Portrait Drawings Therapy: Windows of Hope for Children with Autism Spectrum Disorder

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Abstract: The paper reports a case study on the ability of a group of children with autistic spectrum disorders (ASD) in recognising face using portrait drawing technique. Sample comprised of four ASDs children and four non-ASDS children and eight teachers. Eight individual drawing sessions were conducted with the children sample. Data were collected using observations, interviews and Portrait Drawing Assessment (PDA) Instrument. Results showed that the two groups of children had different profile. The analysis was also able to identify the drawing developmental stage of each participant. The results imply that drawing technique has a potential to draw autistics children attention and teaching them to recognise faces. This paper concludes that portrait drawing session has a great potential to be an intervention for ASDs children developing communication. As the present study was the first for children with ASD in Malaysia therefore more evidences are required to confirm the finding.

Key words: Autistic spectrum disorders • Portrait drawing assessment • Drawing developmental stage • Iconic thinking • Facial recognition

INTRODUCTION

Studies on the use of drawing as a technique in art therapy had supported the hypothesis that the technique could help clients express their minds and emotions and help the therapist to tap into the clients' imagination [1, 2]. Drawing helps these children to convey to us their perception. Facial expression is one of the natural non-verbal communication channels with every eye glance, smile and facial change giving clear and easily understandable message [3] and has been used by humans for communication throughout their lives [4, 5]. When both the drawing and facial expression are combined in portrait drawing i.e. portraiture, it becomes a source of social information and a potential communication tool. The technique of portraiture has been introduced to children with autism as a method to help them to communicate and results have been positive. However, early findings need to be confirmed and further researches are required.

Autism spectrum disorder (ASD) or autism is a mental development disorder affecting the social interaction of the patients, especially in face recognition. The children that are affected by this disorder exhibit behaviour, interest and activity that are limited, repetitive and stereotypical [6]. Most of them have the habit of avoiding direct eye-contact. This habit is thought to be the main characteristic as well as an early sign of children with ASD traits. It is because of this that most (60%-70%) children afflicted with ASD are unable to recognize faces. Hence, positive results on portrait drawing among non-ASD children offer hope for these children to improve their communication.

The portraiture by these children can be interpreted according to their drawing development and mental growths when viewed in a holistic manner [7,8]. The drawings can also serve as a clue to their intelligence index (Gardner, 1982) and shed light on their physical, emotional, perceptive and cognitive factors. It should be noted, however, that artistic growth is seen as a retrogressive growth [9]. It is for this reason that the artworks of children are more creative than those of older people. The style, ability and drawing experience of ASD children also reflect not just specific diagnostic indicator,
but also the level of functioning and general growth of individual in a holistic manner [10]. Understanding their development in portrait drawing helps us to determine their development age. Besides, drawings, diagrams and iconic signs can be used as tools and symbols of learning [11].

Studies on the role of portraiture in autistic children’s communication development are few. However, early research conducted by [12], for example, has shown a relationship structure between research subjects (ASD-afflicted children) and researcher was successfully established when the subjects were asked to draw a portrait of the researcher. The activity seems to have encouraged the children to involve themselves in the relationship with the researcher. The ASD children are generally confused with the use of personal pronouns (‘I’, ‘you’, ‘him’, ‘her’, etc). When they were shown individual portrait of each of them made by the researcher, in Martin and Lawrence’s study, they showed an amazed look, as if asking themselves “Is this me?” It is at this point that the intervention happens. Besides, art therapy also offers a safe and fun environment that allows the researcher and the participants to interact while sitting together around a small table [13]. In the drawing session, the participants or subjects are not pressured to give appropriate responses and the researchers also encourage subjects to be spontaneous and allow them using non-verbal expressions. Such environment is crucial as children with ASD depend on their feeling of security to enable them to communicate effectively.

In Malaysia, there has been no research on the use of portrait drawing among children with ASD, although there are a few on normal children. Therefore, this research will be the first step in effort to establish empirical evidence on the use of portrait drawing technique for children with ASD. The present study was designed to understand how children with ASD produce these portraits and to examine the characteristics of the portraits as well as the characteristic of ASD among the participants.

