MYP Design 10

Unit 2

The Individual Project: Educational Toys

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Criterion A

Strand i - Explain and justify the need for a solution to a problem for a specified client/target audience

"Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand."

-Albert Einstein

Creativity is the most significant quality one could have. It enables you to think independently and innovatively and allows mundane life to be infinitely interesting and fascinating. It helps solves seemingly unsolvable problems by connecting points from seemingly disparate ideas. It is the celebration of the unconventional, a carnival of the original, and the flying field of imagination. Our unique creativity is both a separating and binding force: independent creators bond through an unspoken passion of the arts.

It is essential to encourage creativity at a young age. At age 5, children's minds are developed enough to create stories and fantasies for themselves. If their creativity is met with negative feedback and their differences are being held against them, children will hide their creativity and try to conform with everyone else. During the fifth year of development, external encouragement is especially important, including toys and games which act as stimulants to inspire them to extend their creativity.

Personal experience in different educational systems and the beliefs they value provide comparison into the importance of 'creativity'. Western and European schools encourage originality, creativity, and uniqueness. They encourage you to be different, and to embrace this difference. Asian schools value grades and the obedience of a student. While this system encourages a disciplined life, it can also subconsciously push you to conform with the norm. This mentality is then further perpetuated by Asian students' parents, who tell them to pursue a high-income career, such as being a doctor, lawyer, businessman, or businesswoman. Furthermore, the idea of pursuing an artistic or literary career is rejected the majority of the time by Asian parents. Through both school and familial factors, the imaginative minds of children and adolescents are constantly being subdued.

How supportive were family and friends when you considered pursuing art as a career?

Some were supportive (29%, 598 Votes) Most were unsupportive (25%, 513 Votes) No one was supportive (24%, 479 Votes) They were all very supportive (22%, 445 Votes)

Total Voters: 2,035

"Quick Poll: Did Your Family and Friends Discourage You From Becoming an Artist?" *RedDotBlog*, reddotblog.com/quick-poll-did-your-family-and-friends-discourage-you-from-becoming-an-artist-2/.

In an internet poll by Jason Horejs, owner of esteemed Xanadu Gallery, shows that nearly half of 2,035 adolescents and young adults faced discouragement when they considered art as a career. Only 445 voters out of 2,035 had the full support and encouragement of family and friends; barely 22% had no external factors subduing their dreams.

This is why it is imperative to devise a solution to solve this problem. The educational toy's main purpose should be to inspire and stimulate children's creativity, as well as encourage them to be more imaginative. Its targeted audience would be children of five ages and older, with the maximum recommended age being eleven. The toy should be fun and attractive, and should have an eye-catching outer appearance.

Strand ii - Identify and prioritize the primary and secondary research needed to develop a solution to the problem

In order to provide a better solution, I need to research and then analyze the fundamental reasons behind the problem. After that, I can easily adapt my solution to solve the problem better. The essential questions that need to be answered are listed and prioritized in the following graph:

Question	Rank	Primary or Secondary?	Why is it relevant?	Where might I be able to find the answer?	Essential or desirable?
How do children exercise their creativity?	1	Both	To design a functional educational toy, I have to understand the fundamentals of how children demonstrate and exercise their creativity in the world.	Google Survey; My own experiences; https://greatergood.berkeley.edu/ article/item/7_ways_to_foster _creativity_in_your_kids	Essential
How many parents discourage artistic/literary future careers? Why?	2	Both	Research into the reasons behind the targeted audience will be useful when designing an encouraging toy.	Google Survey, http://reddotblog.com/quick-poll- did-your-family-and-friends- discourage-you-from-becoming- an-artist-2/	Desirable
What sort of games and toys can encourage creativity?	3	Secondary	I can't blindly design a toy hoping it'll encourage creativity; there should be scientific proof on toys that encourage creativity.	https://childdevelopmentinfo.com/ learning/multiple_intelligences/ creativity-toys/#.WrzXv4iuw2w	Essential
What sort of toys do children like?	4	Both	I was once a child, so I know what sort of toys appeal to children. However, my perspective is limited. By researching what toys they like, I can appeal to a wider audience.	Google survey http://raisingchildren.net.au/ articles/choosing_toys.html	Essential
How many children feel like their future aspirations are being subdued by external factors?	5	Both	This gives insight into how large my targeted audience may be.	Google Survey http://www.youthwork- practice.com/youth- education/10-discouraged- children.html	Essential
How do children feel about this?	6	Primary	This won't really have a major contribution to the overall design of the toy but knowing how they feel might inspire	Google Survey http://www.youthwork- practice.com/youth- education/10-discouraged- children.html	Desirable

			me/motivate me design a better toy.	to		
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After answering these questions, I will be one step closer to designing a more effective and appealing solution towards the target audience.

