale 2: Affective.** Developing personal and professional relationships
- **Sub-scale 3: Behavioral.** Creating an accepting environment for all students to learn

The 27 items originally included in the study were evaluated and revised to contextualize inclusive education in the Philippines. The following issues were considered as the items of the instrument in the Test of Specifications (TOS) were produced: 1) the instrument must reflect how inclusive education is implemented in the Philippines; and 2) the terminologies used must be consistent with the DepEd definition of terms, 3) the language used must be easily understood by Filipino teachers. In the initial 27 items, 9 more items were added. The 36 items were evaluated by four experts in the field of research and two experts in the field of inclusive and special needs education. Based on their comments and suggestions, the items were revised but no items were deleted. After the item development was complete, the
scale’s psychometric qualities were tested on 181 pre-service teachers from a university in Luzon, Philippines. The participants were chosen based on convenience sampling. As the semester was about to end in the university, only the classes of teacher education students available during the data gathering period were included. The reliability and validity measures were then assessed using this sample.

**Reliability of the scale.** The Cronbach alpha coefficient was calculated to test the reliability of the scale. Item – total correlation coefficient was calculated on the 181 sample.

**Validity of the scale.** The validity evidence for the scale was obtained by asking four experts in the field of research and 2 experts in the field of inclusive and special needs education on the basis of the instrument's clarity, wordiness, balance, use of jargon and use of technical language. The experts were also asked to comment whether the instrument measures what it intended to measure and whether the questions were appropriate in the Philippine context.

Dimensionality of the construct. The dimensionality of the construct “attitude towards inclusive education.” was determined through factor analyses of the data obtained through the administration of the scale.

### III. RESULTS

Thirty six items were retained in the instrument adapted and developed for the Filipino teachers entitled Filipino Inclusive Education Attitude Scale (FIEAS), from the initial 27 items developed by Noto (2015). All the terms “mild to moderate disabilities” in the items were replaced with simply “students with special needs”. The three more items that were added in each sub-scale were included for the following reasons:

1. **(For sub-scale 1. Cognitive).** The 9 original statements only pertained to the benefits of inclusive education to students with special needs. Three items were added that highlighted the benefits of inclusive education to students without disabilities as well.

2. **(For sub-scale 2. Affective).** Three more items were added to measure the attitude of teachers towards collaborating with SPED teachers, on the possibility of co-teaching a subject with other teachers, and maintaining good relationship with parents of students with special needs, items which are not present in the original 9 items of Noto (2015).

3. **(For sub-scale 3. Behavioral).** The three items that were added were about the attitudes of teachers toward giving extra time to help students with special needs, classroom management and the willingness to prepare additional instructional materials to students with special needs.

Also the seven-point scale used in the ATTAS was reduced to 6 points. The “Neither Agree nor Disagree” choice was removed so that respondents will make a definite choice.

**Content Validity.** The six experts who validated the FIEAS instrument agreed that all the 36 items included in the instrument reflected the attitudes of teachers under the three subscales. All of the experts also suggested the translation of the scale to the Filipino language so that the participants will have a better understanding of all the statements included in the instrument. This suggestion is being considered seriously by this author to embark on in
the future. One of the experts suggested the use of phrases like “I believe that, I think that, I am confident that, I am willing to, and I am positive that” at the beginning of all the items. This was so that each of the items reflected an attitude. However this suggestion was not incorporated in the final list of items because the other experts thought this was not necessary anymore as the items were to be rated on a six-point Likert scale which already reflected attitudes.

**Reliability.** Table 1 below shows the Cronbach Alpha coefficient of the full scale and each of the 3 components. The overall reliability of FIEAS was 0.943 which is higher than $\alpha = 0.6$ considered to be acceptable. Sub-scale 1 has a coefficient of 0.792 which is considered to be acceptable; sub-scale 2 has a coefficient of 0.927 considered to excellent; and sub-scale 3 has a coefficient of 0.848 which is considered to be good.

![Table 1: Reliability Analysis for FIEAS full scale and sub-scales.](image)

**Construct Validity.** The data gathered in this research was run on SPSS for Factor Analysis. The Kaiser-Meyer-Olkin which is the measure of sampling adequacy, yielded a score of 0.912 which indicate that the sample is adequate and the study may proceed with the Factor Analysis. On the basis of Varimax Rotation with Kaiser Normalisation, 3 factors have been extracted. These 3 extracted factors explained 54.94% of the variability the performance of participants’ attitudes toward inclusive education. Factor 1 accounts for 33.166% of the variance; factor 2 accounts for 11.65% of the variance; and factor 3 accounts for 10.12% of the variance. The following table shows the rotated component matrix or the loadings showing the estimates of correlation between each item in the scale and the three principal components. In this initial factor analysis, only the items with correlations higher than 0.7 were retained, which means 13 items.