MATERIALS AND METHODS

This research used mixed methods. By using the ideographic approach [14], portraiture sessions are conducted individually. Quantitative data are collected using the Portrait Drawing Assessment (PDA) form while the qualitative data are gathered through observations and interviews. Comparative case study methods are also used because the sample sizes are small and are deliberately selected [15]. Comparisons are conducted between children with ASD and a non-ASD children to determine the validity of the hypothesis that on average, groups of participants with different backgrounds and characteristics will obtain different scores. It is expected that the ASD participants will show autistic characteristics according to theory-measured and theory-supported hypothesis. Portrait Drawing Assessment (PDA) is a hypothetical test on the phenomenon of ASD. This orientation of deductive structural observation is commonly used for quantitative research.

The case study method was chosen for its known strengths [16]. The semi-structural psychological observations were conducted to enable the researcher combined unstructured observation (through recordings of sessions) with structured observation (through instruments). Structured interviews with the teacher participants were also conducted to support the observation data. The qualitative approach help to produce a detailed analysis and conclusion that would enable us to have a peek at the reality of a social unit in a holistic manner [15].

The portraiture produced was used as an intervention and the researcher acted as the PDA interpreter or evaluator. Four main areas of observations were i) Iconic thinking in the portrait, ii) A trend in the data, iii) The artistic development stage of ASD children, iv) The characteristic of ASD [8].

Sample: Two sets of sample consisting of students sample and teachers sample were used for the study. Eight students aged between 9-12 (2 girls and 6 boys) were chosen through convenient sampling method due to small number of students with ASD in the school and to avoid disruption in school administration. Participants with ASD and non-ASD with unknown developmental problems were chosen from special education class while students with learning difficulties are selected from the typical classes that have the lowest results in the school. They were also chosen based on their personal information and health records from the school authorities.

The students were then, divided into two main groups. The first group consists of 4 children with ASD (a pair of twins and one high functioning ASD child in a typical classroom, another ASD child in special education classroom). The second group consists of 2 non-ASD children and 2 children with learning difficulties. The research was conducted at a Chinese Primary School.
Eight teachers were selected for the teacher sample using purposive sampling method. The teachers were rehabilitation and special education teachers who were experienced and also willing to be the sample of the study. They were teaching and taking care of the students sample at the time when the study was conducted.

**Instruments:** Three sets of research instruments were used:

- Portrait Drawing Assessment (PDA) which consists of two evaluation forms that look into the drawing characteristics and behaviour. Both forms were used to evaluate each student participant. They document the drawing characteristics under 13 items and behavioural patterns under 17 items throughout the duration of the portraiture process. PDA [12], has been translated into the Malay Language by the researcher to be used in this study. The instrument was chosen because it provided a structured observation instrument that was objective, complete, fast and easy to manage.
- An interview protocol which was developed in accordance with the research questions to guide the researcher while interviewing the research participants. The protocol was also used to maintain the consistency of the questions asked to all the participants.
- Video and audio recording as well as pictures photos which were taken during the portraiture session.

**Pilot Test:** A pilot test was conducted prior to the study, i) to validate PDA item, ii) to assess PDA management, iii) to identify problems arising when conducting the portraiture session among the participants, iv) to recognize unique or extreme portrait and, v) to test the research equipment (camera, video and audio records).

Data from the pilot study showed that PDA items were acceptable. However, the ASD participants were rather uncooperative due to emotional distress; they were not able to focus during the first session which was conducted in a counselling room which also was unfamiliar to them. The researcher used counselling skills in building rapport with the participants and the session was repeated the following day. The process of building rapport took time and sometimes the participants needed to be accompanied by their teachers to create a safe environment for them. With the help of the teachers and the application of counselling skills the researcher was able to conduct PDA session up to two to three students per day. The pilot study also helped the researcher to understand the importance for a researcher himself/herself to be a model during the portraiture session which allowed the researcher to observe and to monitor the participants in a face-to-face situation.

**Data Collection:** Qualitative data were collected through recording of the portraiture sessions and evaluated using PDA. Data was also gathered through observations and interviews.

Recording the portraiture sessions: Individual portraiture sessions were conducted in eight portraiture sessions. Each participant was asked to make a portrait of the researcher, who was also function as the data-collector for the portraiture session. All the activities were recorded using audio and video recording.

Unstructured observation methods used during the portraiture sessions through video and audio recordings as well as photographs to document non-verbal communication and any unexpected incidents that were not anticipated during the portraiture session.

Structured interview with teachers sample - By using the interview protocol, interviews were conducted to further investigate the characteristics of ASD, their interest in drawing, achievements and behaviours from their teachers’ perspective.

