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# UTILIZING VISUAL IMAGES OF AUTISM BEHAVIORAL SYMPTOMS IN FACEBOOK APPLICATION FOR RAISING AN AWARENESS AMONG SECONDARY SCHOOL TEACHERS IN PULAU PINANG

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## ABSTRACT

This paper highlights the outcomes of utilizing visual images of Autism behavioural symptoms using Facebook application to increase awareness among secondary school teachers in Pulau Pinang. The issues of identifying autism symptoms have always been questions to many of us. Autism always misinterpreted and associated with a group of complex disorders of brain development, these disorders are characterized in varying degrees, by difficulties in social interaction, verbal and nonverbal communication and repetitive behaviours. The conventional method in identifying autism symptoms was limited and too clinical to be understood by the societies. Furthermore, children diagnosed with autism tend to have different behaviour which difficult to recognised. By utilizing social media apps such as Facebook, it helped the teachers to increase their awareness towards basic symptoms of these children's. Selected images of autism behavioural symptoms were hand drawn and posted to the Facebook application for the identification purposes from the respondents. This research investigated the effects of visual images on Facebook based on how many 'Like' or 'Dislike' features given by respondents. Based from the outcomes, it's revealed that the use of visual images in Facebook application managed to increase the awareness towards identifying autism behavioural symptoms.

## Key Words

Visual, Images, Autism, Behavioural, Symptoms

## INTRODUCTION

The Malaysian Ministry of Health as reported by Nettleton (2008) stated that autism is a rising phenomenon throughout the world and the number of cases being reported in Malaysia has increased tremendously over the years. Although there has been a considerable increased in efforts to improve awareness of autism, this issue is still not considered by many Malaysians. The fact that there is no specific cure for autism should not be a reason why society should not be educated or exposed to this matter. Mansor (2010) indicated that autism is often misconstrued as mental illness in Malaysia. Autistic children are mostly kept at home and hidden from the outside world. Due to this, most of them do not have the same chances that normal children have, such as getting a proper education or having the same access to health care. They should be treated the same way and for this reason, society needs to be exposed to autism and the truth about it. Education is always the key

to a better life and the same principle applies to autism. He suggested that it is time to get the issue of autism "out of the closet." People need to have at least basic knowledge of what autism is. Ignorance about autism might not end well for those who are affected, when they or the people around them do not have a clue about their affliction. This study proposed an alternative approach as a timely respond to the challenges faces by school teachers in identifying students who have autism behavioural symptoms in their classes.

## LITERATURE REVIEWS

In Malaysia, the issue of autism is silently increasing and needs to be considered seriously by society. Azizan (2008) stated that based on a research that was conducted in Perak; one in every 625 children is autistic. Even though the finding does not represent the actual number of children being affected in Malaysia, the number might be higher than that in the real situation. The lack of research particularly on how society should be taught on this disability makes the situation become worse. Nobody knows what causes autism and no proper guide has been distributed and no information on autism is shared at school level. Autism needs special attention from society because the cause of this disability is unknown. More support in terms of research and guidance is needed on how this issue could be handled in the earlier stages of autism. Support from the government and the private sector was another issue that contributes to this matter. There are hardly any funds or centres and facilities founded for these children. To this day, there is no building or centre that is run by government agencies in that is giving services to autistic children. NGOs like the National Autism Society (NASOM) is only one of the few non-profit organizations that runs the services and from their observation, there is no specialized medical doctor or dedicated physiotherapist available at government hospitals who can give the exact consultancy to an autistic child. The development of a multimedia learning environment can be very beneficial for society if they can learn and understand these autism behavioural symptoms. According to the chairman of the National Autism Society of Malaysia (NASOM) (2010), the level of awareness of autism has increased over the years but still not enough considering that many have not gotten the message of what autism is. More research should be conducted in this matter even though many parents have done their share in reporting the cases and seeking help for their autistic children. These people need to understand the basic concept of autism before they can actually understand the findings from the researches. That is why it is really important for these people to be educated in the matter of autism. How are they supposed to help their children when they, themselves do not understand what actually is happening to their children? In order to educate these parents, it is crucial to consider a good learning environment as well as learning construction; this is what should be explored as the first step in dealing with autism. While there are many different views about the best course of treatment for autism, most professionals agree that the earlier the treatment begins, the better the chances are that the child can be helped. The current method in diagnosing autism is still unclear and complicated. Different children would normally have different symptoms. Furthermore, most of the diagnosed results are kept secret by the medical doctor. Thus, the development of learning materials in this research will help society and parents to self-learn the autistic behavioural symptoms so that they can save their time and money from seeking consultation from the experts. Barger and Campbell (2011) supported above statement where they explores the knowledge of autism among middle schools students. According to this study, 41.6% of students had heard of autism where he concluded that the students with awareness of autism had a slightly better knowledge of autism than their peers who had never heard of autism. Overall, the students were varied in the level of knowledge that they had regarding the characteristics of autism. The study concludes that in order for autistic peers to participate successfully in an education system among their peers, there must be an increase in the level of knowledge of autism among students. A study of the knowledge of autism among general practitioners in Pakistan found that only 44.6% of the general practitioners surveyed had heard of autism (Assassi and Ibrahim, et al. (2011). This study conclude that there are "knowledge deficits concerning autism and diagnosis" and in order for autism disorders to be properly diagnosed and