![Table 2: Rotated Component Matrix Table](image)
Item 35(B). I am willing to collaborate with parents of students with special needs to better improve the performance of their children.

Item 18(B). I would welcome the opportunity to team teach as a model for meeting the needs of students with special needs in regular classrooms.

Item 13(A). I want to be like the teachers who know how to design academic interventions for all kinds of students.

Item 25(B). I respect teachers who find ways to create a homogeneous class.

Item 15(A). I would like my fellow teachers to believe that I work well with students with special needs.

Item 19(C). All students benefit from team teaching: that is, the pairing of a general and a special education teacher in the same classroom.

Item 23(C). I believe that students with special needs benefit from active learning.

Item 12(A). I would like to be mentored by a teacher who models effective differentiated instruction.

Item 17(B). I find that teachers will succeed in handling students with special needs in the regular classrooms when they try their best.

Item 20(A). I would like to share the responsibility for educating students with disabilities in regular classrooms with the special education teachers.

Item 14(C). Students with special needs have the ability to contribute meaningfully to their educational program.

Item 5(A). I have high regard for teachers who use a variety of data (e.g., health, academic, behavioral, etc.) to make instructional decisions.

Item 21(C). Students with special needs can be equal contributors in group work.

Item 31(C). I believe regular education students do better academically when students with special needs are placed in the regular classroom.

Item 34(C). All students with or without special needs should be educated together in the regular classroom.

Item 2(B). Most or all regular classrooms can be modified to meet the needs of students with special needs.

Item 4(A). I would like people to think that I can create a welcoming classroom environment for students with special needs.

Item 11(B). I believe including students with special needs in regular classrooms is effective because they can learn the academic skills necessary for success.

Item 3(C). Students with disabilities can be trusted with responsibilities in the classroom.

Item 16(C). I believe including students with disabilities in the regular classrooms is effective because they can learn the social skills necessary for success.

Item 1(C). All students with special needs should be educated in regular classrooms with non-disabled peers to the fullest extent possible.

Item 8(B). It is necessary to make students with special needs feel welcome and accepted in the regular classroom.

Item 10(B). Students with special needs in the regular classroom do not require too much of the teacher’s time.

Item 7(C). Most or all separate classrooms that exclusively serve students with special needs should be eliminated.

Item 9(C). Inclusion is a more efficient model for educating students with special needs because it reduces transition time (i.e., the time required to move from one setting to another).

Item 6(C). It is seldom necessary to remove students with special needs from regular classrooms in order to meet their educational needs.
The 13 items were subjected to Principal Component Analysis and the strongest loading items for each of the three factors are seen in the following table:

| Table 3: Rotated Component Matrix Table of the 13 Items with Correlation Higher than 0.7 |
|---------------------------------|-----------------|-----------------|-----------------|
| Item 29(A). I would welcome regular meetings with parents of students with special needs to ensure their success in the regular classroom. | .849 | .313 | .004 |
| Item 27(A). I would like to be seen as a teacher who works effectively with a SPED teacher so that I can learn ideas, methods and materials that I can use to teach students with special needs. | .869 | .262 | - .046 |
| Item 30(B). I am willing to give extra time to students with special needs in order to help them in areas they are having difficulties with. | .855 | .234 | - .086 |
| Item 36(B). I am willing to prepare additional resources and learning activities needed to accommodate students with special needs in my class. | .799 | .282 | .103 |
| Item 33(B). Maintaining order in classrooms that contain students with and without disabilities can be challenging but I am willing to give it a try. | .710 | .416 | .060 |
| Item 26(A). I admire teachers who successfully design behavioral interventions for students with special needs. | .477 | .691 | .045 |
| Item 22(A). It is important to be seen by fellow teachers as one who can individualize instruction for students with special needs. | .413 | .787 | .039 |
| Item 24(B). Providing flexible groupings of students with special needs will ensure their more effective participation in the lessons. | .478 | .718 | .038 |
| Item 28(C). Non-disabled students can benefit from students with special needs in the regular classroom. | .747 | .276 | .150 |
| Item 35(B). I am willing to collaborate with parents of students with special needs to better improve the performance of their children. | .715 | .293 | .204 |
| Item 8 (B). It is necessary to make students with special needs feel welcome and accepted in the regular classroom. | - .036 | .211 | .771 |
| Item 10(B). Students with special needs in the regular classroom do not require too much of the teacher’s time. | .162 | - .141 | .810 |
| Item 7(C). Most or all separate classrooms that exclusively serve students with special needs should be eliminated. | .016 | .028 | .855 |

