

1. INTRODUCTION

1.1 Background

Autism Spectrum Disorder (ASD) children is disorder that occurred in children that are confronting in their developmental disorder [1]. Commonly, children that are suffering from ASD had 4 types of disabilities that consist Cognitive Problems/disabilities, Communication & Language Problems, Emotional/Behavioural Problems, and Social Problems. Based. Not only that, based on [2] also had problems in their interaction neither verbal nor non-verbal. These types of disability categories are referring to the Autism Treatment Evaluation Checklist (ATEC). ASD can be detected as early as two (2) years old that according to [3].

Social skill or sociability is crucial in communicating with people in order to express something to others. Problems in social skill that are commonly founded in many ASD children referring to [4] is no eye contact with people, not taking care on their surroundings, the tendency on like to be alone and not having many friends. One of the causes that ASD children had weakness in their social skills is they are not capable enough in doing their interpersonal relationship skills. This is because, by nature during the phase of mitosis in the gene splitting during their growing even before their birth to be exact during embryo development, they are suffering from genetic problems. ASD children had an abnormal number of gene compared to normal human being. Coming from the abnormal number of gene in their genetic sequences since theirs birth, thus it's also disturbing their sociability skill therefore affecting their verbal and non-verbal skills as well.

User researched had been conducted to Kuching Autistic Association located in Kuching, Sarawak, Malaysia. In the time being, we had founded an application that supporting for improving social skill for ASD children that named "Kloog2". We asked the expert or teacher to evaluate this application and based on their point of view, this app are not suitable in improving social skill for ASD children. According to the data collected to know what is the flaw of this app is the content of the app contained text that is lengthy, there are too many steps required to do some action and the word given to the children is not on par with the children understanding level. This is because, the learning method that they did are based on interaction based on computer named as Neurofeedback Therapy [3]. This therapy focuses on games where no interaction being done. This is because the interaction being done with the brain of the children itself by connecting some sensor directly to their head. Then the children does not require to do any physical activity. This therapy only being conducted in the school. Therefore,

there is a gap where the children were not being train while there are not at school. Thus, additional learning tool for improving their sociability skill is requiring.

Hence, the suitable methodology to be used is User Centered Design (UCD) because is suitable to be used because based on the problem that occur and users are always being involved in every stage according to [5]. Therefore, using this method might be able to improve their sociability skill in creating additional learning tool.

1.2 Problem Statement

Based on the user research that had been conducted, Kloog2 was not suitable to meet the expectation in improving the sociability skill, therefore in order to compensate the learning method from the currently available which were Neurofeedback Therapy that only being conducted in school, the ASD children were not training at home in the range of age from 2(two) until 8(eight) years hold. Hence the question is:

What is the suitable User Interface in creating the additional learning tool in improving the sociability skill in ASD children?

1.3 Aim

Based on the problem statement, the aim that want to be achieve is giving suitable user interface in creating additional learning tool in improving the sociability skill for ASD children.

1.4 Activity Planning

Below shown the activity planning that will be conducted:

1. User Research
2. Design Solution Planning
3. Implementing the design solution
4. Testing the design Solution
5. Reporting and documentation

1.6 Activities Table

Below show the activities:

Activity	Month					
	4	5	6	7	8	9
User Research						
Design Solution Planning						
Implementing the design solution						
Testing the design solution						
Reporting and documentation						