treated, both private and public schools in Pakistan should develop a more robust curriculum on the subject of autism.

The rationale in using visual images and social media application in this research is to fully utilize the current technology that gives humans an easy access to identify autism behavioural symptoms in the future. In comparison to the technology that was used before, this research will try to utilize the technology in the way that everyone can understand the findings and benefit from them. Most of the past research was intended for the autistic child only and none of the research catered to specifically educate the parents or society. Some of the past and current technologies listed in Table 1.1 show how technology and multimedia has been used to help autistic children only. Due to the increase in diagnosed cases of Autism Spectrum Disorder (ASD), software and hardware dedicated to persons with autism have been developed for several decades. These solutions reinforce ASD sufferers' strong points and work on their weaknesses, helping them to increase their vocabulary and communication skills (2008).

**Table 1.1**

Technology and Multimedia Used in Helping Autism Children

<b>VIDEO</b>	<b>MULTIMEDIA</b>
Home Video Recording <i>(Maestro, Casella, Milone, Muratori, &amp; Palacio-Espasa, 1999)</i>  Video Modeling <i>(Charlop-Christy, Le, L., &amp; Freeman, 2000)</i>	<b>Multimedia Reading Lessons</b> based on a phonics method of instruction to teach word recognition skills to children with reading disabilities. <i>Lee and Zabedah (2005)</i>
<b>IMAGING</b>	
Magnetic Resonance Imaging (MRI) <i>(Maestro, Casella, Milone, Muratori, &amp; Palacio-Espasa, 1999)</i>	<b>Multimedia Resources</b> to teach reading to students with learning disabilities in a special education class. <i>Azmi and Lee (2004)</i>
<b>ASSISTIVE TECHNOLOGY</b>	
<b>Low Technology</b> Pictorial Information <i>(Pierce &amp; Schreibman, 1994)</i> <i>(Bondy &amp; Frost, 2001)</i>  Picture Exchange Communication System (PECS)	Activity schedules are being developed in <b>Microsoft PowerPoint</b> and used to teach children with special needs <i>Rehfeldt, Kinney, Root, &amp; Stromer (2004)</i>
<b>Mid Technology</b> Voice Output Communication Aids (VOCAs) <i>(Schepis, 1998)</i>	<b>Computer-Animated Tutor</b> to improve vocabulary and grammar in children with autism. <i>Bosseler &amp; Masaro (2003)</i>

<p><b>High Technology</b>                  Mind Reading  <i>(Baron-Cohen &amp; Tead, 2003)</i></p> <p>Virtual Reality  <i>(Hirose, Kijima, Shirakawa, &amp; Nihei, 1997)</i></p> <p>Robotic – Aurora Project  <i>(Dautenhahn, 1999)</i>                  Infanoid  <i>(Kozima &amp; Yano, 2001)</i></p>	<p>An <b>educational strategy</b> have been presented in a multimedia, computer based format  <i>Hagiwara &amp; Myles (1999)</i></p> <p><b>Compared live personal instruction to computer assisted instruction</b>  <i>Chen &amp; Bernard-Opitz (1993)</i></p>
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In less than a decade, social media, in many ways, seems to have “taken over the world.” Social networking services can provide an accessible and powerful toolkit for highlighting and acting on issues and causes that affect and interest of people. As one of the largest social networking sites in the social media universe, Facebook boasted more than 750 million people actively using its service<sup>1</sup>. If it hasn’t already, Facebook will soon grow twice as large as the population of the United States, which currently hovers at 311 million<sup>2</sup>. Social networking services are increasingly popular amongst Malaysian people regardless of geographical location, background and age. They include services such as Facebook.com, MySpace.com and Bebo.com which have many millions of members each. Facebook which came into existence since 2004 is the second most accepted and generally most visited in the world (Alexa, 2012) and twelve million users were from Malaysia (Tawie, 2011). The use of visual images/communication in presenting the autism behavioural symptoms was utilized in this study. Visual communication involves the use of visual elements, such as drawings, illustrations and electronic images, to convey ideas and information to an audience.