The items that were retained under the affective component are items # 29, 27 and 35. For the behavioral component, only item #24 and item #10 were retained. However, this researcher decided to include the item # 36 though low in correlation (alpha= 0.282). The item reads: “I am willing to prepare additional resources and learning activities needed to accommodate students with special needs in my class”, which clearly is more behavioral than it is affective (alpha= 0.799). The same observation is seen in item # 33. The correlation of item #33 to the behavioral component is only 0.416 while its correlation with affective component is 0.710. The item reads: “Maintaining order in classrooms that contain students with and without disabilities can be challenging but I am willing to give it a try.” The phrase “I am willing to give it a try” connotes the willingness to behave in a certain manner. However, it was written at the end of the sentence. Perhaps the participants were confused at a certain degree that is why their responses had wider variability. This researcher decided to include it and rewrite the item #33 this way: “I am willing to try maintaining order in classrooms that contain students with and without disabilities though it can be challenging”.

For the cognitive component, only the item #7 was retained. Also, the item #28 under the cognitive component was included in the final list of items though it may be high in the affective component (0.747) and not in cognitive
The item #28 reads: “I think regular education students benefit from the inclusion of students with special needs in the regular classroom”. From the definition of the sub-scales, cognitive is “Believing all students can succeed in general education classrooms”. This statement cannot be classified under affective but rather in the cognitive.

The 9 items identified were subjected to factor analysis again and yielded the following results, see Table 4.

Table 4: Reliability analysis for FIEAS full scale and sub-scales

<table>
<thead>
<tr>
<th>Component</th>
<th>Title</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full scale</td>
<td>Attitudes toward inclusive education</td>
<td>0.825</td>
</tr>
<tr>
<td>Sub-scale 1: Cognitive.</td>
<td>Believing all students can succeed in general education classrooms</td>
<td>0.57</td>
</tr>
<tr>
<td>Sub-scale 2: Affective.</td>
<td>Developing personal and professional relationships</td>
<td>0.728</td>
</tr>
<tr>
<td>Sub-scale 3: Behavioral.</td>
<td>Creating an accepting environment for all students to learn</td>
<td>0.83</td>
</tr>
</tbody>
</table>

The alpha coefficient of the cognitive component is low but still acceptable since it is higher than $\alpha = 0.5$. This may be accounted for the fact that two of the items in these two components, though their correlation coefficient to their components were low, were still included with some suggested revisions. The researcher is hopeful that in the next run of measuring attitudes, the alpha coefficient will become higher.

The FIEAS has a strong validity as established by panel of experts and good total scale internal reliability exceeding 0.8. Overall, the FIEAS was determined to be valid and reliable instrument for measuring attitudes toward inclusive education.

IV. DISCUSSION

This study has proven that FIEAS is a valid and reliable instrument to measure the attitude of pre-service teachers toward inclusive education. The total scale reliability is $\alpha =0.825$ which is interpreted as high and the reliability of the sub-scale on the affective domain is also high. The reliability of sub-scales on behavioral ($\alpha =0.830$) and cognitive ($\alpha =0.728$) are likewise good. Only the cognitive domain has low reliability, though the score is still acceptable ($\alpha =0.571$) due to the fact that two items were included even with low scores. With the discussed possible revisions of the two items in the previous chapter, the sub-scale reliability when the test is administered to new set of participants will improve. Also the other items that loaded in another components may be revised so that they can focus more on the sub-scale/s that they intended to measure.

With the new DepEd directive to practice inclusive education in the Philippine schools, this instrument will be helpful in determining the attitudes of teachers who will be the implementers of the new policy. The attitude of teachers toward inclusive education is a major factor in determining its success, (Van Laarhoven, Munk, Lynch, Bosma, & Rouse, 2007 as quoted by Noto, 2015). Since attitudes have predictable and powerful effects on behavior,
(Bines, 2011; Costelo, 2013; De Castro, 2013; Greenwald, 1989 as quoted by Eaton and Visser 2008; Richardson, 1996; and Yada, 2015), coming up with an instrument to measure the Filipino teachers’ attitudes toward inclusion will help DepEd administrators and teachers foresee the success or even failure of inclusive education in the country. The results in the administration of the FIEAS will help the DepEd administrators develop a training program that will address the negative attitudes of their teachers toward inclusion.

V. RECOMMENDATIONS

The results of this study lead to the following recommendations:

1. Revise the other items that loaded low in the sub-scales they intended to measure.
2. Likewise, revise the items that loaded high in other components, but not in the component that they intended to measure.
3. Try out the items to another batch of at least 100 participants considering the recommended revisions discussed in the results. Subject the data gathered to factor analysis and check again for internal reliability.
4. Using the finalize list of items, administer the test to teachers in the public elementary and secondary schools to further check the internal consistency of the scale when administered to different groups.
5. Other researchers are encouraged to conduct more studies for the validity and reliability of the scale for different groups in different areas of the country.

REFERENCES


