BUSY BOARD FOR AUTISM CHILDREN AT ONE AUTISM CARE CENTER PUCHONG, SELANGOR

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DIPLOMA IN BUSINESS STUDY

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SESSION 2 2022/2023

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TITLE: BUSY BOARD FOR AUTISM CHILDREN AT ONE AUTISM CARE CENTER PUCHONG, SELANGOR

SESSION: 2 2022/2023

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3) We agree to release the project's intellectual properties to the above said polytechnic in order to fulfil the requirement of being awarded Diploma in Business Studies.

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ACKNOWLEDGEMENT

In the name of Allah S.W.T who is Most Compassionate and Most Merciful, praise and thanks to Allah S.W.T for giving us the strength and patience to complete this project and the end report. This final project was done to the best of my ability by the group members with full enthusiasm.

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ABSTRACT

The purpose of this project for children with autism is to provide a fun and engaging way for them to explore and interact with different textures, shapes and colours. By engaging in this type of sensory play, children with autism may be able to improve their sensory processing abilities, develop fine motor skills, increase their attention span, and learn to regulate their emotions. Some of the reasons why children with autism may lack motor skills are due to a lack of physical activity. This project focuses on the development of a busy board to support learning among children with autism. A structured interview was conducted at one of the autism care centers from Puchong, Selangor to identify the level of satisfaction of teachers and parents of autistic children to ensure the effectiveness of the busy board as a learning tool. This project also uses the ADDIE Model which consists of 5 levels; Analysis, Design, Development, Implementation, Evaluation. With these results, busy boards will be able to easily leverage users for their learning and encourage fun play and exploration.

Keywords : Autism children, Learning, Development, ADDIE Model

ABSTRAK

Tujuan projek ini untuk kanak-kanak autisme adalah untuk menyediakan cara yang menyeronokkan dan menarik untuk mereka meneroka dan berinteraksi dengan tekstur, bentuk dan warna yang berbeza. Dengan melibatkan diri dalam jenis permainan deria ini, kanak-kanak autisme mungkin dapat meningkatkan kebolehan memproses deria mereka, mengembangkan kemahiran motor halus, meningkatkan rentang perhatian mereka, dan belajar mengawal emosi mereka. Beberapa sebab mengapa kanak-kanak autisme mungkin kurang kemahiran motor adalah kerana kekurangan aktiviti fizikal. Projek ini memberi tumpuan kepada pembangunan busy board untuk menyokong pembelajaran dalam kalangan kanak-kanak autisme. Temu bual berstruktur telah dijalankan di salah sebuah pusat jagaan autisme dari Puchong, Selangor untuk mengenal pasti tahap kepuasan guru dan ibu bapa kanak-kanak autisme bagi memastikan keberkesanan busy board sebagai alat pembelajaran. Projek ini juga menggunakan Model ADDIE yang terdiri daripada 5 peringkat; Analisis, Reka Bentuk, Pembangunan, Pelaksanaan, Penilaian. Dengan keputusan ini, papan yang sibuk akan dapat memanfaatkan pengguna untuk pembelajaran mereka dengan mudah dan menggalakkan permainan dan penerokaan yang menyeronokkan.

Kata kunci : Kanak-kanak autisme, Pembelajaran, Perkembangan, Model ADDIE

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CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION

This chapter provides information on a project which is conducted in one of autism care centre at Puchong, Selangor. This project paper will include the representation of the study's overview, a background of the project, problems statement, the objective of the project, scope of the project, importance of the project, and operation. The outlined implementation on the requirement of the course and the suitability of the programme in the respective polytechnic.

1.2 BACKGROUND OF PROJECT

Autism is highly heterogeneous, and it is thought that at least 1 in 100 people across the globe are autistic (Elsabbagh et al., 2012). In this project we will use identity-first language (e.g. “autistic children”) throughout (Kenny et al., 2016, Spiel et al., 2017, Spiel et al., 2019) because we are focusing on autistic children.

Autism is associated with a range of differences in language, communication and interaction, and often co-occurs with learning difficulties (such as attention-deficit hyperactivity-disorder) and/or intellectual disabilities (Lord et al., 2018). These symptoms cause the patients to experience severe difficulties with social interaction, life skills, and environmental adaptation. It is typically diagnosed in early childhood. Autistic children are typically less frequent in both initiating and responding to bids of joint attention, and this is associated with a range of cognitive and social outcomes, including quality of social play in later childhood (Bruinsma et al., 2004, Jones and Carr, 2016).

When choosing toys for children with autism, it's important to consider their unique needs and interests. Some ideas for toys that suitable are sensory toys because it provides a range of sensory experiences that can help these children to develop their sensory processing skills, reduce anxiety and stress. With this, the busy board that we want to develop is suitable for focus on autistic children’s learning tool.

1.3 PROBLEM STATEMENT

Autistic children experience deficits in imitational and observational learning (Field et al., 2010). Although they often have superior visual processing skills, they also often process auditory and linguistic information at a rate much slower than their peers (Fleury et al., 2014). Children with autism lack imitative skills, which affects their ability to learn skills by observing others (Fleury et al., 2014). Children with autism face significant challenges when it comes to using learning tools to improve their educational outcomes. These challenges can be attributed to the specific needs of children with autism, which include difficulties with sensory processing because some studies have shown that there are differences in the way the brains of individuals with autism process sensory information, particularly in the areas of the brain that are responsible for sensory integration (EJ et al., 2011).

Furthermore, traditional learning tools such as textbooks and methods may not cater to these needs and may not be effective for children with autism because traditional learning tools often take a one-size-fits-all approach, which may not work for children with autism who have different learning styles and needs. This is why it need to use alternative or specialized learning tools that are tailored to the individual needs of children with autism. Our study aims are to produce a busy board to help the development of autistic children's good motor skills and providing them with a busy board that can offer them a fun and engaging activity to focus on.

1.4 REASEARCH OBJECTIVE

OB1. To develop a busy board used to support learning among autistic children.

OB2. To identify customer's satisfaction on busy board.

1.5 RESEARCH QUESTIONS

Q1: How to develop a busy board used to support learning among autistic children?

Q2: What is the level of customer's satisfaction on busy board as a learning tool for autistic children.

1.6 SCOPE OF STUDY

The scope of this project concentrates on the research or implementation that must be used as a reference to ensure that each project's implementation does not conflict with its intended objective. The project's goal is to concentrate on the creation of autism learning aids for children since it necessitates an awareness of the unique requirements and obstacles that children with autism encounter. This can be accomplished by utilising interactive activities. The next goal is to achieve customer satisfaction, which includes autistic children's teachers and parents, with the product's effectiveness.

1.7 SIGNIFICANCE OF THE PROJECT

Busy boards are very beneficial for autistic children because they provide a variety of sensory stimuli, such as varied textures and colours. It also can help with the development of fine motor abilities such as hand-eye coordination and finger dexterity in addition to increasing sensory processing skills. These abilities are frequently difficult for autistic children, and busy boards can give a fun and interesting approach to work on them. Overall, a busy board can be a valuable tool for teacher and parent who want to provide their autistic children with an engaging learning experience that promotes their overall development.

1.7.1 SWOT Analysis

SWOT analysis is an effective frame-work for analysing the Strengths, Weaknesses, Opportunities, and Threats of an organization (or a project) that helps to address the effectiveness of a project planning and implementation. The acronym comes from an old term from the strategic planning field that is concerned with the content and the objectives of the project, and with identifying the right things to do (Sabbaghi & Vaidyanathan, 2004)

The following figure shows the SWOT analysis for the study's end result :

Strength	Weakness
1. Develops sensory learning through colours, shapes, textures and improved hand-eye coordination. 2. Fun activity for autistic children to focus on. 3. It promotes autistic children development such as fine motor skills. 4. Encourages independent play and exploration.	1. May not hold an autistic child's attention for extended periods. 2. Requires adult supervision to ensure safety. 3. Limited learning opportunities. 4. Not provide many opportunities for social interaction or communication with others.
Opportunities	**Threats**
1. Can be applied during occupational or sensory integration treatment sessions. 2. Can be sold to parents, schools, or therapy centers. 3. Busy boards can be customized to meet the needs and preferences of individual. 4. Personalized products for consumers because its handmade market.	1. Competition from other sensory toys. 2. If the busy board is not properly constructed or maintained, safety issues could occur. 3. Imitation of products if not patented immediately. 4. Need to evolving trends and preferences in order to stay relevant in the market.

Figure 1

1.8 OPERATIONAL DEFINITION

The operational definition of a busy board for autism children would include the following terms:

1. Sensory stimulation : A variety of sensory stimulation, including tactile, visual, and kinesthetic stimulation are offered by the busy board.

2. Activities : Autistic children can interact with switches, buttons, locks, latches, zippers, and other manipulative devices on the busy board to engage in a variety of activities.

3. Individualized : The busy board are adjusted to the individual requirements and interests of the autistic child, taking into account their teacher and parents suggestion.

4. Therapeutic benefits : The busy board can help autistic children enhance their fine motor skills, hand-eye coordination, focus, and problem-solving ability.

1.8.1 ADDIE Model

The name of the model is an acronym for the 5 stages of design: Analysis, Design, Development, Implementation, and Evaluation and was meant as a guideline to create effective training and instructional materials. The model was intended to lead the IDs or faculty to complete each phase before moving on to the next. Over the years the steps have been revised with the model becoming more dynamic and interactive than the original. (Branch, 2009)

Using ADDIE Model we want to build a busy board as a sensory board or activity board, is a board that contains a variety of objects and materials that are designed to stimulate an autistic child's senses and promote hands-on exploration and learning.

1.9 SUMMARY

Briefly to conclude, at the end of this study it is expected to produce a busy board which is the indicator that can help to support learning among autistic children and can improve and develop fine motor skills in autistic children. As a result, we hope that our product will assist and be disclosed to other users with positive feedback, allowing us to reach our main goal of constructing a busy board.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

A literature review is a combination of new and past research on something that already exists products that require modification or improvement. We will get it to develop a higher quality product than the existing one. The main goal of this research is to see if the product to be produced will be able to meet the needs and tastes of users who are autistic children. The research was conducted using survey methodology, observation, and product research.

Basically, the Busy board is a motor skills activity that allows these autistic children the opportunity to play safely with objects that are not necessarily within their reach. They can be curious without putting themselves at risk and improve all kinds of different skills on this board. Many parents and caregivers like busy boards because they benefit the cognitive development of autistic children, even though they are very easy to use and easy to make. This Busy board learning tool is one way to tell autistic children about basic skills and one of the effective ways to teach autistic children basic skills with games that are suitable for them.

