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THE EFFECT OF SOCIAL STORIES ON THE PRAGMATIC COMMUNICATION SKILLS OF CHILDREN WITH ASPERGER SYNDROME

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Abstrak.
Children with Asperger Syndrome experience deficits in their pragmatic communication, that cause misunderstanding and isolation from their environment. The goal of this research was to find out regarding the effectiveness of Social Stories on the pragmatic communication skills of children with Asperger Syndrome. The participants of this study were three children with Asperger Syndrome with chronological ages between 7-9 years olds. Data were gathered through 2 phases: assessment and intervention phases. The data collection in assessment phase used intelligence test, ASSQ and ASAS checklist to diagnose the characteristic of asperger. Meanwhile in intervention phase, data was assembled through observational checklist to describe their pragmatic communication skills. Data analysis was done using Trend Analysis by comparing the results of descriptive observation on the baseline, treatment, and post-treatment data. The intervention phase results showed that there was an increase on the pragmatic communication skills on children with Asperger syndrome; before and after Social Stories was given as a treatment. There were factors that affect the effectiveness of the intervention: (1) Internal Factors, such as the social skills, personality or characteristic, and motivation; (2) External Factors, such as the parenting practice of the family and the support from the educational environment that encouraged the behavioral change.

Keywords: Asperger Syndrome, Pragmatic Communication, Social Stories

INTRODUCTION
School ages or usually known as Middle childhood (6 to 12 or 13 years olds) is an important period for children to develop their ability in relating with others. In this period, children learn to develop their pragmatic communication skills, to take turns in interaction, to make acceptable argumentation, etc. Process in acquiring social skill interaction may become a problem for children with developmental disorder. One of developmental disorder is Asperger syndrome, which is included in the pervasive developmental disorder. This syndrome shows maladaptive behavior in social interaction, limited interest and behavior, and lack of curiosity toward social environment (Attwood, 2007).
According to Volkmar (cited in Kaunang, 2005), the prevalence of Asperger syndrome is 1:10.000. Other reference says that 20-25 has Asperger Syndrome for every 10.000 children. Rate of incident of Asperger syndrome, with the diagnosis criteria from Gillberg & Gillberg (cited in Kaunang, 2005) or based on ICD-10 criteria, is increasing from time to time.

Social skills is a competence that is acquired by individual through learning process. This skills is used to relate to social environment in an appropriate way (Painter, 2006). Social skill includes communication skills, relationship with others, listening, giving and accepting critics, or act according norms.

Preliminary survey reveals that children with asperger syndrome are deficits in social skills, especially in communicating with social surrounding. They tend to communicate without considering social rules and context. The social skills deficit in children with asperger syndrome is related with pragmatic communication skills (Attwood, 2005).

Pragmatic communication is a form of communication that involving social rules, or using appropriate language in social situation (Attwood, 2007). Limitation in pragmatic communication often damage the quality of friendship and social relationship with peers (Krasny dkk, in Painter, 2006).

Previous research stated that Social Stories is effective to form behavior that form social skill in
interaction with social environment. Behavior targets in several previous research related with social skills, i.e. pragmatic communication in children with asperger syndrome, such as recognising facial expression, eye contact, smile, initiating in starting conversation, etc.

Based on previous research, researcher considers Social Stories as an intervention for asperger syndrome. The consideration are Social Stories has proven effective in increasing social skills, i.e. pragmatic communication in asperger syndrome and autism spectrum disorder. Secondly, researcher takes in to account the urgency to intervene pragmatic communication skills. Lack of this skills in the future will cause depression in children because of social conflict they have. This research aims to examine the effectiveness of social stories to increase the pragmatic communication skills in children with asperger syndrome.

METHODS

The dependent variable in this research is pragmatic communication and the independent variable is Social stories. Pragmatic communication is defined as communication which incorporate social rules, i.e. Using appropriate language in social situation. Aspects of pragmatic communication consist of:

1. Physical aspect, i.e. maintaining appropriate space while having conversation, eye contact, appropriate facial expression, etc.
2. Verbal aspect, i.e.: focusing on the conversation topic, taking turns while speaking, control on modulation (tone and volume), praising, and greetings.
3. Cognitive aspect, i.e.: detecting other’s emotional expression, expressing humour and anticipating other people’s reaction.

Social stories is defined as a short story which describes a situation, other’s people perspectivist and the appropriate adaptive behavior according to the situation. Social stories might be given using pictures, roleplay and verbal prompt.