**Data Analysis**

**PDA Analysis Method:**

Portrait Drawing Assessment (PDA) data that describes the portrait characteristics was collected from each participant who would receive one or more score per item (e.g. when the participants shows signs of self-stimulation) each session. The scores were then accumulated into the main form (Form 2) to get the overall score. The development of each child was then identified according to the perspective of [7,8]. In short, PDA functions as an instrument of documental analysis and evaluation as well as supporting data for the operational definition of ASD characteristics.

**Qualitative Analyse**

Qualitative data from observations, recordings and interviews were analysed using thematic approach to identify their interest in drawing, achievements and behaviours from their teachers’ perspective.
Procedure: After determining the choice of subjects, letters of consent were sent to their parents by their class teacher. The time gap between the pilot test and the research was around one month. Individual portraiture sessions were conducted in eight portraiture sessions. All the activities were recorded using audio and video recording.

Portraiture sessions: A 30 minutes (max) face-to-face meeting with the researcher was arranged for each student subject in a quiet and therapeutic counselling room. Each participant was given a sheet of A4 paper, a box of crayons and a set of colour pencils with 24 colours. In each session, the researcher also acts as the model for their portrait. The participants and the researcher sit facing each other on the floor. They were separated by desks on which the subjects draw. This position enables the autistic participants to look at the researcher’s face. At the same time, the researcher can also make a portrait of the participants as a visual response of how he is being perceived by others. Using counselling strategies the researcher who was a model for the drawing established rapport and built a trust relationship. The researcher instructed the participants on their assignments and show an example to clarify the meaning in a “You draw me and I draw you” way. From time to time, the researcher will inform the participants on what she is doing like “I’m drawing your nose/eye/ear etc now.” The researcher also reminded the participants to sit upright by lifting their heads while speaking; she demonstrates so that they can see each others’ faces. They were also reminded to look at the researchers’ face when speaking or spoken to.

Following [12] suggestion the researcher tried as best as she could to maintain a consistent facial expression towards each participant as well as wearing a uniform for every evaluation. When drawing the participants’ portraits, the researcher uses only one colour and one line with various strokes to achieve a consistent technique and speed. After the participants have finished their portraits, they were given story books (in Chinese and English) to test their ability to read and communicate and to find out their level of learning capability. They were given a chance to draw free-style as an incentive for them to maintain and attract the interest of those who can follow the procedure. However, only the portraits are evaluated as in the protocol. Video and audio recordings as well as photographs were taken with the help of the teachers during the drawing sessions.

An interview is then conducted with the researcher, where she asked verbal questions and the answers were recorded by the subjects in the interview forms. This data was used to answer the research question, support quantitative data and to be triangulated with observation data [15].

RESULTS

Profiles of Research Participants: Data at hand shows that participants possess similar demographic features: they are of Chinese race, from the same school of similar age and with a level of academic achievement that does not vary much from each other’s. They come from three streams of education, which are special education, inclusive education and mainstream education. Their academic achievements are taken from the latest PKBS results which in August, 2009. However, students from the special education class do not possess assessment results. Their achievements are much lower than those of students from typical classes. The three ASD participants, who function very ably at medium stage, receive inclusive education in typical classes. The second ASD participant obtains 16th position out of 33 students in the class, with an average mark of 42.74%. This participant’s drawing once won him the bronze medal in an international art competition. There are also participants with a higher level of achievement; they are found to be more interested in drawing, if seen from their teachers’ perspective. Based on observations made, the time spent on drawing depends more on interest than on the ability to draw. The average time for each group to complete their appraisals does not differ much from each other’s, which approximately 15 minutes.

Analysis of Portraits Drawn: The portraits drawn by the participants (Diagrams 1 and 2) were used to detect a common trend between the two groups of children in accordance with the scores obtained (Tables 2 and 3).

The first analysis of portraits is done by making a comparison with the researcher’s photograph in order to trace the participants’ level of capability. The portraits in Diagram 1 show widely differing capabilities: there are portraits that are not only complete with details but also they resemble closely the researcher’s face that is the model (portrait 2). Portrait 3 shows a complete facial drawing with spectacles. We also find a portrait that does not show human facial features altogether, as in portrait 1. Portrait 4 is drawn with human facial features except that it shows three eyes.
In comparison, the portraits produced by the non-ASD group (Diagram 2) showed that generally, reality is not portrayed. Also, they showed quite similar levels of capabilities. All the portraits drawn by this group do not show detailed facial features like the spectacles and the hairstyle. When an analysis of iconic thinking is done regarding the portraits drawn by the ASD group (Diagram 1) and the non-ASD group (Diagram 2), it is found that some participants are able to use schematic diagrams as the medium of iconic thinking (perception boundary) and logical thinking to portray reality. Seven out of eight portraits produced point to this deduction.

