



KEMENTERIAN PENGAJIAN TINGGI



PITEX INNOVATION REPORT SESSION JUNE 2020
RESEARCH AND INNOVATION UNIT

**PROJECT TITLE : DEVELOPMENT OF WOODEN SMART BOX FOR DOWN
SYNDROME KIDS TO PROGRESS EARLY CHILDHOOD**

DEPARTMENT : CIVIL ENGINEERING

STUDENT'S NAME & MATRIC NO.	1. NUR AMIRAH BINTI GHAZALI (08DBK18F1003) 2. NAAVINESHWARY A/P PARAMJOTHY (08DBK18F1010) 3. DARSHINI A/P RAVEENTHRAN (08DBK18F1014) 4. MUHAMMAD HILMI BIN GHAZALI (08DBK18F1039)
SUPERVISOR NAME	1. PN MARIANI AYU BINTI OMAR 2. PN WAHIDA BINTI MOHAMAD NOOR

TABLE OF CONTENT

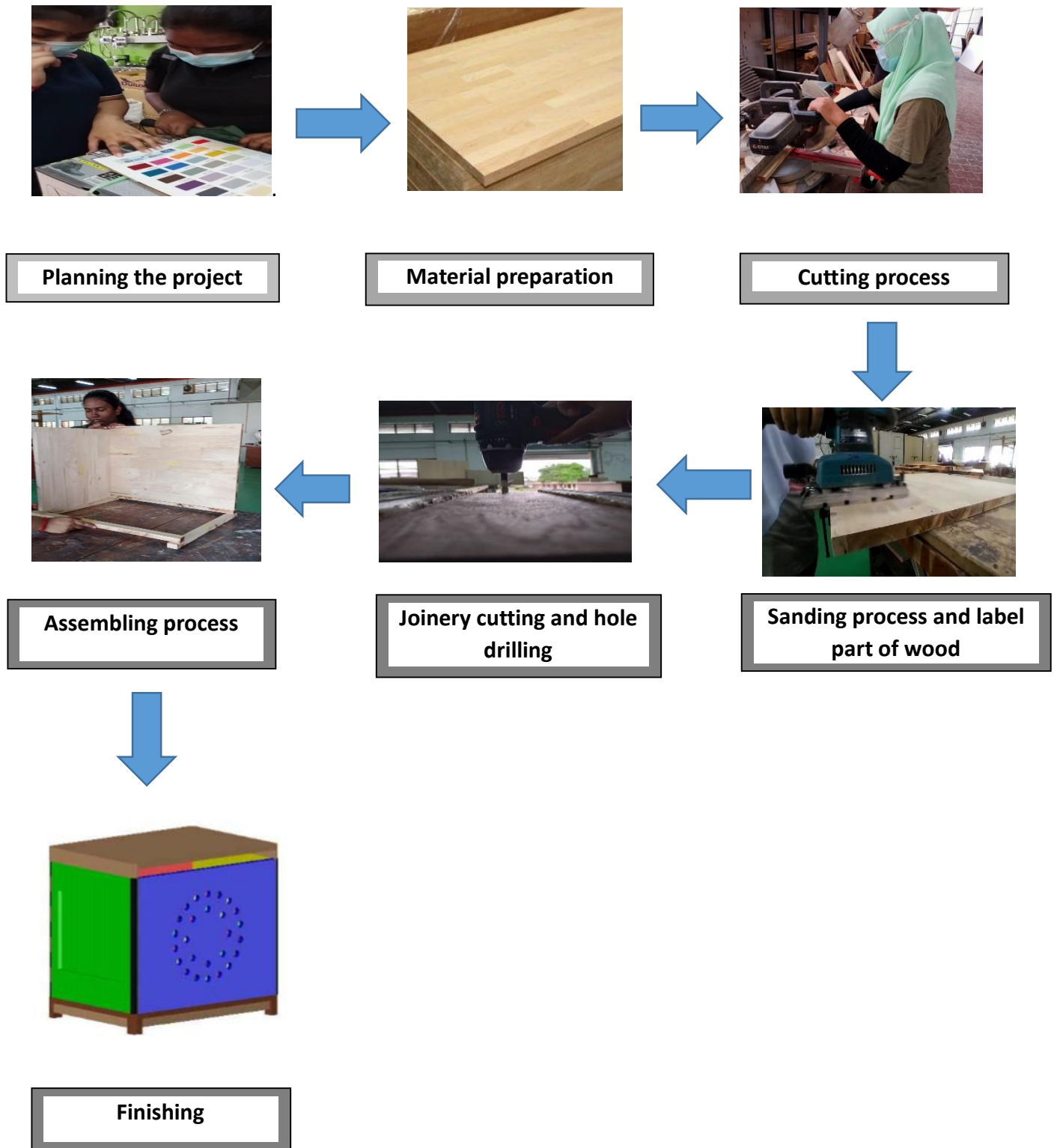
ITEM	PAGE
1. STATEMENTS AND CAUSES OF PROBLEMS	1
2. RESEARCH METHODOLOGY	2-3
3. SOLUTION PROPOSAL	4
4. BENEFITS	5
5. METHOD OF USE	6
6. CONCLUSION	7
7. APPENDIX	