Participant of the research:

Participant of this research is three boys in an inclusive school, ages between 7-9 years oled who has asperger syndrome.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages</td>
<td>9 yrs old</td>
<td>8 yrs old</td>
<td>7 yrs old</td>
</tr>
<tr>
<td>Class</td>
<td>4 SD</td>
<td>3 SD</td>
<td>2 SD</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>Male</td>
<td>Male</td>
</tr>
</tbody>
</table>

Table 1
Participant of the research.

Data gathering technique:

There is two phases of data gathering process, i.e.:
1. Data gathering on Asessment phase.
   a. Observation and interview.
      Observational guidance is constructed based on Diagnostic and Statistical Manual of Mental Disorders IV and diagnostic criteria of Asperger syndrome from Gillberg and Gillberg (cited in Attwood, 2005). Interview guidance is composed based on The Asperger Syndrome Diagnostic Interview (ASDI). Researcher also doing the anamnesis for the cases.
   b. Intelligence test.
      Researcher uses Wechsler Intelligence Scale for Children (WISC) (Matson and Bojsjoli, 2008).
   c. Personality test

The drawing test: BAUM, Drawing a Person (DAP) and House-Tree-Person (HTP) tests.

d. Checklist
   Autistic Spectrum Screening Questionaire (ASSQ; Ehlers, Gillberg, and Wing 1999) which has reliability value 0,94 on 65 partisipan, and Australian Scale for Asperger’s Syndrome (ASAS; Garnet & Attwood 1995 in Attwood, 2005).

2. Data gathering on intervention phase
   After assessment phase and the participant has been diagnosed as having asperger syndrome, then researcher collect data on intervention phase, refering to instrument that has been constructed by researcher which relevant to pragmatic communication aspects, i.e., physical, verbal and cognitive aspects (Cox, 2007). Researcher divides into three process, that includes:
Table 2. Data gathering technique (intervention phase)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Goal</th>
<th>Data Gathering method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test or</td>
<td>Baseline data is gathered through observation in natural setting for three days to record participants' behaviors.</td>
<td>Observation dan pragmatic communication Checklist</td>
</tr>
<tr>
<td>Baseline</td>
<td></td>
<td></td>
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<tr>
<td>Treatment</td>
<td>Researcher gives social stories and monitor the development of their pragmatic communication skills</td>
<td>Observation dan pragmatic communication Checklist</td>
</tr>
<tr>
<td>phase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>The treatment is ended, meanwhile participant is still observed to record whether the pragmatic communication behavior is maintained or not</td>
<td>Observation dan pragmatic communication Checklist</td>
</tr>
</tbody>
</table>

Research Design

This research is using single case quasi experiment (N=1) design.

0→0 X→0 X→0 X→0 X→0 0→0

A A

Notes:
A : Baseline condition before social stories is given
B : Condition when social stories is given
A : Condition after treatment of Social stories

RESULTS

a. Analysis of assessment data

Based on quantitative data analysis on ASSQ and ASAS checklist and then with reference to mean ideal, it is inferred that each participant has a high score on symptoms of asperger syndrome. Based on qualitative data analysis, each participant shows symptoms of asperger since early age, however some of them undergo some therapies. Each participant meet the criteria of asperger syndrome diagnosis according to DSM IV and asperger syndrome criteria according to Gillberg & Gillberg (cited in Attwood, 2005).

b. Analysis of Intervention Data

Data analysis was done using trend analysis, by comparing the scores on baseline, intervention/treatment and monitoring phase.

Graphic 1. Trend Analysis 1st Social Stories (Say “thank you” when he is given something by other) of participant A

Graphic 2. Trend Analysis 2nd Social Stories (Say “thank you” when he is taught by other) of participant A

Graphic 3. Trend Analysis 3rd Social Stories (Say “thank you” when he is helped by other) of participant A
Related to graphic 1 about Social stories (Say “thank you” when he is given something by other) and graphic 2 about Social stories (Say “thank you” when he is taught by other), it is known that baseline of median is 0 which means he doesn’t show that specific skills and the median of monitoring phase (after the intervention) is 3, which means he is able to do it in natural setting. The data is consistent in three days observation of monitoring phase.

Meanwhile, graphic 3 (Social story on saying “thank you” when he is helped by other) shows different result. Median of baseline data of median is 0 which means he doesn’t show that specific skills and the median of monitoring phase (after the intervention) is 1, which means he is able to do it with prompting (score 1) so that the alteration of the behavior is only on increasing the comprehension (cognitive level).