Strand iii- Analyze a range of existing products that inspire a solution to the problem

Product One: Creativity Can



"Creativity Can® School Pack #3911000." *Faber-Castell*, fabercastell.store/collections/creativity-can-school-pack/products/creativity-can-school-pack.

Pros:

- Open-minded toys allow children to flourish their creativity
- Allows children to be preoccupied
- Does not restrict children to rules and standards
- Has an infinite amount of uses/ideas you can create with it

Cons:

- Parents can buy all the items themselves
- Might be messy
- Parents might think it's a waste of money
- Kids might not know what to do and might not create things in their own spare time

The Creativity Can is a can filled with many craft items, such as googly eyes, pipe cleaners, buttons, and colored popsicle sticks. It also comes with Elmer's Glue, which is used in the creating process. It's a toy that does not set any rules or standards for children at all; the openended toy allows children to flourish their own special creativity. However, all of these craft items can be bought separately for a much lower price in Arts & Crafts stores. Parents might think it's not worth the money/time.

I can incorporate the open-ended aspect of this toy into my design. Playing with my stuffed animals (when I was young) and constant doodling in class has led me to understand that the most creative stories or illustrations come from times with no restrictions. Just you and the infinite possibilities of your imagination. The open-ended aspect is something that can definitely help in my own design.

Product Two: Mathieu Lang's "Luc"



Ro, Lauren. "12 Designy Toys to Spark Your Creativity." *Curbed*, Curbed, 26 May 2016, www.curbed.com/2016/5/26/11787704/toy-design-prix-emile-hermes.

Pros:

- Minimalist design is simple and clean
- Promotes creativity and imagination
- Allows for a numerous amount of play
- Encourages group play
- Improves artistic skills

Cons:

- Younger children might not be able to draw really detailed things
- The circular paper may eventually run out

Mathieu Lang's 'Luc' is a circular adaptation on the pen-and-paper game 'Exquisite Corpse'. Players take turns drawing something in the triangle the blue cover creates, and then passes it on to the next person. The blue cover is turned so that it is covering everything except a few guiding lines the previous person drew. This goes on until the circular paper is filled. This creative game encourages artistic skills, imaginative thinking, and group play. However, younger children might not be able to draw detailed characters and objects due to the size of the circle. The circular paper you draw on will also run out eventually, leaving you to find a replacement.

One reason why I like 'Exquisite Corpse' so much is the perspective it provides into another human's mind. It shows how creative they are, what they connect to, and what they often think of. It would be ideal to add a 'group play' element to my product. However, in doing so, I would most likely have to add in a few restrictions, detracting from the 'open-ended' aspect I wish to achieve.

Product Three: Pop-Up Books



Macro, Ashleigh. "The Most Awesome Pop-up Books for Adults & Big Kids." *Ashleigh Online*, 17 Dec. 2016, ashleighonline.com/2016/12/17/the-most-awesome-pop-up-books-for-adults-big-kids/.

Pros:

- Promotes visual learning and spatial awareness
- Makes reading fun and interesting
- Curious children will try and find out why the objects 'pop'

Cons:

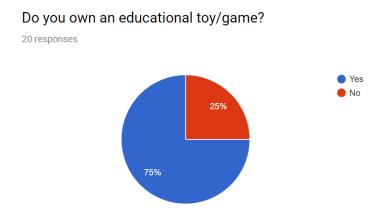
• Pop-ups might tear or rip due to fragility

Pop-up books are an innovative approach to making reading interesting and fun. It assists visual learning and spatial awareness, two things very important to young learners. Older readers also find pop-up books interesting. There are many various kinds of pop-up books, each more exaggerated than the last. A weakness of pop-up books would be the fragility of them. Clumsy children may accidentally tear the paper, resulting in a broken book.

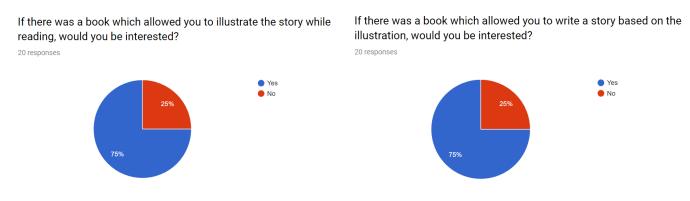
I've always held a fascination for pop-up books. They allow a 2D book to become 3D. When I was small, I've always wanted to buy dozens upon dozens of pop-up books, knowing I'd only look at the pop-ups and not read the story. In a way, that's what I want to go for. I want children to be able to look at pop-ups only, yet be able to flourish their imagination and creativity.

Survey & Results

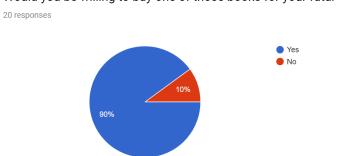
After some thought, I decided on an interactive children's pop-up book. After sending out a survey regarding my topic, these were the answers I got back:



This question was to see how many people owned an educational toy. These people may also be more inclined to buy an educational toy for themselves/their children. Out of 20 people, 15 people owned one; 75% of a general population will also be likely to own one.



75% of people would be interested in an interactive book which allows the reader to illustrate their imaginings of the plot, as well as an interactive book which allowed you to create the story based on the illustrations.



Nearly all of the people would be willing to buy such a book for their child. However, as children in international schools have much more open minds, we might see a difference in the percentages if I only sent this survey to Asian parents.

Would you be willing to buy one of those books for your future child?

What would you want the storyline/plot to be about?

18 responses

potate love (2)
something original
Adventure
Be about future dreams and stuff
ldk sorry
I'm hungry
The Bible
Tiffany Ho's life
About love justice or dream
wacky stuff
Either some bad ass bullshit to teach my kid that you gotta be a bad bitch or some sad af life story shit to teach them the value of living life.
Nothing
Anything
Fantasy/medieval times
Eating
I'll leave it to my future children XD
Family

If we exclude the non-serious responses, we're left with:

- Something original
- Adventure
- Dreams and stuff
- The Bible
- Love, justice, or dreams
- Wacky stuff
- Fantasy/Medieval theme
- Family

First, we can exclude 'The Bible'. Religious elements in a kid's book, while attractive to Christian parents, can ward off a large percentage of the targeted audience. The story has already been decided to be original. 'Dreams' appears twice, and combined with the problem this solution aims to solve, this option is the one which makes the most sense. However, I will also take into consideration the fantasy and adventure themes. They provide great visual elements and kids can take their imaginations anywhere with these themes.

Strand iv - Develop a detailed design brief that summarizes the analysis of relevant research

The solution will be an interactive pop-up children's book that encourages and promotes creativity while engaging children's imaginations. A study by the University of California, Berkeley, shows that open-ended toys achieve the highest levels of creative play for children. The book will have open-ended aspects to it, such as allowing the child to construct their own storyline or illustrate their own mental visualizations. It will be able to simultaneously improve children's cognitive functions and motor skills. The targeted audience will be K-1st Grade, specifically, 5 to 7-year-old children. Research from WebMD, a certified medical website, states that children from year five start to develop reading skills and begin to exhibit their creativity and thoughts. Their vocabulary rapidly grows day by day, alongside with the usage of complex sentences. Their fine motor skills are also improving; they are able to draw and trace shapes and animal outlines. However, any kid under 12 will be able to enjoy the simple book and its vibrant illustrations. The book's plot will be centered around an original story regarding future hopes and dreams, (based on survey) and will be split into two parts: Part One, where a storyline is given and the child has to illustrate their visualizations, and Part Two, where illustrations are given and the child has to write their own plot.

Criterion B

Strand i - Develop design specifications, which clearly states the success criteria for the design of a solution

The design should be:

□ Interactive

The book should be welcoming for children to do activities with it and make their own impression on the product.

□ Open-ended

The book should not restrict the imagination of children. The product won't be as open-ended as wooden blocks or figurines but it should still retain the same principles as them. The product should allow the children to do what they want to the greatest extent the product can allow.

□ Visually appealing

Children like to look at and engage with visually appealing objects. The process of interacting with aesthetically pleasing objects also train children to develop their own judgement of beauty.

□ Kid-friendly

While it can appeal to older audiences, this educational product is targeted for kids. This means that the product will utilize easier vocabulary and have a more whimsical plot.

 \Box A real book

Needless to say, the book has to look sharp and real. It can't be a few pieces of paper stitched together and illustrated by pen. Every page should have a clean, smooth look to it once it's been finished.

The design should have:

 \Box An attracting cover page

No one should ever judge a book by its cover, but realistically, it's what we all do. The cover page of the book should be vibrant and unique, and not only attract the child, but also persuade the parent to buy the book.

□ Two interactive parts

Only one interactive factor will make the books seem dull, so an extra one will make the book more appealing and interesting.

□ Pop-up elements

The 2D aspect of the book is too normal and mundane. By adding the '3D' pop to it, it'll add much more appeal to the kids. It will also help their motor function and spatial awareness.

□ Texture elements

Besides being just smooth, the book can also incorporate different textures. For example, a dragon could feel scaly, and a cat can feel furry. However, this might be difficult to make, so this criterion won't be a *need*, but a *want*.

□ An original storyline

No one wants to read the same story over and over again. A fresh, unique plot will attract much more readers, and encourage creativity among children.

□ Original, styled illustrations which share the same theme

The illustrations should be of the same style and should be colorful and vibrant. They should reflect my own personal style and be original.

 \Box Minimum of 15 pages

15 thick book pages will be the minimum amount; there should be approximately 7 pages for each interactive element.

Strand ii - Develop a range of feasible design ideas that can be correctly interpreted by others

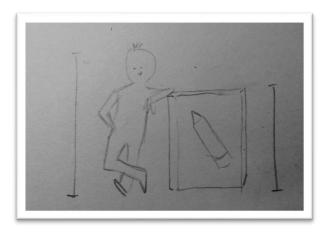
Design Concept One: Mad Libs

A faceless man, or an evil claw machine? Kids will have the chance to Mad Lib their book, resulting in crazy and quirky stories. Then, they'll be given the opportunity to illustrate their wacky creations alongside an equally wild storyline. The result will be something unique, every time. It would encourage play between friends and family, and enhance innovative and creative thinking. The book will contain four interactive Mad Libs, each with their own diverse guiding storyline.



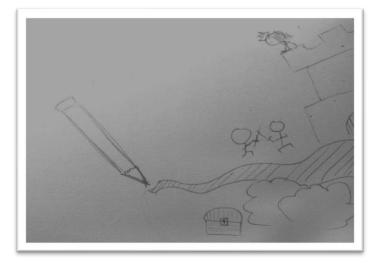
Design Concept Two: Huge Minds Huge Books

Children, while small in stature, are large in imagination. This design concept is a mirror to children's enormous potential for creativity and originality. The large pages of this book allow children to have more thinking space and encourages their ideas and imaginations to flourish alongside the plot and illustrations. The book will be split into two parts: interactive illustration and interactive writing. It will contain pop-up elements and will strive to include different textures when possible.



Design Concept Three: A World of Your Own

Children love to create their own worlds and enact in imaginary scenarios with their action figures or dolls. This book will take them through a process where they will design their own world with the guide of helpful hints and tips on the pages. After letting them create their world or city, the book will take them through a narrative journey where they will have to illustrate the actions of characters and environment of where the action took place. They will also be asked to illustrate their own answer when confronted with dilemmas, such as a dragon attacking their city. Will they befriend the dragon, or attack it? This book will encourage the child to think creatively to solve problems and improve their reasoning skills, as well as honing artistic talent.



Strand iii - Present the final chosen design and justify its selection

The final chosen design was Design Two, *Huge Minds Huge Books*. It will be a (minimum) 15page book, with A2 pages. The pages will be heavy duty and allow for pop-ups/textures to take place. The book will allow children to flourish their creativity without feeling cramped and restricted, both physically and mentally. It will allow children to create their own illustrations based on a story with pop-up features and will also allow them to create their own stories based on textured illustrations. It will improve innovative and creative thinking, cognitive function, as well as motor skills.

This was chosen as the final design since it not only encourages creative thinking, it also improves children's spatial awareness and cognitive functions. The size of the book is one of the factors that make the book stand out before the other two designs, and while the other two also incorporate creative thinking, this design is more suitable for children aged Kindergarten to 2nd Grade. Most kindergarteners won't understand what adjectives or adverbs are, and they won't be able to remember the 'city' or 'world' they constructed and follow along with dynamic questions. Though they are able to think for themselves, they won't be able to follow the linear storyline they construct for themselves. Design Concept Two provides a platform for them to display their creativity without the process of having to create the platform themselves.