This research uses the ADDIE (Analysis-Design-Development-Implementation-Evaluation) model development study with descriptive, quantitative data collection techniques, and analysis using validation sheets to determine the product decisions made are safe and effective to use.

1.2 LEARNING TOOLS

In this project, autistic children are most likely to relate to fine motor skills that are also related to sensory therapy. One of the learning platforms for autistic children is the motor learning program. Motor learning refers to the process of learning through practice and repetition, which leads to the acquisition of motor skills. This process of motor learning is seen by the increase in speed, accuracy, or precision performed by a given motor movement (or sequence of movements). Over time with extensive repetition, movements can also become automatic and no longer require excessive attentional control for execution. Individuals with Autism Spectrum Disorder (ASD) can perform purposeful motor movements with precision
comparable to the development of these autistic children. This motor learning process will make these autistic children get used to doing something.

This busy board game is very important for autistic children for their learning. With this busy board game for autistic children, their brain cells will develop by doing activities related to skills and motor skills. This busy board is very important to train autistic children to think to solve problems, for example how to open a mango using a key, how to ring a bell, turn on a light and many other things to complete activities on the busy board. The Busy board game is very good because it can stimulate the senses of hearing, sight, touch and motor skills.

1.3 AUTISM

Autism is also known as Autistic Disorder. Eye contact, facial expression, body posture, and gestures are examples of Autistic Disorder (AD). It is a social situation impairment caused when they failed to exchange nonverbal behavior. By the age of 18 months, the characteristics of autism can be observed. The important signs of autism are problem in social interaction, communication, age-appropriate play, and reasoning. The lack of understanding of emotional, verbal, or body language has proved the problems of impairments faced by autism people. Repetitive behavior faced by autistic people that they may repeat actions or words in an obsessive manner. For instance, the echoing sounds and the hand flapping. According to Zulkifly et al. (2019).

Busy Board relationship and autistic children may be challenging to deal with. These children with Autism spectrum disorder (ASD) can be overwhelmed by the various aspects of activities that attract their attention. Therefore, continuous exposure, achievement and success with a task can make children with Autism ready to participate in different motor skill activities.

Using this busy board is a great way to help autistic children who have difficulty understanding things efficiently like how to zip pants. In addition, this busy board is suitable for Autistic children who have problems like this and the items placed on this board can help Autistic children achieve important milestones in their development.

Including children with Autism in the creation of a Busy Board is a fun activity, and children with autism can adapt to the Busy Board.

1.4 BUSY BOARD ADVANTAGE

The advantage of busy board for autistic children is one of the rehabilitation tools that can also contribute to helping autistic children. Project busy board is known as a board that consists of several manual games on the board that can be played by children with autism. For example manual games are zippers, tie shoelaces, press switches and more.

Furthermore, this busy board is for daily activities or daily routines that children with autism will do. With practice in daily life or repeated movements, the performance of autistic children will improve over time. The implementation of this busy board will help the performance of autistic children for their learning to be effective and easy to learn something that is around them even at school or at home.

The safety of the busy board made with the A3 size and can be taken anywhere the autistic child is. Finally, busy board can also be one of the important learning tools for autistic children in the present and in the future because as we know we cannot be equated the learning methods for normal children and children with autism such as normal children can learn in a traditional way or tools which is among the examples of textbooks, but not autistic children.

1.5 ADDIE MODEL

Many educators and instructional designers have used the ADDIE MODEL Instructional Design method for a long time to help them design and build education and training programs. This method is called "ADDIE." It stands for Analyse, Design, Build, Implement and evaluate. This sequence, on the other hand, does not require every step to be done in certain order. Educators, instructional designers, and training developers love this method because it makes it easier to create effective training tools according to (Kurt, 2018).

I. Analyse

The analysis phase can be defined as where the designer will first investigate the current situation during this stage. Create a clear picture of where everything is now to identify gaps that must be filled. Solicit public feedback according to customer needs in busy board products to solve the problems they face (DeBell, 2020).

II. Design

This phase will help us in determining the specific structure of the content, the best tools to use, the appropriate design or form, the video, or graphics to be created and many other factors. According to (DeBell, 2020), this includes develop wireframes and prototypes to help visualize the design

III. Develop

At this stage, we will begin to focus on creating and developing products or content based on the design we created in the previous stage. Create a product step by step. Once the design has been concluded, the development stage involves building the development and testing of this product so that it is user-friendly (DeBell, 2020)

IV. Implement

The fourth phase is the implementation phase, which supports students by delivering teaching materials (Branch, 2010). Consumers are satisfied with the products we produce.

V . Evaluate

In this phase assess whether there are any issues about the product from the evaluation phase and whether the objectives have been met by the user or not (Kurt, 2018). Get feedback from users about effectiveness products through a questionnaire made on google form.

2.3 SUMMARY

In summary, The ADDIE model is one of the most used models in the field of instructional design a guide to produce an effective design (Aldoobie et al., 2015). It has been used to develop curriculum in various fields such as library teaching (Reinbold, 2013) and online continuing education (Hsu et al., 2014). Addie model is the main teaching model of teaching that is used as a basis and guide in designing and developing our product called Biz B. (busy board).

This topic literature review leads to a definition of the notion of effectiveness and efficiency in operations, and it may also cover a wide range of topics. In This chapter also discusses the information that will be tested. This planning process is essential for us to generate high quality products that meet expectations from our customers about the product we released which is busy board for autistic children. In addition, the production of busy board products is a major contributor to children with autism. Nevertheless, the growing number of children with autism can be encouraging many users will make this busy board product a learning tool for them. It is important to continue education and the development of effective solutions and in the long term can reduce the negative effects of the problem of autistic children and can preserve these autistic children for the future generation.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Methodology refers to the theoretical analysis of the methods appropriate to a field of study or to the body of methods and principles particular to a branch of knowledge. In this chapter are the process of making the busy board. It also conceives of project design, method, procedure, project production technique, drafting. Methodology also allows the reader to critically evaluate the validity and reliability of the entire study.

3.2 PROJECT DESIGN

Busy board has used the Addie Model as an internal framework product design and development is the most effective method to proceed.

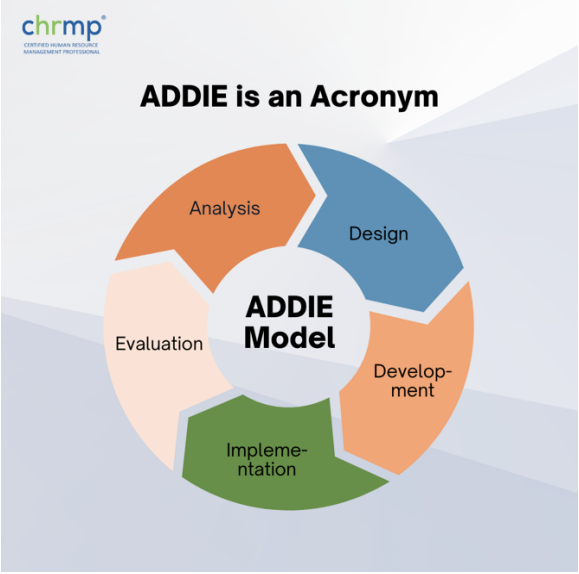

Figure 1: ADDIE Model

Source: Certified Human Resource Management Professional

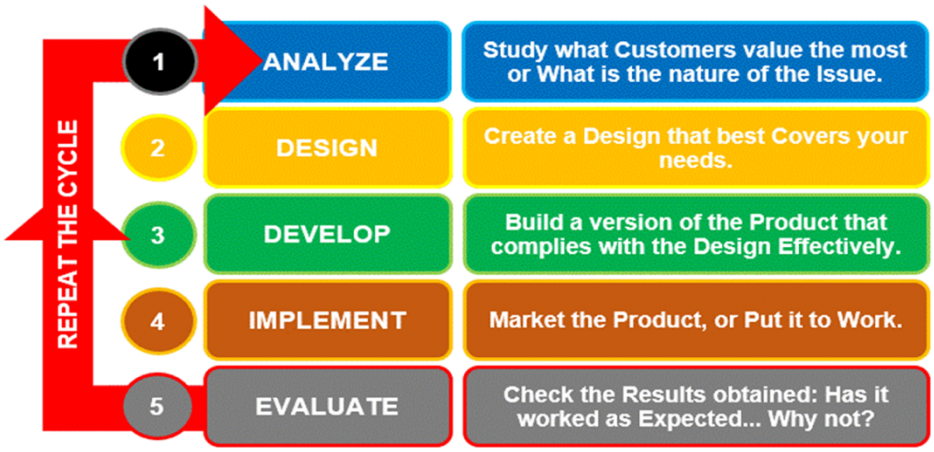

Figure 2: Five Steps of the ADDIE Model

Source: consuunt.com/Addie-model/

3.2.1 A (Analyse)

The first stage of the ADDIE model entails determining the objectives of the product being developed and analysing the needs of the target audience, which are parents and teachers of children with autism. To do this, research must be done on consumer needs, preferences, and behaviour.

Wu et al. (2020) highlighted the importance of need analysis in identifying opportunities for innovation and designing products that better meet the needs and preferences of users and consumers. The study uses a combination of surveys and focus groups to identify user preferences and pain points with existing smartwatch interfaces and suggested that need analysis can inform the design of more intuitive and user-friendly smartwatch interfaces (Wu et al., 2020).

While Hertzog (2008) recommended that a minimum of 30 participants be required to obtain an estimate of the variability of the outcome measure. Therefore, this study did a need analysis of the product with 31 respondents as a sample size. The findings of the need analysis as per diagram below:

Question 1: Age

According to figure 1 the percentage shows 71 percent who are aged 20 to 34 and 29 percent who are aged 35 to 49.

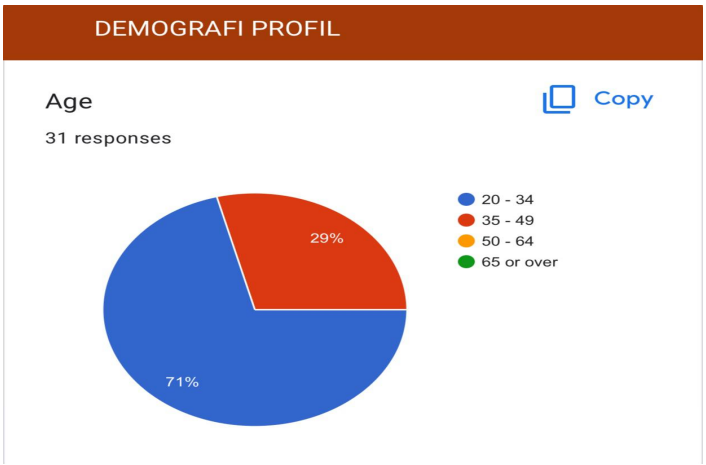

Figure 1

Question 2: Gender

Figure 2 shows that in terms of percentage, 63.3 percent are male and 38.7 percent are female.