**Analysis of the Portrait Drawing Assessment (PDA):**

The Portrait Drawing Assessment (PDA) form used contains items concerning formal elements in art, behavioral traits that are associated with concrete thinking (iconic) and also ways to process facial images. The PDA data that evaluates the features of the drawings show, in general, the number of item scores for all the eight participants, based on Diagrams 1 and 2. On the whole, the scores in the ASD group of participants show a vast difference when compared to the scores in the non-ASD group. In the ASD group, all four participants showed individualistic features of art, under the resemblance item towards the researcher’s face – non-drawing or unidentified doodling, stereotyped drawing and drawing that so mirrors the researcher’s face that it can be taken for real. Under the color usage item, the ASD participants differ in representation, abstracts and non-use of colors or using only one color.
Three ASD participants who are of the same age show similar drawing features under the pressure intensity item, thick or fine quality of line item, suitable size item and attempt or use of accurate scheme item. Two ASD participants are found to have similar scores under detailing item, which they draw only the important part of the face. Their scores are also identical under ability to follow instructions item, which they draw only the face or head. The same applies under expansion of drawing item at similar age group, non-confusing projection or identity item and doing the correct assignment under incentive drawing item. Indirectly, these features show that they are more interested in drawing and have more self-confidence.

The analysis also shows that portraits drawn by the ASD group possess two similarities with those drawn by the non-ASD group – first, under absence of shadows or lines only item and second, under absence of text in drawing item. At least three out of four ASD participants draw portraits. Two drawings show the researcher’s hairstyle and one of the participants even produces a portrait that resembles closely the researcher’s face. Such differences show that the ASD group possesses a variety of drawing styles and abilities.

Analysis of behaviors shows that the four ASD participants possess differing behavioral traits, regardless of when they are compared with each other or compared with the non-ASD group. The ASD participants possess similar scores with the other participants in only three items, which are non-fixture of objects, absence of controlling or enforced behavior and absence of sensory exploration of object. Three ASD participants show six similar features like using oral as the primary mode of communication, possessing differing self-stimulating behavior, possessing lateral feelings, being able to identify the portrait by giving correct names or personal pronouns, being able to read instructions themselves and using the right hand. Two ASD participants show persistence relating to current activity with logic, while two other ASD participants also show persistence, but not relating to current activity with logic. Under social behavior item, two ASD participants smile while their portraits are being drawn; they even initiate conversations. The other two ASD participants express feelings that are in line with procedure. Some need physical help to continue the assignment while others do not. The non-ASD participants possess 11 out of 17 items under similar behavioral traits. The PDA behavior scores clearly prove ASD features, while the non-ASD group does not possess ASD behavioral features.

The ASD participants appear to feel more secure, comfortable and confident of their drawing skills. While they draw, they sing and initiate conversations. They complete their portrait drawing faster and only the twins are interested in creating free-style drawing as incentive drawing. They take the opportunity to share their interest with the researcher. Also, they offer the portraits drawn to the researcher as a souvenir!

The observation made of the participants’ drawing styles shows that generally, ASD children can focus on the researcher’s face while drawing, even if it is only for a short period. Throughout the drawing session, their heads are bent and they rarely look up. One ASD child is found to have no direct eye-contact at all with the researcher; he draws what he knows compared to what he sees (portrait 1). Apart from that, there are also participants who draw with their art papers turned upside-down.

**DISCUSSION**

This research reveals that there is iconic thinking in portrait drawings by ASD children and non-ASD children. Iconic thinking is concrete and is dominated by current input that is superficial [17]. Participants succeed in using pre-schematic and schematic diagrams, which consist of a category of complex signs in relation to the researcher’s portrait. These iconic signs work as one perception unit regarding meaning. They are the result of the structure displayed, which is reality – the part of the face that needs to be focused on so that it can be portrayed in drawing [18]. According to [19], visual realism or, the ability to draw what is seen, may be an iconic thinking for ASD children who are talented in the arts.