1.0 PROBLEMS STATEMENT

Due to the cause of physical and mental delays, these special kids have problem in identifying colours, alphabets, shapes and psychomotor during their early stage of childhood.

2.0 RESEARCH METHODOLOGY

2.1 FLOW CHART



2.2 GANTTCHART

No.	Activities	Week														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Project briefing and Consultation with supervisor	■	■	■	■											
		■	■	■	■											
2	Product making process					■	■	■	■							
						■	■	■	■							
3	Submitting video and report for PITEX and presentation 1									■						
										■						
4	Briefing and consultation with supervisor									■	■					
										■						
5	Presentation 2											■				
6	Consultation with supervisor and preparing report												■	■	■	
7	Submitting all the documents															■

3.0 SOLUTION PROPOSAL

The future improvement proposal for this *Wooden Smart Box* is by adding multisensory games. Type of games such as identifying colours, alphabets, shapes. This games exposing them different textures. It is because it might interfere their ability to function effectively. Besides that, also can improve their hand coordination (psychomotor skills).

Next is making this product using lighter materials such as sponges without changing the wood as the main material wood is used to make the outer frame and utilizing sponges which also will be more soft and convenient to use.

4.0 BENEFITS

The aim to produce this product is to improve the physical and mental delay of children with Down Syndrome during their early stage of childhood as well as it also can be used as storage box. From the study and survey, DS kids have mental delays such as identifying colours, shapes, and alphabets. Children with Down Syndrome also have physical delays such as hand coordination (psychomotor) and language skill. Therefore, with this *WOODEN SMART BOX* those special kids can improve themselves physically and mentally. From this, those kids can keep any kind of their belongings in the box. At the same times they are also able to sit and play around the box where it will help them to identify colours, alphabets as well as they will be able to improve their hand coordination and language skill from the features of this *WOODEN SMART BOX*. In addition, it will also act as a teaching aid material for the teachers to teach those kids at Down Syndrome association and as well as at the medical institutions. Therefore, our product will provide such benefits to many of them from different aspects.

5.0 METHOD OF USE

Wooden Smart Box have several type of puzzle game that can help children with Down Syndrome in their learning process. First of all is the letter game, children with Down Syndrome can recognize letter by placing letters according to the same shape. Same as letter puzzle. This product have shape puzzle that will help children with Down Syndrome to learn about basic of shape. They need to recognize letter by placing according to the shapes.

Children with Down Syndrome can practice psychomotor skill which is fine motor such as fingers. They need to solve the games by placing the beads according to the correct colours. This Product has one special space for storing purpose. A rather large space allowed many stuff can be store.

6.0 CONCLUSION

As conclusion, *Wooden Smart Box* will be a very useful product for those children with Down Syndrome to have a better improvement within the age of 3 to 5 years old. Besides that, this product will achieve the objective which is to help those children with down syndrome to learn and recognise basic things as mentioned before and they will find it very useful where they can store their belongings too.

Therefore, as students hope for this product can help the children in such way that they can improve their early stage of their childhood.

APPENDIX