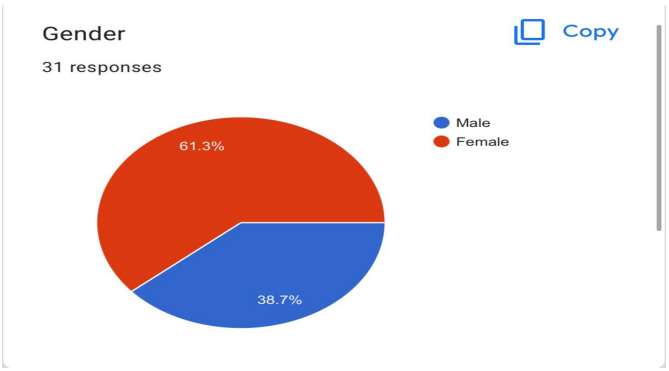

Figure 2

Question 3: Level Education

Figure 3 shows the statistics on education levels as follows: 54.8% are diploma, followed by degrees (16.1%), master (3.3%), and other level (25.8%).

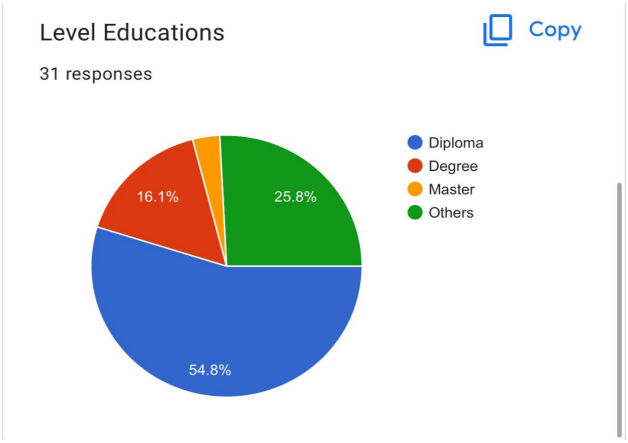

Figure 3

Question 4: I think the busy board easy to use?

Figure 4 shows that all 31 respondents agree with busy board are easy to use.

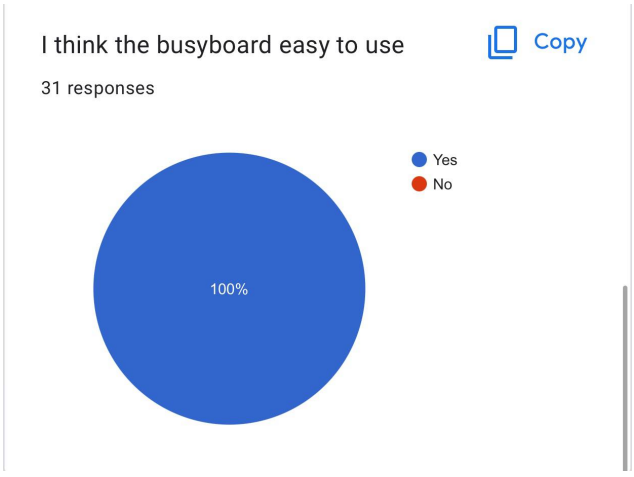

Figure 4

Question 5: I think the busy board safe to use?

Figure 5 shows that all 31 respondents agreed with this saying that busy boards are safe to use.

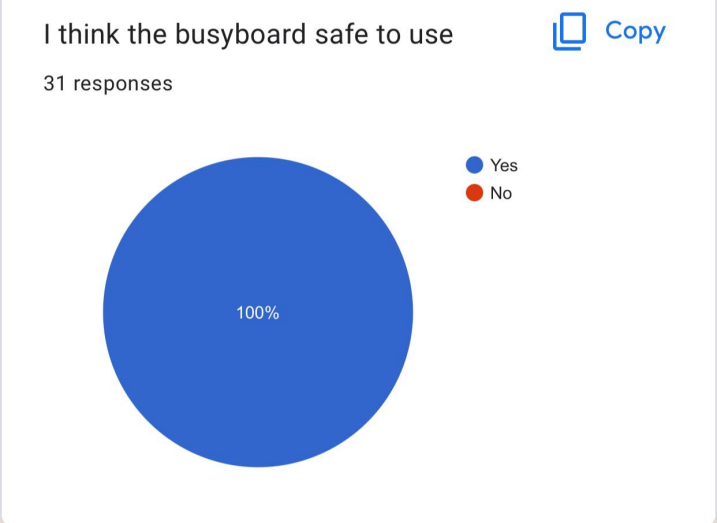

Figure 5

Question 6: I'm interested in trying the busy board

Figure 6 show that all respondent interested to trying the busy board.

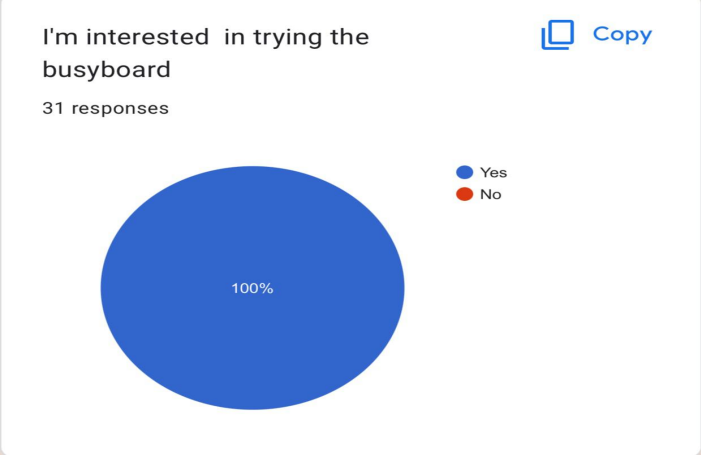

Figure 6

Question 7: Item to place on the busy board

Figure 7 shows all 31 respondents' suggestions for this question:

Education toys – 6 respondents

Zipper – 6 respondents

Bell – 5 respondents

Pencil – 4 respondents

Motor skill item – 3 respondent

Clock – 4 respondents

Calculator- 3 respondent

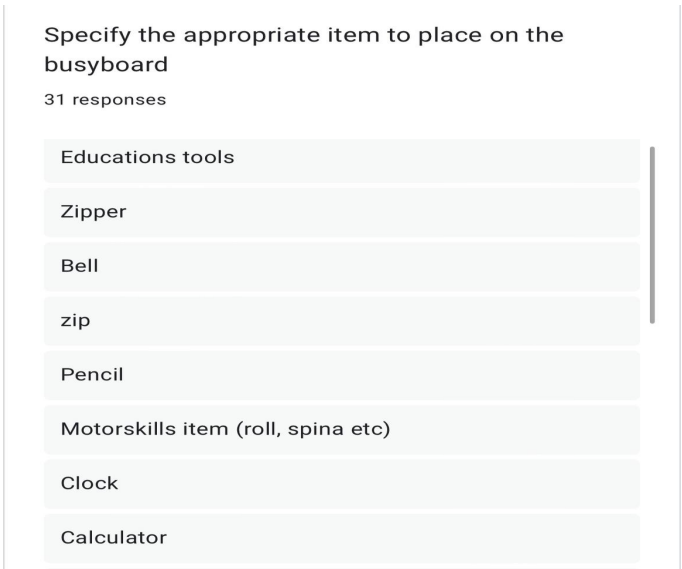

Figure 7

3.2.2 D (Design)

During the design phase, we should consider the size, shape, and elements we want to use on the busy board and create a rough design on paper or a laptop. We use Paulownia wood to make a busy board. The reason why we use Paulownia wood is because the wood is light and easy to carry by autistic children. Paulownia wood is an A3 size (30x40cm), light-weight solid wood and 1.5cm thick. This design is also specially designed for the busy board which is rectangular. Each corner of the board has been filed and rubbed using sandpaper first to smooth the sharp corners which it will not harm the users, autistic children. In addition, we also use screwdriver, nails and glue to attach the toys on the busy board to prevent the items or toys from falling. The design we came up with does not pose a risk to autistic children because every item attached and used has been approved by the autism student care centre.

Figure 1: Paulownia board
Board size: Width x length
30 x 40 cm

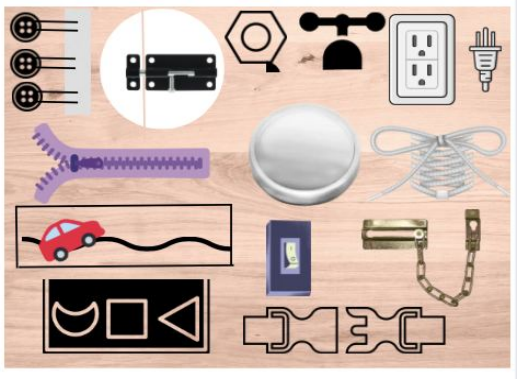

Figure 2: Busy board

3.2.3 D (Develop)

After the design is complete, the next step is to prepare the board and build the product by attaching various knobs, locks, latches, switches, and other interactive components to the board using a drill and screws.

Step 1: Get a wooden board first. It can be any size, but it must be strong enough for screws and glue. we'll also make sure it won't cause any debris and that the edges are smooth.

Step 2: We Place all the objects we want to place on the board and where we want to place them. Once we have it perfect, take a photo to help you remember or want to change some toys to make them more interesting and adapted to autistic students.

Step 3: Drill holes into the spaces the objects should go and screw them in one by one. This is easy for things like latches and fidget toys, but others (like zips) might need to be stuck down with glue. Once everything is securely fixed to the board. This board can be placed in the child's bedroom, a playroom, a sensory room, or a classroom.

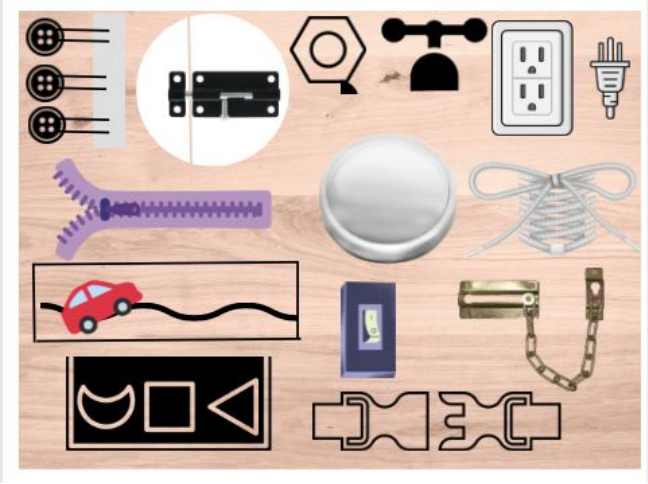

Figure 3.2.3: Develop busy board

3.2.4 I (Implement)

Implementation: At the time the ADDIE model is created, researchers should understand the current needs and situations before designing. The product must be released and made accessible to children with autism during the implementation stage. For kids with autism, it can be a terrific sensory and educational tool or just a fun way to play.

3.2.4.1 Sampling techniques

Purposive sampling is a non-probability sampling technique where individuals or cases are selected based on specific criteria or purposeful selection. It involves selecting participants who possess particular characteristics or meet specific criteria relevant to the research objective. This sampling method is often used when researchers want to focus on a specific population or when they require individuals with certain expertise or experiences to provide valuable insights for their study. The population consist of teachers and parents at one of autism care centre at Puchong, Selangor. This purposive sampling method is best as it depends on the researcher's knowledge and experience Bhardwaj, P. (2019). Thus, the sample size of 16 respondent are acceptable for this study to give feedback on the product, busy board.

3.2.4.2 Questionnaire design

In our questionnaire, there are two section which are :

1. Section A : Demographic such as age, gender and relationship with student.
2. Section B : Customer satisfaction using scale 1 (Strongly disagree) to 5 (Strongly agree)

    a. Busy board does help the development of motor skills of autistic children.
    b. The busy board encourages independent learning and exploration for autistic children.
    c. All items on the busy board are suitable and useful for development of the autism children's motor skills.
    d. The busy board is one of the effective learning tools for autistic children.
    e. I like the idea of this busy board as it is a fun activity for autistic children to focus on.
    f. I am likely to recommend the busy board to others.

3.2.5 E (Evaluate)

Evaluation is the last stage of the ADDIE process. The project is currently undergoing a thorough evaluation to ascertain who will perform each work and how it will be done throughout. The designer must assess whether the purpose has been attained and whether the respondent finds the busy board learning content beneficial or not once it has been provided. The designer can enhance the project going forward by doing this. The busy board uses the questionnaire to assess the project's effectiveness. Depending on the responses from the respondents, any additional ADDIE phase may benefit from this product development.

3.3 METHOD/PROCEDURE/ PROJECT PRODUCTION TECHNIQUE

The Addie Method was used to design the product in this project. It takes a significant amount of time to Analyse, Design, Develop, Implement, and Evaluate to guarantee that the product development process follows all the necessary procedures. Aside from that, this strategy is extremely beneficial to our project because having clearly defined stages makes it easier to create excellent training tools, which in turn helps our product follow all the aspects necessary to achieve the objective of developing busy board.

3.3.1 Materials and equipment

• Board	• Gear & latch	• Shape match
• Hot Glue Gun	• Button switch	• Faucet
• Zipper	• Bolt and nut	• Big tap lamp
• Button Pair	• Mimic shoe lace	• Car track
• Small socket	• Big buckle	• Chai lock

Board : Paulownia board

Figure 1

We started with paulownia wood and A3 size board (30x40cm), light solid wood, 1.5cm thick.

Zipper :

Figure 2

The zippers used have small metal staples at the ends to keep them from unravelling.

3.3.2 Drafting

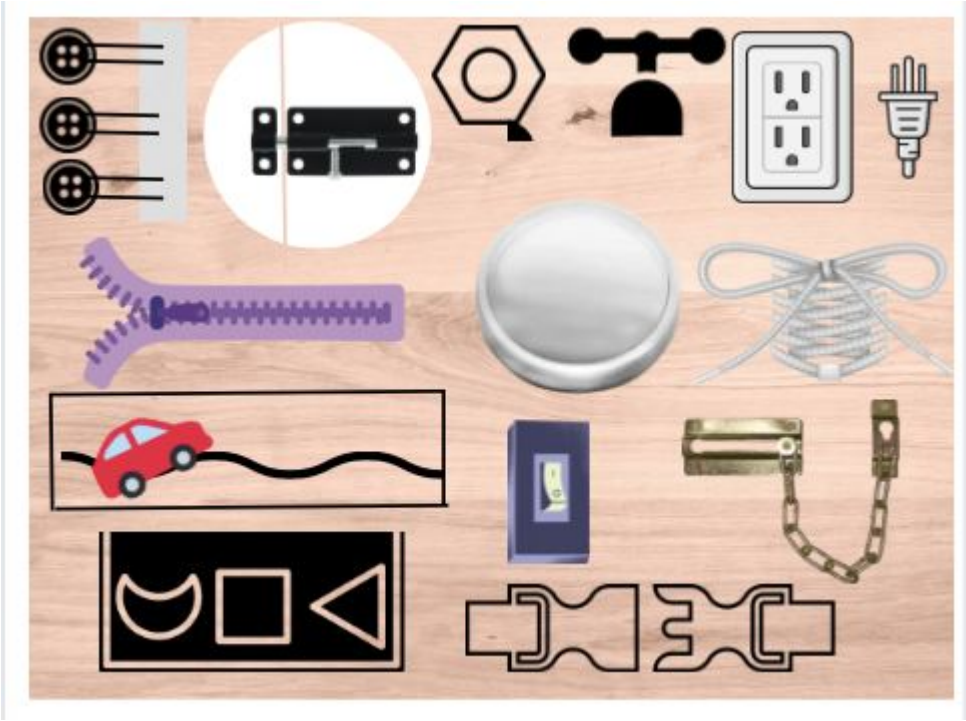

Figure 3.3.2

3.4 SUMMARY

This chapter shows the implementation of the biz board project used in producing project designs. A few things, such the choice of materials and design principles, should be considered. The validity of the research methodology utilised in this dissertation has therefore been established and approved. Lastly One of the most crucial studies for an instrument to improve is the questionnaire.

CHAPTER 4

DATA ANALYSIS

4.1 INTRODUCTION

This chapter will represent the results that has been obtained to see the effectiveness of busy board which has been produced. The result from our questionnaire were analyzed in more detail to draw the conclusions based on our objectives which has been stated. This busy board will be conducted by using parent or teachers of respondents from autism children at one Autism Care Centre Puchong, Selangor. There are 2 section that are the main focus in this project namely Section A : Demographic Profile and Section B : Customer Satisfaction Towards Busy Board For Autism Children.

4.2 RELIABILITY TEST OF QUESTIONNAIRE

According to Sekaran and Bougie (2013), the consistency of a test, survey, observation, or other measuring devices is connected to reliability testing.

This is necessary to guarantee the validity of the data and the consistency of the test result throughout several attempts. The Cronbach's Alpha was used in this study to evaluate the reliability of the measurements.

The reliability coefficient known as Cronbach's Alpha measures how strongly a group of items are positively associated with one another. It is crucial to remember that before the questions are submitted for reliability tests, all of the questionnaire's negatively phrased items should be reversed. The greater the internal consistency dependability, the nearer to 1 Cronbach's alpha is (Sekaran & Bougie, 2013).

Case Processing Summary

		N	%
Cases	Valid	16	100.0
	Excluded[a]	0	.0
	Total	16	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.917	6

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
26.75	14.467	3.804	6

Table 4.2

16 respondents received a survey seeking their opinions. Before using the questionnaire, it is critical to evaluate its dependability. A questionnaire's reliability is assessed by its Cronbach's alpha value, which must be greater than 0.6. The results of the reliability analysis are shown in Table 4.2. Cronbach's alpha values of 0.9 or higher, according to Sekaran & Bougie (2013), suggested that the instruments had a high degree of internal consistency. The result shows that each of the items is valid. Since Cronbach's alpha is better than 0.6 and is 0.917, the questionnaire reliability is excellent.

4.3 DESCRIPTIVE ANALYSIS

The process of statistically and visibly characterizing a key aspect of the data is known as descriptive analysis. Descriptive analysis, in other words, is a type of research that outlines the variables in a scenario that the researcher is interested in (Sekaran & Bougie, 2013). Descriptive analysis may be given more precisely for each variable, claim Sekaran & Bougie (2013). Additionally, the data can be interpreted using a histogram, bar chart, or pie chart.

A type of data analysis called a descriptive analysis aids in explaining, illuminating, or summarising data points in a useful way so that patterns can emerge that satisfy all of the conditions of the data. One of the most important steps in statistical data analysis is this one. This analysis takes into account the age, gender and relationship with student.

4.3.1 Respondent Demographic Profile

We gave one Autism Care Centre in Puchong, Selangor, the online questionnaires, and we got the respondents' responses. The purpose of the questions on the respondents' behaviour is to gauge how well they can recollect the data. The respondent's personal information, such as gender, age, and relationship to the student, such as parent or teacher, was requested for this research.

Demography	***Category***	***Frequency***	***Percentage (%)***
Age	Under 21 years old	1	6.3
	21 – 64 years old	15	93.8
	Over 65 years old	16	-
Gender	Female	15	93.8
	Male	1	6.3
Relationship with student	Teacher	8	50.0
	Parent	8	50.0

Table 4.3

The profile of respondents for this project may be seen in table 4.3 above. 6.3% of respondents are younger than 21 years old, while 93.8% are respondents who are between the ages of 21 and 64. 93.8% of people are classified as female and 6.3% as male, according to gender. In this study, the average relationship between respondents and students is the same as for the interaction with students; 50% of respondents are parents of autistic children and the remaining 50% are teachers of autistic children.

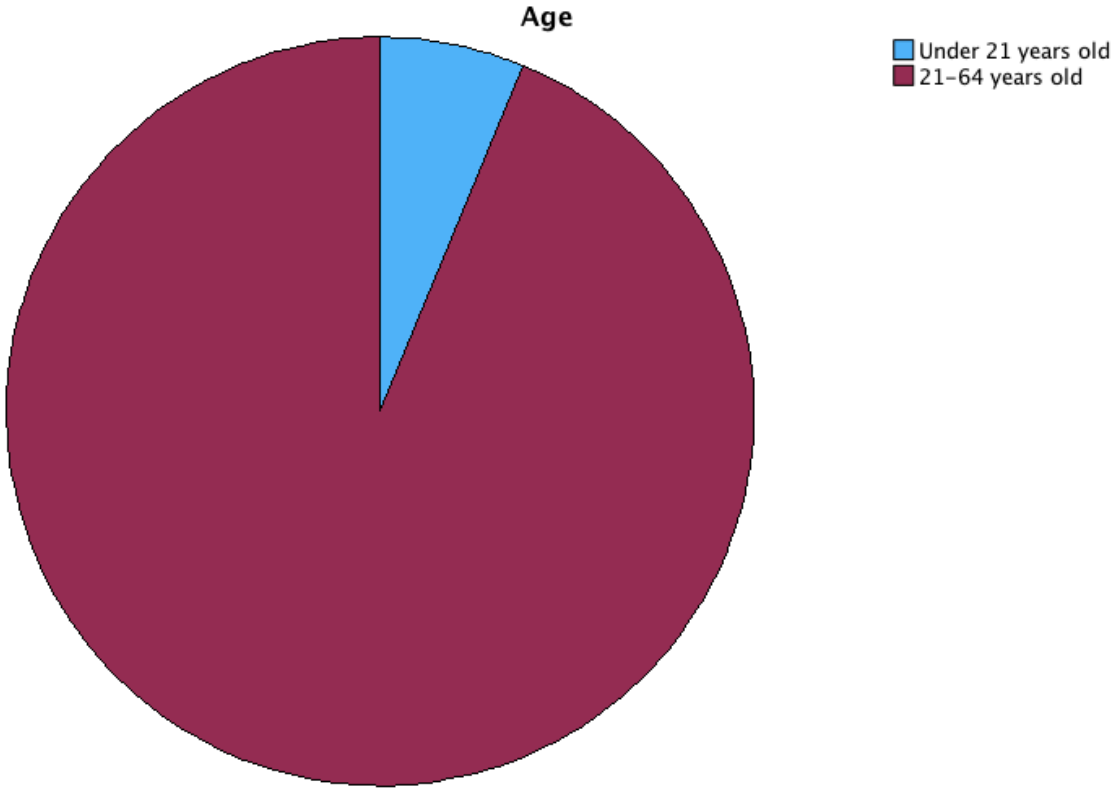

Figure 4.3.1

The respondents' ages are shown in Figure 4.3.1 above. The respondents are divided into 3 age groups, with ages ranging from under 21 to 65. The department's 93.8% (15 people) of workers aged 21 to 64 make up the first circle. The second level of data comes from the respondents under the age of 21, who make up 6.3% (1 person) of respondents across the department. In conclusion, the respondents' ages, on average, range from 21 to 64.

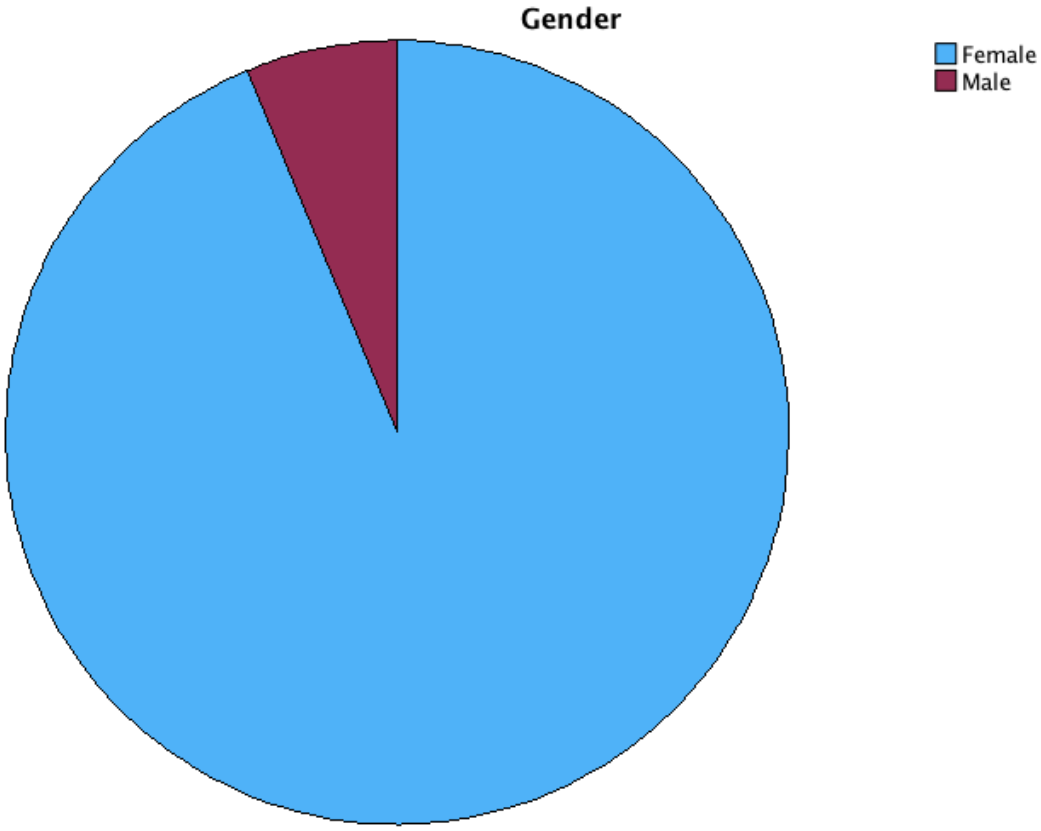

Figure 4.3.2

There were 16 participants in this study, 15 of them (93.8%) were female, and one participant (up to 6.3%) was male. From Figure 4.3.2 above, we may deduce that respondents who are female are typically more numerous than respondents who are male. This is a result of the gender disparity at the Puchong, Selangor-based Autism Care Centre. It is very difficult to find the same number of respondents by gender.

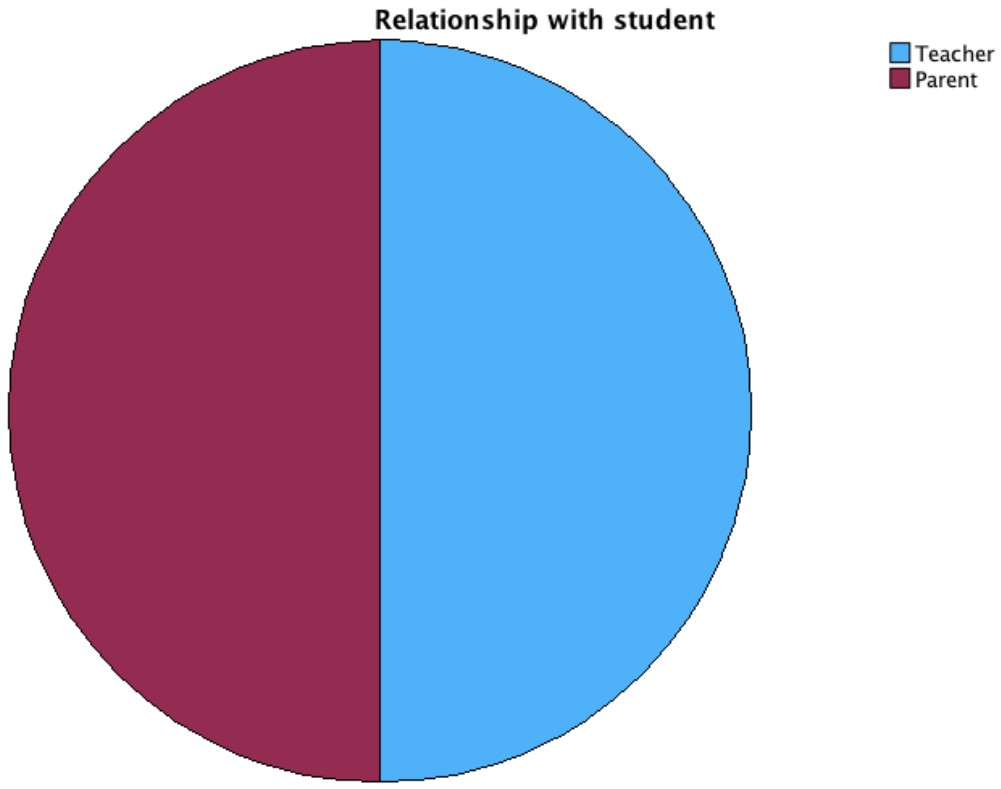

Figure 4.3.3

Figure 4.3.3 shows the respondents' relationships to the students. At the Autism Care Centre in Puchong, Selangor, 50% of respondents are parents of autistic children and 50% are teachers for autistic children. The average for the relationship with the student is the same.

4.3.2 Customer Satisfaction Towards Busy Board For Autism Children

In this element, the researcher provided respondents with six statements indicating how satisfied they were with the busy board. A summary measure called a measure of central tendency of a construct, also known as a measure of centrality or central location, aims to explain the complete data set with a single value that corresponds to the centre or centre of the distribution. This project demonstrates how the standard deviation measures and explains the mean. Based on the level of means score range offered in a table that was adapted from Kosnin and Lee (2008), descriptive analysis is performed for the level of employee attitude. Each score will be converted to a mean, and as proof of this information, the following is listed:

INSTRUMENTS SECTION	*COMPONENTS*	*MEANS STATISTIC*	*LEVEL*	*STANDARD DEVIATION*
SECTION B : CUSTOMER SATISFACTION TOWARDS BUSY BOARD FOR AUTISM CHILDREN	Busy board does help the development of motor skills of autistic children.	4.63	High	0.500
	The busy board encourages independent learning and exploration for autistic children.	4.38	High	0.619
	All items on the busy board are suitable and useful for development of the autism children's motor skills.	4.44	High	0.814
	The busy board is one of the effective learning tools for autistic children.	4.38	High	0.719
	like the idea of this busy board as it is a fun activity for autistic children to focus on.	4.50	High	0.894
	I am likely to recommend the busy board to others.	4.44	High	0.892
	TOTAL AVERAGE	***4.461***		

Table 4.3.2

The greatest mean is for the first component (4.63) with a standard deviation of 0.500 from table 4.3.2, which is Section B: Customer Satisfaction Towards Busy Board For Autism Children. While the mean with the lowest standard deviation is (4.38) and is 0.619. The presentation design aspect's mean average was 4.461.

The researcher will analyse each of the six components separately and present the findings as a pie chart based on table 4.3.2 above.

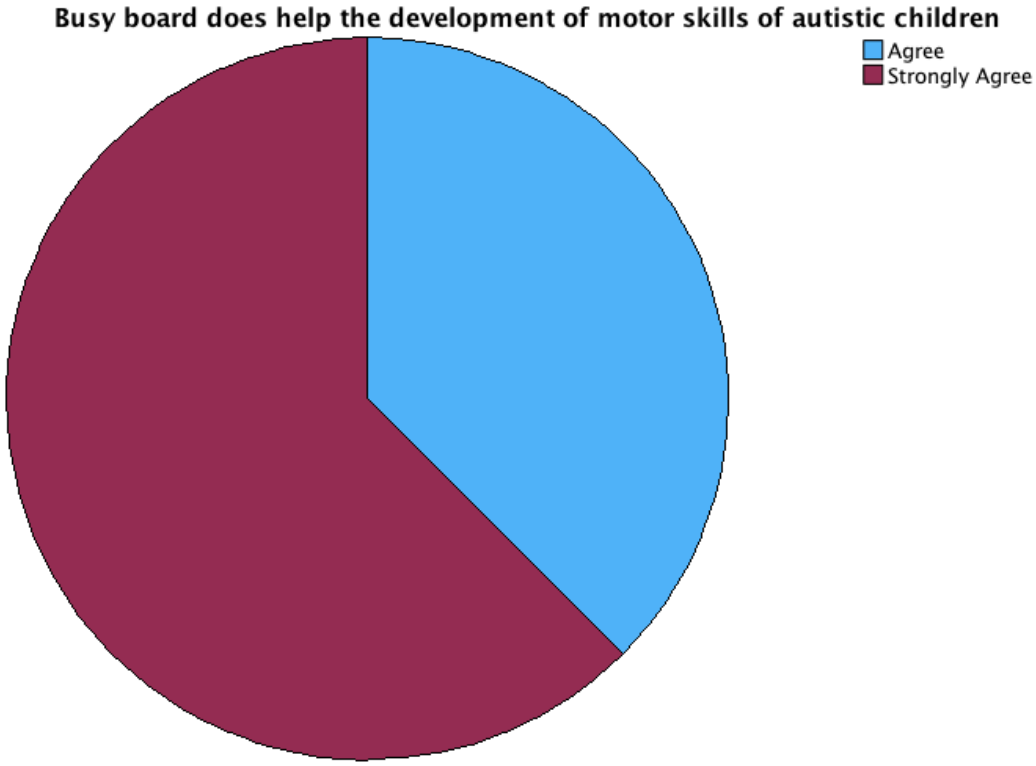

Figure 4.2.1

Figure 4.2.1 shows the pie chart of respondents who agree and strongly agree with busy board does help the development of motor skills of autistic children. The majority of respondents firmly agreed that busy boards do aid in the motor skill development of autistic youngsters. 10 respondents in all highly agreed (62.5%), whereas 6 agreed (37.5%).In conclusion, more than 50% of all respondents support that busy board does help the development of motor skills of autistic children.

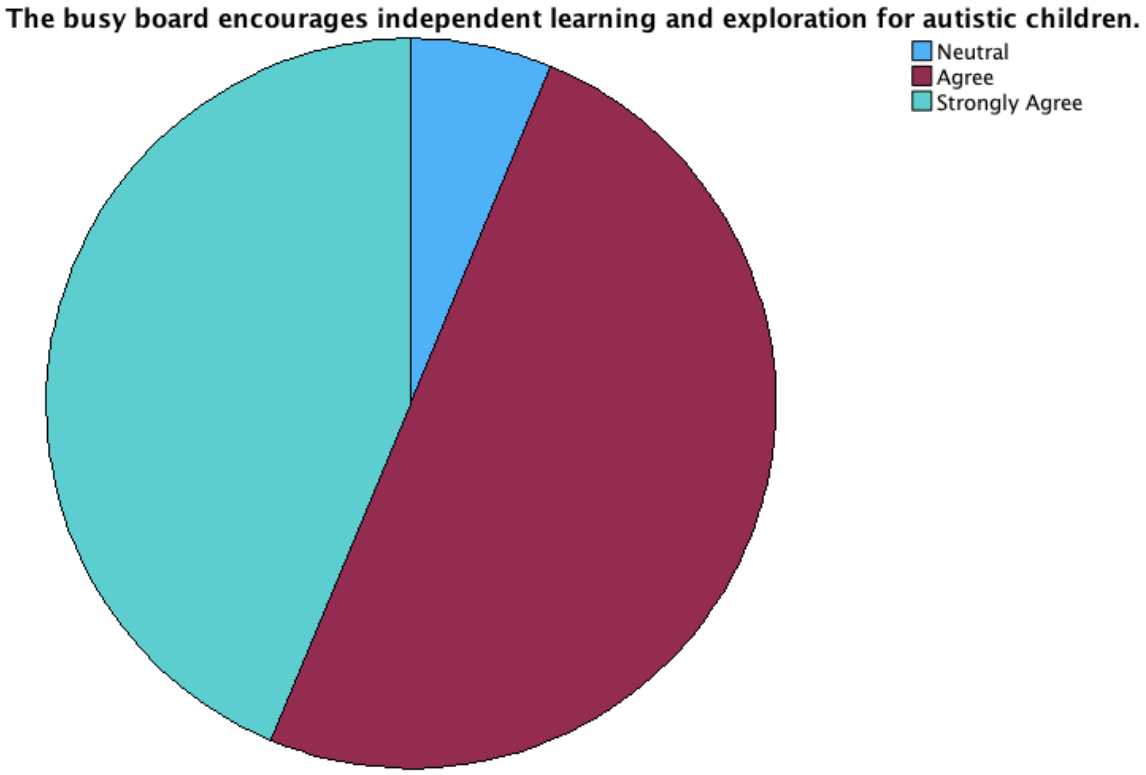

Table 4.2.2

Only 6.3% (1 responder), as indicated in Figure 4.2.2, were neutral on the busy board's ability to support autistic children's independent learning and exploration. Eight respondents, or 50% of those surveyed, said they agreed with the statement. But 7 respondents, or 43.8%, said that they strongly agreed with the claim that "the busy board encourages independent learning and exploration for autistic children."

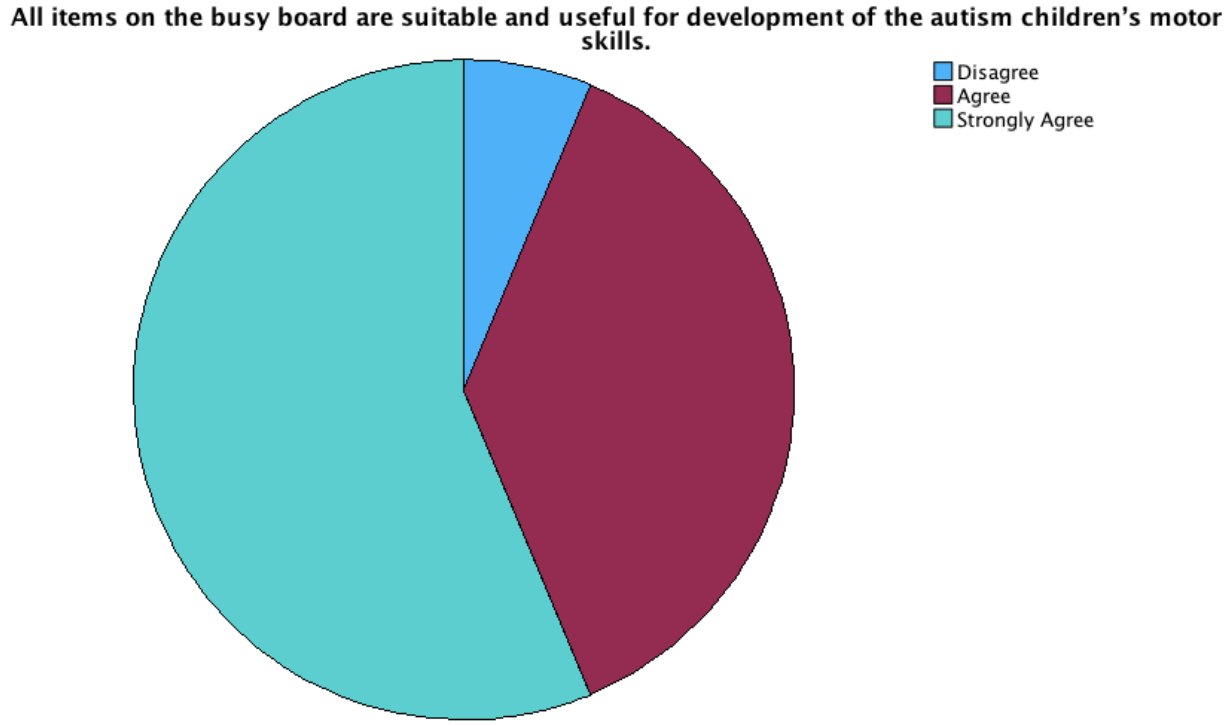

Figure 4.2.3

According to the analysis in figure 4.2.3, 56.3% (9 persons) of respondents strongly agree that all items on the busy board are suitable and useful for development of the autism children's motor skills. While 6.3% (1 respondent) disagreed with the statement, 37.5% (6 respondents) decided to agree that all items on the busy board are suitable and useful for development of the autism children's motor skills. Finally, none of the respondents disagreed with the statement in a categorical manner.

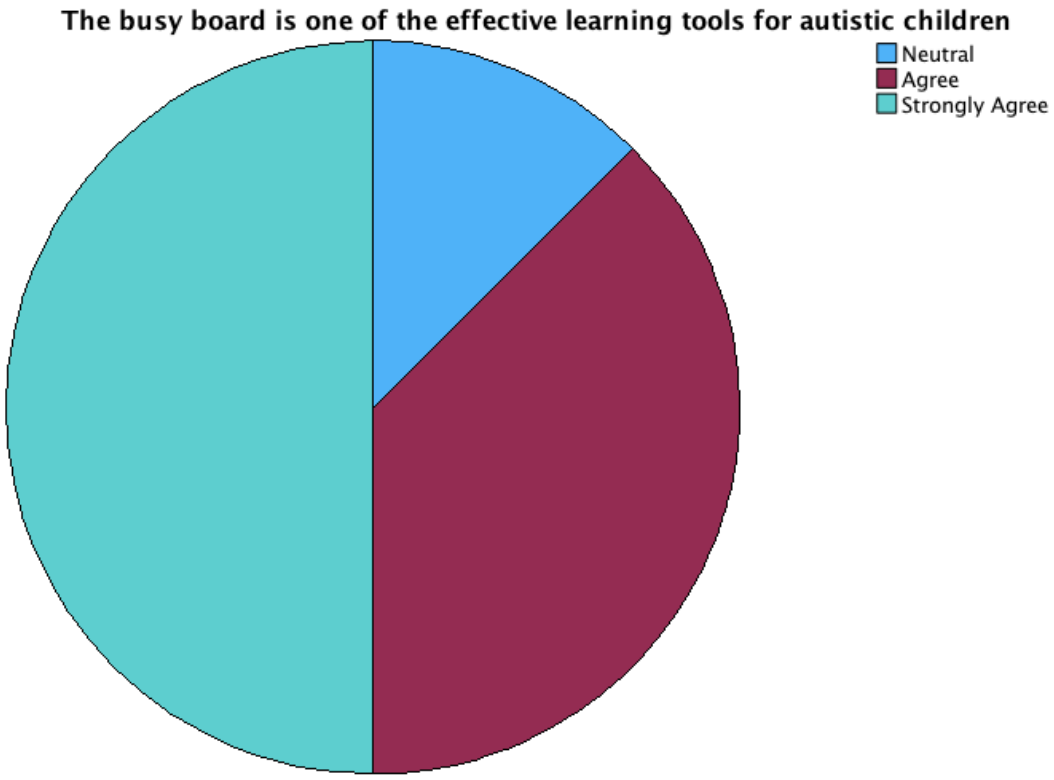

Figure 4.2.4

Figure 4.2.4 shows that 50% of the study's respondents (8 people) strongly agreed that that the busy board is one of the effective learning tools for autistic children, whereas only 37.5% of respondents (6 people) agreed with the statement. 12.5% of them (2 persons) opted for neutral, though.

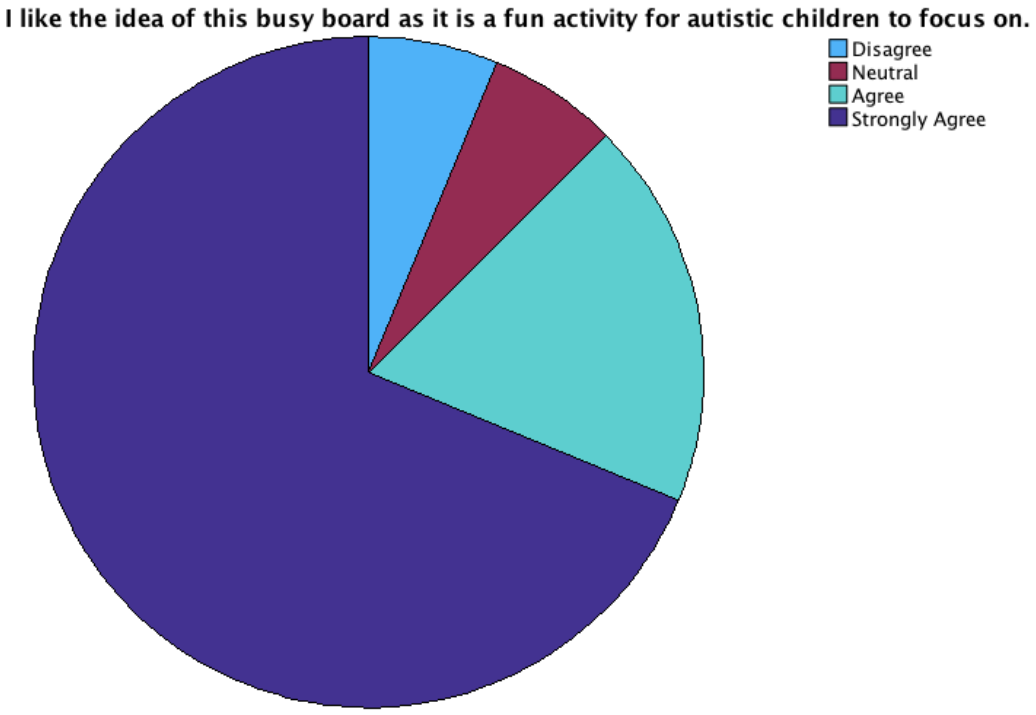

Figure 4.2.5

In accordance with the pie chart, up to 18.8% (3 respondents) and more than half of the respondents (68.8%) strongly concur that they like the idea of this busy board as it is a fun activity for autistic children to focus on. (11 persons). 6.3% of the population, or 1 person, disagreed, but not vehemently. 6.3% (1 person) of respondents, as seen in figure 4.2.5 above, gave neutral responses.

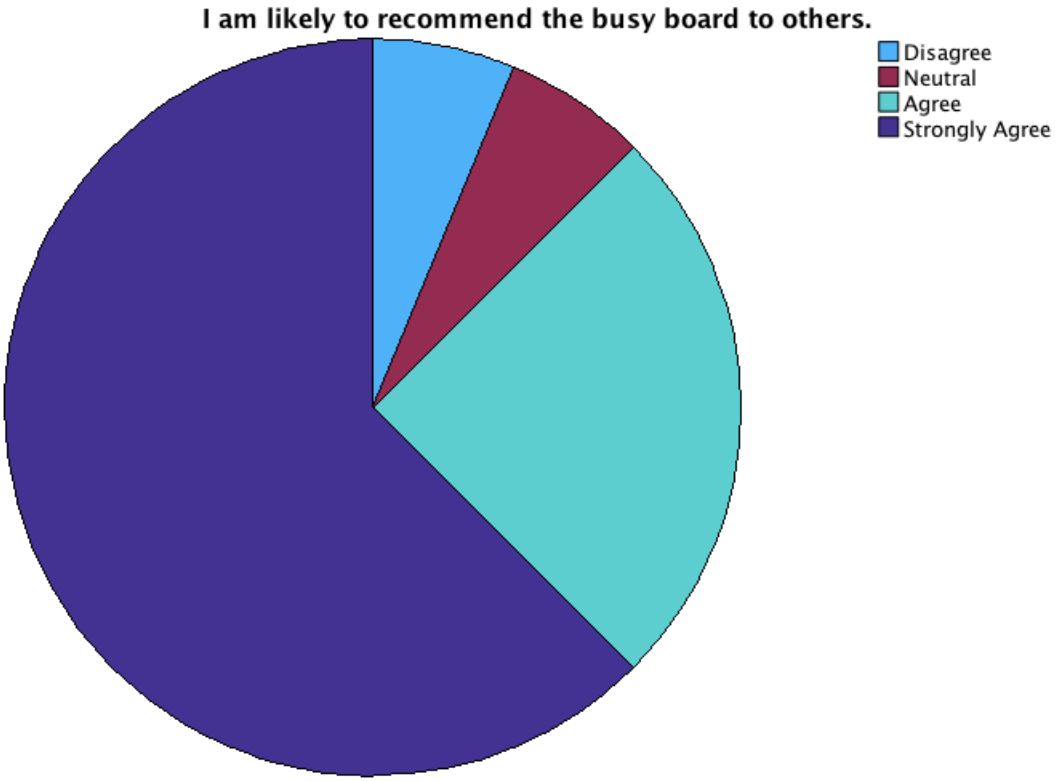

Figure 4.2.6

They are likely to recommend the busy board to others, as shown in Figure 4.2.6. 25% (4 individuals) and 62.5% (10 people) strongly agree with this. 6.3% of respondents, or 1 person, selected neutral, while 6.3% of respondents, or 1 person, disagreed.

4.4 DISCUSSION

Based on our mean and standard deviation, the highest average mean that has been concluded is from the busy board does help the development of motor skills of autistic children. which is very high (4.63). According to Kosnin and Lee (2008), the range of mean score interpretation is as shown in Table 4.4.

Range of Mean Score	Level
1.00-2.33	Low
2.34-3.67	Moderate
3.68-5.00	High

Table 4.4

4.5 SUMMARY

This chapter's conclusion has a focus on a clear understanding of the entire data analysis and study findings. The explanation and description of the data analysis were also gathered and expressed through questionnaires we developed for a single Autism Care Centre in Puchong, Selangor, and they are included in the chapter's pie chart.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 INTRODUCTION

The researcher's analysis of the data they gathered in the preceding chapter produced results. This chapter will address the results from the preceding chapter, and it is divided into 5 sections.

5.2 FINDINGS

In this chapter, product discovery on Busy Board uses ADDIE MODAL where products can be used as items for learning autistic children with their daily routine as presented. This study aims to explore the effects of busy board on children with autism as well as the challenges faced in the implementation of this busy board. We will analyze the overall performance of our project, "Busy Board" and determine whether its objectives have been met based on the evaluation of our sample group.

Research reveals that these busy boards are very useful for autistic children and they gain new experiences in learning and motor skills. This busy board has received full support from teachers and parents who have tried this busy board for autistic children and have received high satisfaction from the feedback of these teachers and parents on this busy board.

5.2.1 The effect of busy board on children with autism

Studies reveal that busy boards have a positive effect on autistic children. Autistic children using the busy board allow those with less skill to hone their fine motor skills. This skill involves movements made by normal children with their fingers, such as wanting to use a zipper or lock a door. In addition, autistic children may find it difficult to express their thoughts and feelings. The busy board helps them memorize new words and characterize and classify objects.

5.2.2 Effectiveness of busy board in teaching and learning for children with autism

The study found that this busy board is effective in teaching and learning for children with autism. This busy board provides interesting content and items that are placed on the board and are easy for children with autism to understand. The use of items on the busy board such as zips, locks, shoelaces and other items has been agreed with the teacher and parent during the discussion. In addition, busy board offers an effective learning experience to children with autism.

5.2.3 Challenges in making a busy board for autistic children

Despite the benefits, several challenges have been identified in making busy board products for autistic children. The busy board we have made is specific to autistic children, especially in schools that need this busy board. In addition, concerns about the learning of autistic children emphasize the need for us to create a busy board to ensure that the learning of autistic children is effective

5.3 LIMITATIONS

When considering a busy board for a child with autism, there are some specific limitations that need to be emphasized. First, the researcher have a limited time to make this busy board because lack of technical skills in the development of the product. This research was conducted at an autism care centre focusing on autistic children. Furthermore, this project have limited budget in developing the busy board, which only managed to produce one quantity while the autism centre requested minimum two. Last but not least, current study have limitation in terms of product packaging to attract the interest of the autistic children

5.4 FUTURE RECOMMENDATIONS

Based on limitation discussed, the study received suggestions from teachers and parents and we believe that receivingsuggestions directly from our user sample will help us further develop this product in the future,which will benefit autistic children.

Further research should be conducted in diverse learning contexts to explore the effects and challenges of busy boards in the education of autistic children. This will help develop a deeper understanding of this autistic child.

Investigating the effectiveness of busy boards and educational resources for teaching and learning for children with autism. This will enable teachers and parents to identify the busy board as the most appropriate resource to address the learning objectives and needs of different autistic children.

Future research should develop guidelines and strategies for responsible and effective busy board in the learning of autistic children. This includes establishing a clear policy, placing appropriate items on the board, promoting and introducing autistic children about the busy board.

5.5 SUMMARY

To summarize our project, which is entitled "Busy Board For Autism Children at One Autism Care Centre" we can say that we succeeded in achieving all the objectives that have been stated and explained above, as evidenced by the encouraging comments received from teachers and parent at the care centre who tested our product. According to our prediction, wehave developed a product that will help in motor skills or learning of autistic children in autismcare centre.

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APPENDIX A

Gant Chart

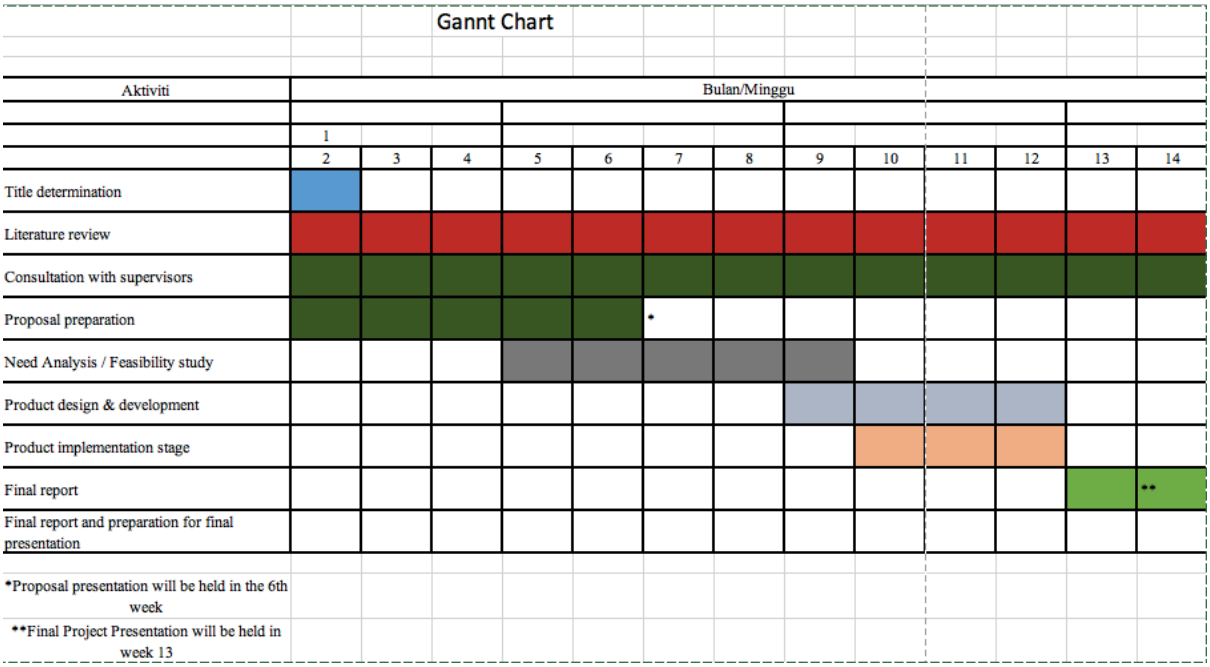
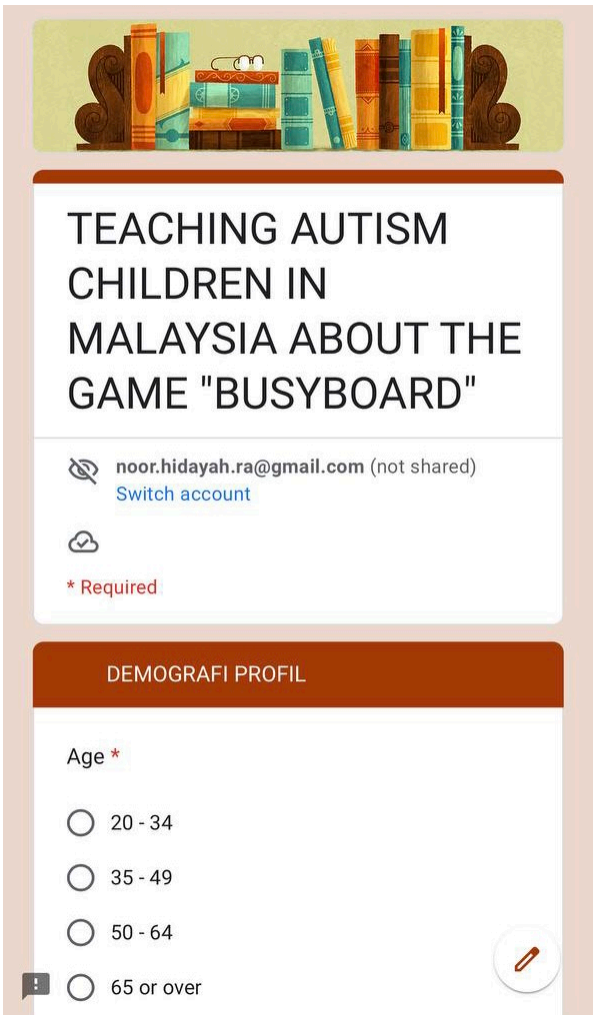


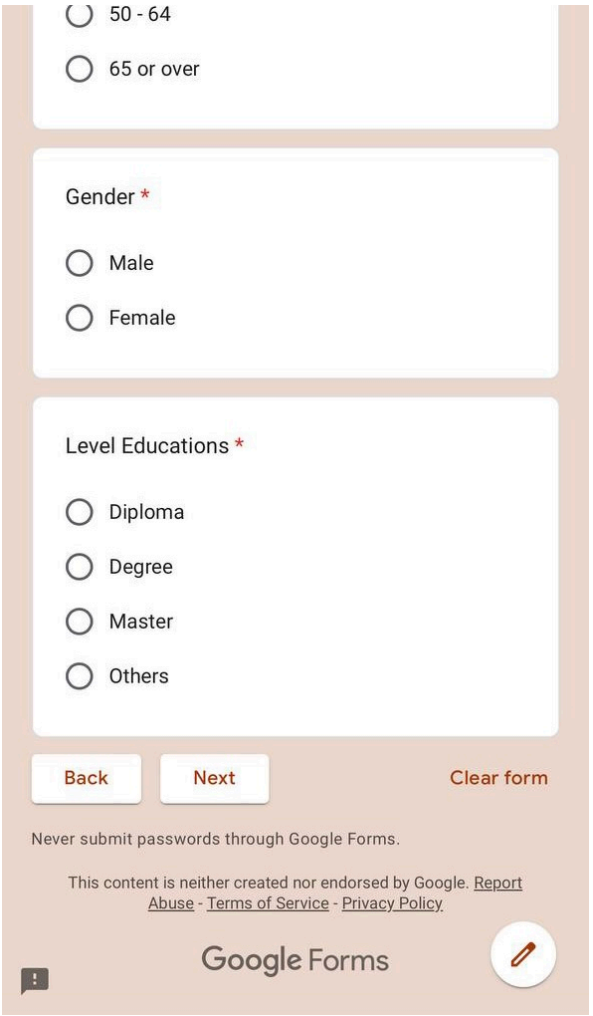
Figure Appendix A : Gantt Chart

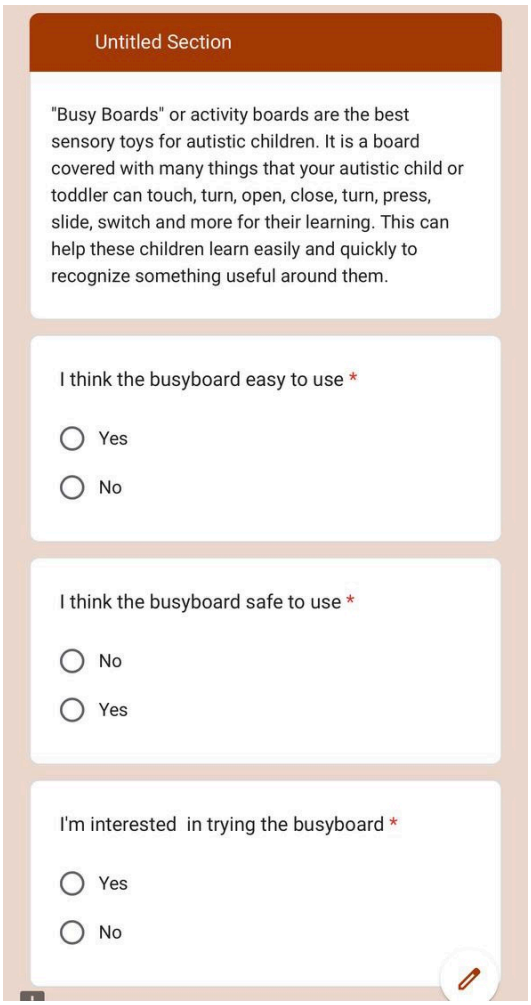
	Title determination
	Literature review
	Consultation with supervisors and proposal preparation
	Analysis and Feasibility study
	Product design and development
	Product implementation
	Final report

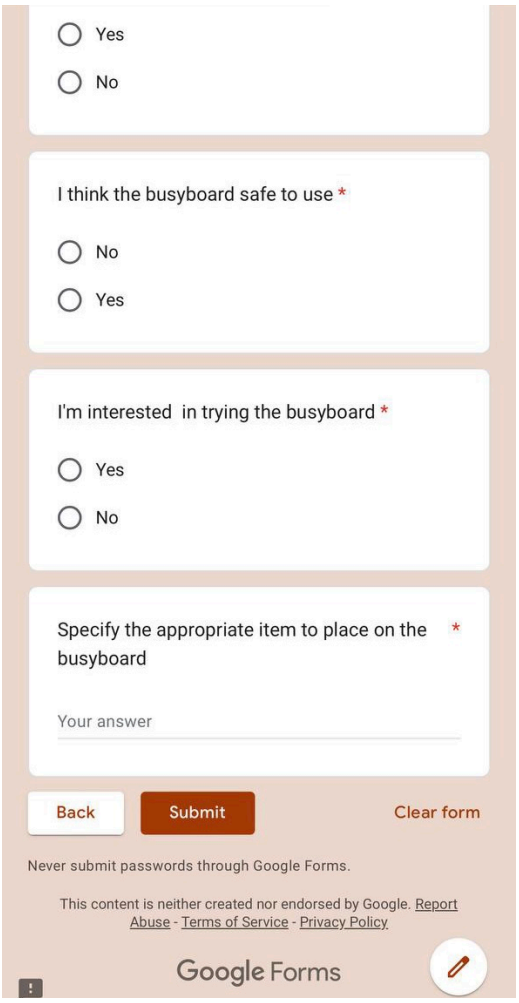
APPENDIX B

Qestionnaire Google Form






Untitled Section
"Busy Boards" or activity boards are the best sensory toys for autistic children. It is a board covered with many things that your autistic child or toddler can touch, turn, open, close, turn, press, slide, switch and more for their learning. This can help these children learn easily and quickly to recognize something useful around them.
I think the busyboard easy to use *
Yes
No
I think the busyboard safe to use *
No
Yes
I'm interested in trying the busyboard *
Yes
No


Yes
No
I think the busyboard safe to use *
No
Yes
I'm interested in trying the busyboard *
Yes
No
Specify the appropriate item to place on the busyboard *
Your answer
Back
Submit
Clear form
Never submit passwords through Google Forms.
This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy
Google Forms