Apart from that, this research also discovers the many ways that ASD participants portray people’s faces in drawing. For instance, one ASD child draws more than two eyes, as produced by participants in [20] Some participants show the ability to draw by inverting the art paper. This may be caused by the ASD individual’s iconic thinking that had been identified by Bruner [21] and Lawrence [12] Being able to categorize an inverted face shows a deficiency sign in perceiving facial emotions. ASD teenagers find it easier to read inverted images because to them, the meaning is not changed [22].

ASD participants are also found to give frequent spontaneous verbal comments about their portrait drawings and incentive drawings. Athey [23] also found out that the children are keen to know the researcher and
to search for the meaning of the drawings, as intended, with the aim of obtaining an integrated meaning for their drawings. They require speech to help them in determining perception because perception is not only portrayed [11]. In short, the portrait drawings of ASD participants can be interpreted as a portrayal of differing drawing abilities and styles. The research by Lawrence [12] also shows that different levels function among ASD children.

As suggested by Cox and Carol [10], experience in drawing can mirror the level of general development in a person in a holistic way. However, Lawrence [12] admitted that the issue of age in the development of art can still be debated. With this view in mind, this research uses supporting data when using Lowenfield’s model of art development, with reference to the knowledge about significant events in the children’s development that is obtained from interview data.

ASD participants who can focus on their assignment are able to produce better drawings, although some of them have more difficulty looking at the researcher’s face compared to others. This implies that PDA can induce more eye-contact from ASD participants compared to other instructed methods.

The researcher’s role as an artist is also an important experience. While the researcher draws the participants’ face, she initiates conversations about what has been drawn. Discussion about colors, facial structures and emotions, parts of the face, similarities and differences, the concept of pronouns like ‘I’ and ‘you’, are held unemotionally. It is clear that such communication and relationships can be forged in the sessions carried out.

Portrait drawings can be used as an effective method to forge relationships with ASD participants. ASD children are found to be more responsive towards the researcher’s communication; they like to talk compared with friends from other groups. ASD children also choose to extend the drawing session by doing incentive drawing; this shows their interest in what is happening. Therefore, drawing functions not only as a source of data, it also becomes a structured method in building a more conducive environment for ASD children. Apart from that, the portrait drawing activity promotes physical strength; it requires participants to sit upright. Therefore, the experience of being an art model is not actually a passive activity. Portrait drawing also shows that autistic children can be stimulated to focus and establish eye-contact. Some non-ASD children are able to build contact and to communicate in order to understand the meaning of ‘you’ and ‘I’.

Although there were several setbacks in the course of this research, the results obtained do offer several implications for strategies in helping non-ASD children establishing contact or communication. It was also found that using the counseling room with one-way mirrors or equipped with closed circuit television (CCTV) enabled the analysis of PDA forms to be done by more observers. Hence, the validity and reliability of research instruments could be enhanced. Apart from that, the number of research participants can be increased in order to represent the actual ASD population and the special education students. It is hoped that the results of this research can formulate a learning approach strategy that is suitable for children with special needs. The researcher also suggests that the use of PDA to be extended to typically developing (TD) children or teenagers, especially those with psychiatric problems. As the findings are significant for ASD children’s development, therefore further researchers are strongly recommended to support the present study.

**CONCLUSION**

The paper concludes that portrait drawing can be used to establish communication among non-ASD children. The results of this research are important as the participants studied have difficulty in visual dimension, which is facial processing. Such difficulty affects the level of functioning in all autistic individuals [12]. This research not only records the individual’s progress, it also examined the trend among ASD children, whether in inclusive education, special education or problematic students in mainstream classes. The research was carried out in line with the inclusive education which has been introduced into Malaysian Educational system recently. Therefore, the findings has major implications for teachers, medical health staff and the Education Ministry in increasing understanding of and identifying early ASD symptoms and also a treatment for communication issue among these children. The understanding of children’s general developmental level through portrait drawing can help teachers to plan early intervention and build more effective strategies to create a more conducive environment for studies. It is hoped that the study will help diagnose, identify and document the traits and behaviors of ASD children. Developmental problems can be identified and intervention can be referred to the counselor, professional health authorities like doctors and social support groups. Besides, it is hoped that early
intervention and identification of non-ASD children can be done at home or in the school with a more effective strategy.

REFERENCES