1. Participant B

Graphic 4. Trend Analysis 1st Social Stories (Say “thank you” when he is given something by other) of participant B

Considering the Trend Analysis result, median score of baseline phase is 0 which means he doesn’t show that specific skills and the median of monitoring phase (after the intervention) is 2, which means the social story is effective enough in increasing B’s behavior of saying thank you when he is given something by other, although this behavior is still inconsistent in natural setting.

1. Participant C

Graphic 5. Trend Analysis 1st Social Stories (Say “thank you” when he is given something by other) of participant C

The result of social stories intervention on participant C, as follows: two social stories have been successfully applied to him, i.e. social story about saying thank you when given something by others (graphic 5) and social story about saying thank you when he is taught by others (graphic 6).

From graphic 5, it is known that median score on baseline phase is 0 that means he is not able to say thank you when he is given something by others, however after the intervention (monitoring phase) his score becomes 3 that means after the treatment, he is able to say thank you after he is given something in natural setting consistently.

Graphic 6 of participant C analysis result shows that his median score of baseline phase is 0 and median score after intervention phase is 2. It means on base line phase, C did not say thank you after he is taught by other, but after intervention he is able to do it even though it does not happen constantly, when he is taught by different teacher/person.

DISCUSSION

Regarding the result of intervention phase, there are modification of behavior before and after the participants are given social stories. The behaviors being intended to be intervened are some pragmatic communication skills that have not been acquired or not yet optimal.

During intervention phase, the aspects to be focused in this research are verbal and cognitive aspects. It is decided according to intervention priority regarding the participants needs. All of them show the same thing that is deficiency in pragmatic communication skills in verbal and cognitive aspects. Actually there were several needs to be intervened, however after discussion with the teachers, it was decided there was an urgency in anticipation of other people reaction such as saying thank you whenever they are given something, are taught by others, or being helped by others (such as when somebody lend them pencil, eraser, etc).

Theory of mind might explain why a child with asperger syndrome has difficulty to place himself in other people’s perspective. This condition makes them insensitive in adjusting to behave according to social
norms (Frith, 2003, in Sansosti, dkk, 2010). Therefore they need a social story that depicted social situation, including other people thought and reaction to a certain condition. Social stories need to be provided intensively, in a concrete manner so the child with asperger syndrome will understand the social situation.

After intervention, each participant skills in pragmatic communication varied differently. It is affected by internal and external factors. Internal factors related to: (1) the differences of personality characteristics of each participants, i.e. emotional condition, impulsivity and rigidity level that affect the ability in generalization to other situation; (2) they are usually rigid and stick to the routine and certain schedule; (3) the level of tediousness of each participant toward the intervention method. Thus, it is suggested that Social stories should be given through various mode to support generalization in several situation (Gray and Garand, cited in Crozier and Sileo, 2005).

Besides internal factors, there are also external factors that affect the variety of the result, i.e. (1) the method in providing the social stories are less varied so that it might creates dullness and generate impediment in generalization in various situation (2) the lack of involvement of significant others and peers to stimulate the situation to transpire the appropriate responses in natural situation. Lack of reinforcement and reward may cause unstable behavior modification. Intervention by Social stories is designed for the child with asperger syndrome to be able to gain appropriate behavior suitable to certain social situation (Gray, cited in Quirmbach, Lincoln, Monica, et.al. 2008), though in prevailing the already modified behavior, participation and reinforcement from social surroundings is needed to maintain the behavior.

In this research, besides the variation of comprehension of each participants, there are lacking the positive reinforcement from other in natural setting so that the modified behavior can’t persist, especially this case is happening to participant B and C.

According to the result, it is concluded that the intervention of social stories is effective to increase the pragmatic communication skill of children with asperger syndrome, in certain behavior and in school situation. On the other hands, the disadvantages of social stories are it is limited in teaching a specific behavior so it is hard to be generalized. It has to be given several times to construct the comprehension of social situation. Social stories is also limited in describing abstract or complex situation so it might influencing the asperger children’s understanding since they tend to think in a concrete way. Hence, application of social stories can’t be done only in one setting such as in school. Cooperation between teachers and parents is essential for generalizing the application of social stories in various setting and a diverse social context toward different person. Besides that, for social stories to be applied effectively, it has to be supported by other approaches, i.e. using prompt and reward system to increase the child motivation.

Reference: