Model Development and Trial of Early Detection Manual for the Special Needs Children at Early Age Education Level

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Abstract
This research was aimed to produce the manual for early detection for ABK at the level of early age education (PAUD = Pendidikan Anak Usia Dini). Research was action research with stages as proposed by Buunk and Van Vugt. Metodology of research these stages were called as PATH (Problem-Analysis-Test (Model)-Help). Results of research indicated that based on the examination on three schools for the training of early detection, the average score before training was 22 but after training was 52. The value of Z was -2.384 and p-value (Asymp. Sig-2 tailed) was 0.017, meaning that there is a significant difference before and after early detection training. It supports a fact that early detection manual has impacted significantly PAUD teachers in doing early detection. The evaluation of teachers showed that early detection training was very gratifying, and the given score was 5 in average. It can be said that PAUD teachers were very satisfied and gaining a lot of benefits from early detection training.

Keywords: Development, Model, Detection, Education and Early Age Children

1. Introduction
Early Age Education (PAUD) has a very important stake for the next process of development of children. Early age is called as a golden period for children, and thus, stimulating and developing their potentials in this age category would be promising.

Early age education can be considered as the effort of fostering children starting from newborn to their year of sixth. This fostering effort stimulates education into children to keep their physicality and spirituality grown and developed in order to ensure their readiness for the next level of education (Indonesia, 2003)

The Decree of National Education Minister No.58/2009 mentioned that early age education put a base for growth orientation and five developments. These five developments included the development of morality and religiosity, the development of physicality (coordination between soft and hard motoric movements), the development of intelligence/cognition (contemplativeness, inventiveness), the development of socio-emotionality (attitude and emotion), and finally, the development of language and communication. Each development showed the uniqueness of each development stage in early age group (National Education Minister’s Decree, 2009).

The educated participants at PAUD level were usually aged from 0 to 6 years old (Article 28 Verse 1 in National Education Law, No.20/2003) or from 0 to 8 years old (Review of PAUD Teaching Compilation). But, the Special Needs Children deserved more attentions. These children significantly differed from others in some dimensions or in humanitarian functions. Indeed, some of them may be physically, psychologically, cognitively, and socially hampered from achieving or maximizing their goals or potentialities. Such children may be deaf, blind, hard talking, physically defect, mentally retard and emotionally disordered. But, others with high intelligence can be assigned into special needs category although with exceptional sub-category. Treating all these children must need skillful professional (Mangunsong, 2009).

Moreover, Mangunsong (2009) asserted that children in “special needs” category but within exceptional sub-category were those with different capacity in average if compared to the normal, particularly in their characteristics of mentality, their sensorical, physical and neuromuscular abilities, their social and emotional behaviors, their communication ability, and the combination of two or more of these. Therefore, school assignments, learning method, and relevant service should be modified for them to maximize their potentials or capacities.

The special needs children, based on DSM-IV Revision (Association, 2000), was classified into disorder category that happened during childhood, including autism. The autism was primarily signed by the disoriented repeating behaviors. Autism can emerge after mental retardation, but sometimes, it did not. Autism also did not relate with intelligence although verbal competence was found lower than motoric.

Asperger patient has almost similar symptoms to autism. The dominant symptom may involve the difficulty of social interaction and the emergence of disoriented behaviors without the laggardness of meaningful communicative competence. Therefore, Asperger can be said as minor autism.

AD/HD derangement was shown by the lacking of attention capacity and behavioral control due to the emergence of hyperactivity and impulsive behavior (hardly refrained). Both symptoms (attention and hyperactivity) grew together and might only show up in one dominant area over others.

Symptoms were known in the age of 2 years old when children were able to walk or to learn social activities. But, more established diagnosis could be obtained when children were aged over 3 years old.

Behavioral Disorder was confirmed with the presence of norm deviation behavior, more permanent
violence, and harming tendency, or even criminality. These symptoms may be recognizable in the age of 5 years old, but more confirming evidence was only enforced in the age of 7 years old, when children’ morality and reasoning were developing.

Behavioral disorder may be confused with ADHD or Oppositional Defiant Behavior. ADHD was typically related with temperament issue which hereby, it may produce uncontrolled behavior. However, norm deviation tendencies, involving lying, manipulating, harming others, and other criminal activities, were dominant in Behavioral Disorder, but not in ADHD.

It may be modest but it was the early onset of Conduct Disorder. The most prominent symptom was debating behavior, norm deviation, or adult advice challenger, but without physical aggressiveness, or without destroying things around or harming others. Other reasons related with psychological issues such as care pattern, modeling or peer effect.

Separation Anxiety Disorder was indicated by a dominant symptom of the anxiety against separating from the close figure. This anxiety manifested into a form of rejecting going to school or suffering from physical difficulty when separating from the close figure. It was found obviously among children in their early school age. The major cause usually related with care pattern.

Communication Disorder was the disordered development of talking and speaking, and it was indicated the difficulty in producing sound/voice, speaking orally in communication, or understanding the expression of others. The main cause was the abnormality in brain function.

Communication disorder comprises of expressive speech disorder, receptive-expressive mix speech disorder, phonology disorder, and stammer.

Motoric skill disorder was Motoric Coordination Development Disorder. It represented the hampering against motoric coordination or motoric activities that should be afforded in normal condition. It gave bad impact on academic achievement or daily activities.

Learning derangement was a deficiency in learning ability (especially in reading, writing and mathematic) if compared to others who have average intelligence and who are without obstruction from learning. In other words, children with learning derangement were not only due to low intelligence or lack of learning opportunity. This derangement derives from three categories, such as reading annoyance (dyslexia), writing annoyance (dysgraphia), and math annoyance (dyscalculia).

Educating the special needs children needs educators with special skill because each child has a distinctive characteristic to understand. Therefore, PAUD educators must be required by their professional code to use their competence properly. Knowledge and skill of educators should be up to date. Higher level of willingness and initiative to learn something and to improve their performance was main requirement for PAUD teachers. However, it is hard for them to meet. Irrelevant education background, short term occupation, and less learning willingness are the causes behind their poor professionalism, especially in educating the special needs children.

One case can be used for reference. On June 2012, a mother enrolled her daughter to the playgroup (pre-school group) in PAUD of Malang City. After registration, she was called and given a result of enrollment test. The result surprised her because it showed that her daughter suffered from autism. PAUD recommended her to bring her daughter to Special School (SLB = Sekolah Luar Biasa). Educators should not do such diagnose because psychological diagnose was only relevant if it was done by the relevant professions (psychiatrist/psychologist) with relevant methods.

Other case, a survey was done by a team of observers (on 12 March to 19 March 2014) on 45 PAUD teachers. The result indicated that: (1) 90% teachers did not have specific instruments to detect the special needs children (ABK); (2) 70% teachers do not have skilled workers to help conducting early detection for ABK; (3) 70% teachers did not know how to intervene ABK; (4) 60% teachers did not know how to assess or to conduct early detection for ABK; and (5) 60% teachers did not know the detail of characteristics of ABK. All these findings impacted on the service given to ABK at PAUD level.

As shown by both cases, it may be important to equip PAUD teachers with knowledge about early detection for special needs children. Who was classified with special necessity, how was the attitude of the special needs children or their characteristics, and how could we identify them, were the questions that PAUD teachers must answer. By mastering relevant skill and knowledge, teachers may identify or detect earlier the suspected educated participants, give them understanding, and extend recommendation for the parent. Teachers may organize a special service program for the suspected children. Treatment, therapy and education service could be designed to develop the potential of the suspected children.

Result of case study of the education at PAUD Zam-Zam Polowijen (Sari 2012) showed that: (1) teachers had indeed formal education background but irrelevant with PAUD qualification; (2) most worked there due to their love for children; and (3) every teacher was required every week to produce new games and songs with a learning theme. Other finding revealed that teachers did not have qualification or competence as PAUD educator. Greater number of PAUD schools in Malang City should be followed by the increase of professionalism among educators of the early age students.

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As noted in this overview, and also by emphasizing on how important was for PAUD teachers to have knowledge and capacity for early detection, thus, a training session must be given to for PAUD teachers or educators on the early detection for the special needs children. At least, it becomes the early step to develop the potentials of educated participants based on their characteristics.

2. Methodology Of Research
2.1. Design of Research
Research was action research with stages as proposed by Buun4 and Van Vugt (2013). These stages were called as PATH (Problem-Analysis-Test (Model)-Help). The following was the detail:
   1. Stage of Problem where researcher identified and defined the problems.
   2. Stage of Analysis where researcher used data from Problem Stage, and analyzed them with relevant theories. From these, early model was arranged and then prepared for a trial.
   3. Stage of Model Test where researcher trialed the model, and gave evaluation and revision.
   4. Stage of Help where researcher implemented the model and look for a chance of intervention. During the intervention, researcher was suggested not to stop at model validation, but all interested parties must feel empowered to use this model in sustainable and independent ways.

This method should guide the application of concepts/theories/principles relevant to the Applied Social Psychology, including how to design proper intervention to prevent and reduce problems occurring at social institution, including school.

2.2. Data Collection Method
Data collection method involved questionnaire, interview, focus group discussion (FGD), and training and trial of early detection module. Questionnaire was designed to understand the knowledge of teachers about early detection for ABK. Interview and FGD were applied to understand problems experienced during early detection for ABK. Training and trial of early detection module were conducted to understand module effectiveness and how far was PAUD teachers operating the module.

2.3. Data Type
Data source included primary and secondary. Primary data were obtained from questionnaire, FGD, interview, results of pre-test and post-test, and feedback from training and trial. Secondary data derived from documents at schools informing about class management at PAUD, cognitive development of students, and academic achievement report of students.

2.4. Procedure and Data Analysis
Research procedure was described as following. Questionnaire was given to PAUD teachers and it helped identifying problems experienced by teachers when they must identify the special needs children at PAUD. Focus Group Discussion (FGD) was useful to explore problems experienced by PAUD teachers and what expectations made from them. After this, training and trial of early detection module at three PAUD schools were carried on.

Data analysis method used a descriptive quantitative analysis and a differential test. Other method was also used, that was qualitative analysis, but after steps suggested by Poerwandari (2005). These steps included: (1) Organizing and coding the data. Data were organized systematically by sorting raw data based on the time and method of data collection (interview, FGD, and documentation). Data were then coded based on the demand of analysis, such as the code of time and method of data collection; and (2) Analyzing thematically using the order of data-keyword-theme-category-relation across categories. Field data were compared to each other through theoretical review, and the result would be used as the base to construct the model comprising of the combination of theories and facts on field.

3. Result Of Research
3.1. Demography Data
In average, the age of teachers or respondents (249 respondents) at PAUD, Kindergarten or Playgroup were arranged as following. Sixty two teachers (25%) were aged at 19-30 years old, 92 teachers (37%) were aged at 31-40 years old, 82 teachers (33%) were aged at 41-57 years old, and 13 teachers (5%) did not write their age. Teaching tenure of educators or respondents was described as following. Five teachers (2%) worked only 1 year. Those with tenure for 1-10 years were counted for 144 teachers (58%). Sixty one teachers (24%) had taught for 11-20 years. Twenty teachers (8%) remained at school for 21 years or more. The rank of educators or respondents can be explained as following. Of 249 respondents, 220 respondents (88%) were teachers, 20 respondents (8%) were principals, and only one respondent (1%) was administrative staff. The education background of respondents can be exposed as following. Those graduated from S1 were 155 teachers (62%), those from S2 were 3 teachers (1%), those from SMA/SMK/MA were 59 teachers (24%), those from D1 were 4 teachers (2%), those from D2
were 9 teachers (4%), those from D3 were 7 teachers (3%) and those without notification were 12 teachers (5%).

Three PAUD schools were observed, and selected as the site of training and trial of early detection module. These were: PAUD Assalam, PAUD Cita Insani and PAUD AL-Ghoniah. All these schools lacked of instruments to conduct early detection for ABK. Besides, these PAUDs accepted enrollment of ABK despite their diversity of teacher background.

3.2. Data Description
Specific format was used for individual development program. Of 249 respondents, there were 145 respondents (58%) who had a format of individual development program, but 104 respondents (42%) did not have such format. In relative with the curriculum on ABK demand, only 54 respondents (22%) used curriculum matched with ABK demand, and 195 respondents (78%) did not yet used it.

Related to the team for individual development program, 82 respondents (33%) had a team of individual development program, and 167 respondents did not have a team of individual development program. Concerning with the meeting between respondents’ school and the team of individual development program, 98 respondents (22%) had organized meetings with the team of individual development program, while 151 respondents (61%) did not met at all with the team of individual development program.

For the assessment of ABK during enrollment, and from 249 respondents, 72 respondents (29%) had assessed ABK during enrollment, but 177 respondents (71%) did not do that. About the school with different learning styles (discussion or play), of 249 respondents, there were 234 respondents (94%) who used discussion or play learning styles, and 15 respondents (6%) who did not use the styles.

Concerning about the school that integrated a cooperative learning with psychologist, of 249 respondents, there were 180 respondents (72%) admitting as having a cooperative learning with psychologist while 69 respondents (28%) did not ever organized such learning. About teachers who successfully helped ABK to deal with their learning weakness, of 249 respondents, there were 112 respondents (45%) who successfully assisted ABK in coping with learning weakness, and 137 respondents (55%) were not successful. In relative with education service that matched with ABK demand, of 249 respondents, 84 respondents (34%) delivered education service suitable with ABK demand, but 165 respondents (66%) did not convey such service. About the school that ever had a cooperative learning with the educators of the special needs children or the SLB teachers, of 248 respondents, 46 respondents (18%) did have a cooperative learning with the specialist educators or the SLB teachers, and 203 respondents (82%) never had such learning.

About ABK specialist teacher at school, of 249 respondents, only 23 respondents (9%) reported that they have ABK specialist teacher at their school, and 226 respondents (91%) did not have such specialist teacher. Related to ABK facilities at school, including wheelchair track or ABK toilet, of 249 respondents, only 5 respondents (2%) reporting that they have special facilities for ABK, and 244 respondents (98%) reporting that they do not have such facilities.

Related with the school that cooperated with physician, of 249 respondents, there were 48 respondents (19%) who did a cooperative learning with physician, whereas 201 respondents (81%) did not. About the school with the learning aids for ABK, of 249 respondents, 22 respondents (9%) were reporting to have learning aids for ABK, while there were 227 respondents (91%) reporting did not have these learning aids.

In concerning with teachers’ recognition to ABK, of 249 respondents, 215 respondents (86%) can indeed recognize ABK, while 34 respondents (14%) find difficulty to recognize ABK. Related to ABK curriculum, of 249 respondents, there were 36 respondents (14%) reporting as being informed about ABK curriculum, while 213 respondents (86%) did not know at all about this. About ABK curriculum development, of 249 respondents, 19 respondents (8%) had ever organized curriculum development for ABK, while 230 respondents (92%) never did that.

About teachers who compared ABK with normal children, of 249 respondents, 206 respondents (83%) made a comparison, whereas 43 respondents (17%) did not compare their students. For teachers with knowledge of ABK physical characteristics, of 249 respondents, 217 respondents (87%) knew ABK physical characteristics but 32 respondents (13%) did not know about it.

For ABK counseling, of 249 respondents, 112 respondents (45%) did know about ABK counseling, whereas 137 respondents (55%) did not know about it. For teachers who ever did counseling with ABK, of 249 respondents, 85 respondents (34%) did counseling with ABK, whereas 164 respondents (66%) did not.

Regarding to specific attention to ABK, of 249 respondents, 175 respondents (71%) had specifically attended ABK but 73 respondents (29%) did not spend attention that much. About changing the negative behavior of ABK (difficulty in writing, in learning, etc), of 249 respondents, 155 respondents (62%) had ever changed ABK negative behavior, while 94 respondents (38%) did not ever change that.

Concerning with the proper learning model for ABK, of 249 respondents, there were 50 respondents (20%) acknowledging the proper learning model for ABK but 199 respondents (80%) did not know that. In related with assessment tools for assessing ABK, of 249 respondents, there were 39 respondents (16%) who knew about these
assessment tools, but 210 respondents (84%) did not know about the tools. About the application of ABK assessment tools, of 249 respondents, there were 27 respondents (11%) who had applied ABK assessment tools, with 222 respondents (89%) had not ever used the tools.

In related with the making of ABK assessment tools, of 249 respondents, there were 28 respondents (11%) making their own assessment tools for assessing ABK, but 221 respondents (89%) did not ever make the tools. About treating ABK well, of 249 respondents, 143 respondents (57%) knew how to treat ABK well, but 106 respondents (43%) did not know about it. Related to treatment between ABK and normal children, of 249 respondents, 103 respondents (41%) gave similar treatment between ABK and the normal, but 146 respondents (59%) treated ABK and the normal differently.

About the difference between ABK and the normal, of 249 respondents, there were 232 respondents (93%) who can differentiate ABK from the normal, and 17 respondents (7%) cannot differentiate both. For teaching ABK with the normal, of 249 respondents, there were 132 respondents (53%) teaching ABK with the normal, but 117 respondents (47%) admitted their incapacity. In relative with ABK counseling methods, of 249 respondents, there were 67 respondents (27%) knowing ABK counseling methods, while 182 respondents (73%) did not know ABK counseling methods.

For how important was ABK counseling, of 249 respondents, there were 198 respondents (80%) recognized the importance of ABK counseling, but 51 respondents (20%) did not recognize it. About ABK general characteristics, of 249 respondents, 216 respondents (87%) knew general characteristics of ABK, but 33 respondents (13 %) did not know about it.

In concern with how to make ABK assessment tools, of 249 respondents, 7 respondents (3%) knew how to make ABK assessment tools, whereas 242 respondents (97%) did not know about it. Related with the use of ABK assessment tools, of 249 respondents, there were 21 respondents (8%) who ever used ABK assessment tools, but 228 respondents (92%) did not ever used the tools. For the benefit of ABK counseling, of 249 respondents, 138 respondents (55%) knew the benefit of ABK counseling, but 111 respondents (45%) did not know about it.

Besides those data above, other data were also obtained, especially from the result of training on the use of early detection manual, involving data from pretest and posttest and also the feedback from the activities. Pretest and posttest data were shown in the following table.

Table 1. Average score of the result of pretest and posttest of early detection training

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>3</td>
<td>22.00</td>
<td>6.403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post test</td>
<td>3</td>
<td>52.00</td>
<td>5.888</td>
<td>-2.384b</td>
<td>.017</td>
</tr>
</tbody>
</table>

As shown by Table 1, based on the examination on three schools for the training of early detection, the average score before training was 22 but that after training was 52. It was also shown that Z-value was -2.384 and p-value (Asymp. Sig-2 tailed) was 0.017, meaning that there is a significant difference before and after early detection training. It underscores a fact that early detection manual was significantly impacting PAUD teachers who conducted early detection. The evaluation of teachers showed that early detection training was very promising with score of 5 in average. It can be said that PAUD teachers were very satisfied and benefiting a lot from early detection training.

4. Discussion

Among the results of research and findings, some related with human resource and facilities. The limited human resource and also the lack of understanding and facilities for the special needs children indeed caused troubles for all teachers in educating the students. The limited knowledge among teachers may influence teachers in how to treat the special needs children. Such knowledge about the special needs children was a rare, and it would be no surprise if negative perception was always given to the students. Rarely given compliment, low expectation, and active rejection were often subjected to the special needs children than the other children. Teachers felt too much burden in dealing with the special needs children because it drained their times and attentions compared to the other students. Too often, the result of treatment was below the expectation (Lopes, Monteiro, Sil, Rutherford, & Quinn, 2004; Pavri & Luftig, 2001).