**PROBLEM STATEMENTS**

There is an information regarding autism available these days which can be accessed online from books and magazines, as well as organized events. However, the methods used to inform society sometimes can be too technical and confusing especially to teachers. Those without basic knowledge of what autism is will have a hard time understanding this issue. The lack of combination between visual images and social media technology make the intended messages are hard to be achieved.

**METHODOLOGY**

This study used the qualitative methods in order to investigate the awareness of autism behavioural symptoms amongst selected respondents. The respondents of secondary school teacher were identified and selected through the Jabatan Pendidikan Daerah, Seberang Perai Utara. They have been notified through email and the instructions of the survey have been informed in advanced. As shown in Figure 1, there are 52 visual images of autism behavioural symptoms were hand drawn and posted to the Facebook application for the identification purposes. This visual image originated from Autism Canada Foundation ([www.autismcanada.org](http://www.autismcanada.org)) and has been hand drawn by local student without any other intention for commercial purposes. The illustrations has been divided into Five (5) categories which are; Safety Issues, Self Injurious, Sensory Issues, Motor Issues and Bizarre Repetitive Behaviour. Once all the visuals images was listed in the Facebook (Figure 2), the respondents has been notify to visit and learns about the illustrations. The outcome of the results was based on how many ‘Like’, ‘Reach’ and ‘People’ feedback computed by Facebook application (Figures 3, 4, 5, 6).



Figure 1, visual images of autism behavioural symptoms

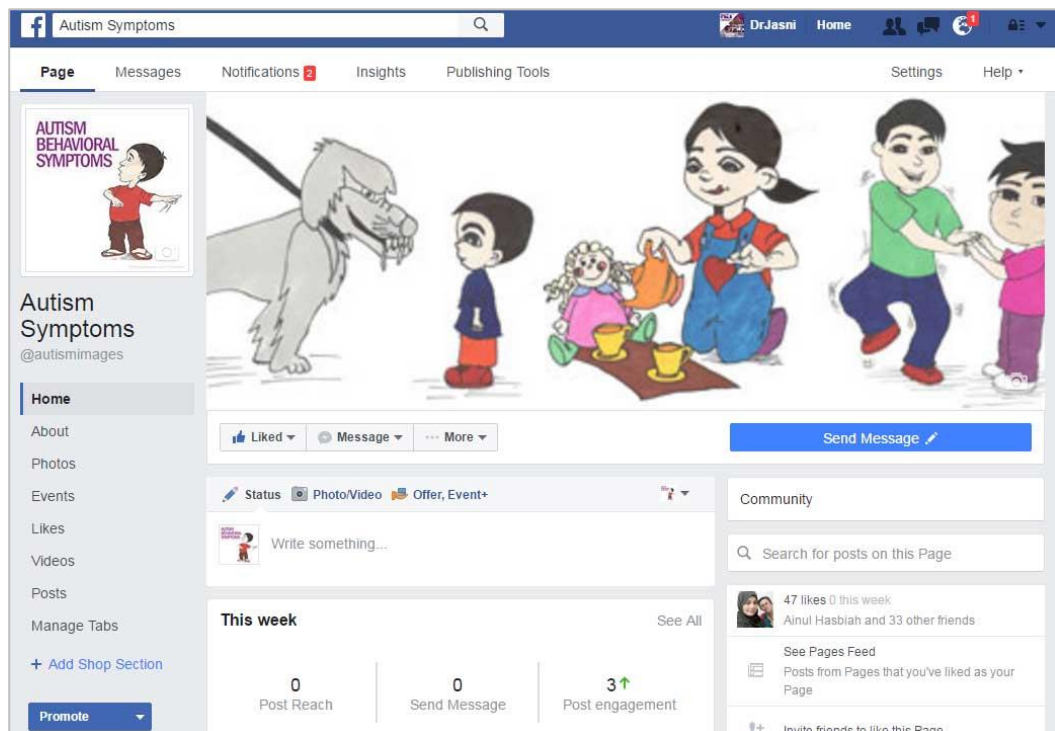


Figure 2, autism symptoms page in Facebook application

**RESULTS & DISCUSSION**

Overall, the results from this study show that the reaction from the respondents was positive in term of acceptance in understanding the visual images presented to them. In Figure 3, shows that the survey started on 22.6.2016 and ended on 7.8.2016. Daily data is recorded in the Pacific Time zone. During this period, 47 Likes (Figure 4) has been recorded by the Facebook application. In Figure 5, Net Likes comprising Unlikes, Organic Likes and Paid Likes shows the numbers of new likes minus the number of unlikes. Figure 6, shows the All Post Published engagement between the respondents and the visuals. Safety Category shows 18 respondents have been reached and 4 engaged with the visuals. Self-Injurious category shows 21 respondents have been reached and 5 engaged with the visuals. Total of 18 people was reached and 4 engaged in Sensory Issues category. In Motor Issues category, they were 20 respondents have been reached and 4 engaged with the visuals. Category of Bizarre Repetitive Behaviour shows 17 respondents was reached and 4 were engaged. Communication Issues recorded 15 respondents was reached and 3 was engaged. In Social Issues category there were 17 respondents was reached and 4 was engaged.