Teachers with education background and competence not match with the demand for educating ABK was also problematic. For teachers who were familiar in dealing with the special needs children, it may be due to their perception and ability to identify the special needs children. It distinguished such teachers from others with unfamiliar experience, or those with lack of knowledge and skill of understanding the special needs children.

The existence of ABK, in other hand, became an opportunity for teachers to improve their teaching competence. ABK can be made as the source of learning for other friends to develop positive attitudes. It supported Vaidya and Zaslavsky (2000) who suggested that the attendance of the special needs children at regular class would give positive impact on other children, including: (1) introducing a warmth posture and a tendency to build a relationship; (2) developing personal understanding to children diversity; (3) improving care to other children; (4) developing the social ability; and (5) reducing the anxiety against human difference, thus stimulating comfort.
and conscience. Therefore, treatment of the special needs children should be given in their early age.

However, most PAUD teachers found difficulties in conducting an early detection, in communicating with parents, in understanding how to treat ABK, and in sending ABK into the school or to the next level. Teachers were expected to equip themselves with the early detection instrument and the manual for interviewing parent, to be familiar with ABK treatment method, to be open with parent at school, and to make their selves understood about the school system that supported ABK. Module for ABK must be clear, detail, understandable and applicable.

The development of inclusive education may be quite promising and was receiving appreciation and enthusiasm from many stakeholders, including education practitioners. So far, the implementation on field was still challenged by several issues or problems. Sunaryo (2009) observed five issues in the inclusive education at school level. These issues must be anticipated and given a scrutiny to prevent them from hampering or failing the implementation of inclusive education. These five issues were: understanding and its implementation, school policy, learning process, teacher condition, and support system.

In particular, the conditions of ABK teachers were: (a) without reliable quality; (b) not sensitive and proactive yet to the issues related with the special needs children; (c) not supported with clear definition about their role, task and responsibility; and (d) lacking of regular discussion before task implementation, of collaboration model as the guide, and of reliable budget support (Sunardi & Sunaryo, 2016).

Inclusive education practice brought school management to a new kind of challenges. Taylor and Ringlaben (2012) declared that inclusive education as a new challenge for teachers. It needed significant change on education program. Teachers must be prepared to deal with all necessities of student, including both special and non-special needs children. Taylor and Ringlaben explained about the importance of attitude that teachers must show up on the inclusion. Teachers should be more positive to the inclusion because this posture was needed to arrange instruction and curriculum suitable for the special needs children. More positive teachers always kept more positive approach to the inclusion.

Clear, detail, understandable and applicable early detection module was needed. In this research, early detection module that was relevant and understandable should be developed.

Early detection model developed in this research can be described as following. While enrolled into PAUD, children were subjected to early detection (observation and interview) with early detection instruments. Some results were obtained such as descriptions and bad symptoms. Children were then brought into a consultancy with relevant experts (professional, psychologist or psychiatrist). The experts may diagnose children to derive further information, especially for children empowerment. Case conference attended by professionals, teachers, and parents played important role because it may develop agreement about early age treatment. The output of early detection model was that teachers will have knowledge about ABK, a skill of early detection, and an understanding about ABK empowerment. More detail is shown on the chart.
After early detection model was developed, a training session for early detection manual was given. The result was that early detection model had given significant impact on PAUD teachers in conducting early detection. Educators at PAUD were second hand after the parent at home. It was often difficult to recognize the characteristics of the special needs children. Moreover, the special needs children were always hard to be totally accepted at PAUD to learn with other children or with the normal. Surely, it contrasted with the concepts of inclusive education and early age education (Mursanib, 2014).

The early detection of The Special Needs Children (ABK) at Early Age Education Level (PAUD) was benefiting because it helped developing the favorable value and attitude, building a feeling based on self-acceptance, and understanding children behavior. Early detection also has functions such as function of understanding, function of control, function of prediction, function of development, function of prevention, and function of treatment. Early detection training was very important to understand the early condition of educated participants.

References