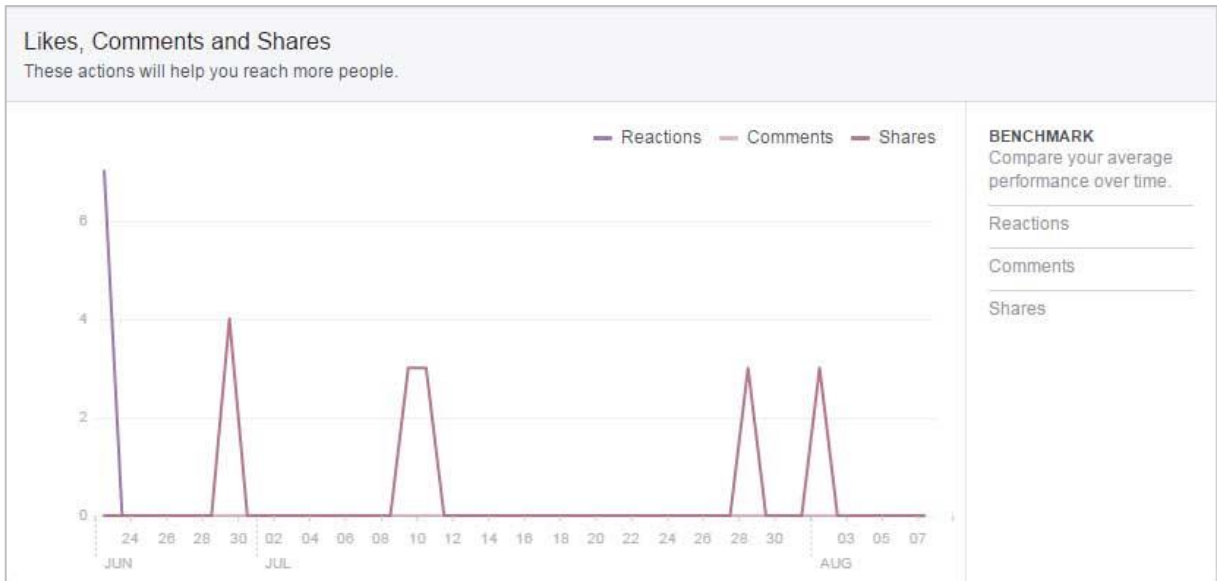
**Figure 3:** Daily data recorded



**Figure 4:** Total page likes



**Figure 5:** Total Net likes



**Figure 6:** Likes, comments and share

All Posts Published

Reach: Organic/Paid | Post Clicks | Reactions, comments & shares

Published	Post	Type	Targeting	Reach	Engagement	Promote
24/05/2016 14:03	SAFETY ISSUES	Image	Public	18	0 4	Boost post
24/05/2016 14:01	SELF INJURIOUS	Image	Public	21	1 4	Boost post
24/05/2016 13:59	SENSORY ISSUES	Image	Public	18	0 4	Boost post
24/05/2016 11:44	MOTOR ISSUES	Image	Public	20	0 4	Boost post
24/05/2016 11:41	BIZARRE REPETITIVE BEHAVIOR	Image	Public	17	0 4	Boost post
24/05/2016 11:35	COMMUNICATION ISSUES	Image	Public	15	0 3	Boost post
24/05/2016 11:32	SOCIAL ISSUES	Image	Public	17	0 4	Boost post
24/05/2016 11:09	Dear All, This page dedicated in highlighting the visual images of	Text	Public	18	0 5	Boost post
24/05/2016 10:47	Autism Symptoms's cover photo	Image	Private	0	4 0	Boost post
24/05/2016 10:38	Autism Symptoms	Image	Public	3	4 3	Boost post

**Figure 7:** All post published

## CONCLUSION

As this research is still an on-going development, researcher found that there is a gaps and opportunity to explore and further strengthen the needs of identifying Autism behavioural symptoms through Facebook application. The research will go further to provide more options for the respondents to react with the visual images and expand the availability of the platform by developing more engaging and intuitive mobile apps which can access and downloaded by millions of people.

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