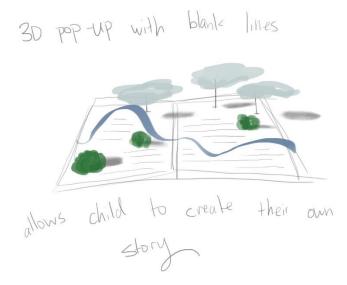
Strand iv - Develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution

Requirements for Creation of Chosen Solution:

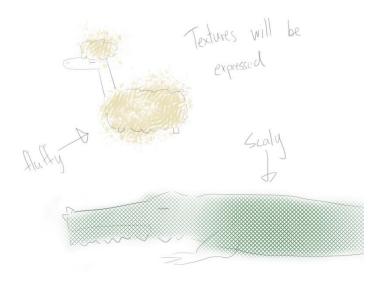
- Cardboard Paper
- Colored Paper
- Paper
- Pencil
- Glue
- Markers
- String
- Tape
- Laptop
- Digital Drawing Tablet & Pen
- Digital Drawings
- Printed Drawings



- Split into two parts, Part I and Part II
- Two parts will be non-linear
- Part I: Story is provided with pop-up and textured words; children will have to illustrate
- Part II: Pop-up illustrations and textures are provided; children will have to create story
- Pages will be hard cardboard



- Pop-ups have to be sturdy enough
- Should include at least one full-page pop-up



- Textures should try to be authentic
- Should be fitting for context

Criterion C

Strand i - Constructs a detailed and logical plan, which describes the efficient use of time and resources, sufficient for peers to be able to follow to create the solution.

The whole design should be able to be completed in a little over a month, depending on your efficiency.

Date	What	Items Needed	How	Approximate
Step				Time Needed
4/20	Brainstorm first storyline	PencilPaperEraserBrain	Brainstorm the first storyline with mind maps or bullet points. Write down any idea that comes to your mind.	10-30 m.
1		• Brain	Extend these ideas into stories until you have one you are satisfied with.	
4/21	Decide on storyline and sketch visual outline for pages	PencilPaperEraser	Once you have chosen a story you are satisfied with, sketch a visual layout of all the pages. Annotate which words or	10-30 m.
2		• Brain	phrases you will plan to elaborate upon.	
4/22	Type storyline into computer and digitalize details	ComputerDrawing Tablet & Pen	After completing the visual layout, type the story into a Word Document. Be sure to	5-10 m.
3		• Drawing App	follow the visual layout you have previously planned. Set the page size as A2.	
4/23	Finalize sketch of first page and digitalize	PencilPaperEraser	Solidify your draft sketch and transfer it to your laptop. Digitalize with drawing tablet	~30 m.
4		• Brain	and save file. Make sure to have a concurrent style/theme with all the illustrations.	
4/24	Finalize sketch of second page and digitalize	PencilPaperEraser	Solidify your draft sketch and transfer it to your laptop. Digitalize with drawing tablet and save file. Make sure to	~30 m.
5		• Brain	have a concurrent style/theme with all the illustrations.	

4/25 6	Finalize sketch of third page and digitalize	 Paper Pencil Eraser Computer Digital Tablet & Pen Drawing App 	Solidify your draft sketch and transfer it to your laptop. Digitalize with drawing tablet and save file. Make sure to have a concurrent style/theme with all the illustrations.	~30 m.
4/26	Finalize sketch of fourth page and digitalize	 Paper Pencil Eraser Computer Digital Tablet & 	Solidify your draft sketch and transfer it to your laptop. Digitalize with drawing tablet and save file. Make sure to have a concurrent style/theme	~30 m.
7		Pen • Drawing App	with all the illustrations.	
4/27	Finalize sketch of fifth page and digitalize	 Paper Pencil Eraser Computer 	Solidify your draft sketch and transfer it to your laptop. Digitalize with drawing tablet and save file. Make sure to	~30 m.
8		 Digital Tablet & Pen Drawing App 	have a concurrent style/theme with all the illustrations.	
4/28	Finalize sketch of sixth page and digitalize	PaperPencilEraserComputer	Solidify your draft sketch and transfer it to your laptop. Digitalize with drawing tablet and save file. Make sure to	~30 m.
9		 Digital Tablet & Pen Drawing App 	have a concurrent style/theme with all the illustrations.	
4/29	Finalize sketch of seventh page and digitalize	 Paper Pencil Eraser Computer 	Solidify your draft sketch and transfer it to your laptop. Digitalize with drawing tablet and save file. Make sure to	~30 m.
10		 Digital Tablet & Pen Drawing App 	have a concurrent style/theme with all the illustrations.	
4/30	Flexible	~ ^ ^ *		
5/1	Flexible			
5/2	Flexible			
5/3	Flexible			
5/4	Brainstorm second storyline	PencilPaperEraser	Brainstorm the second storyline with mind maps or bullet points. Write down any	10-30 m.

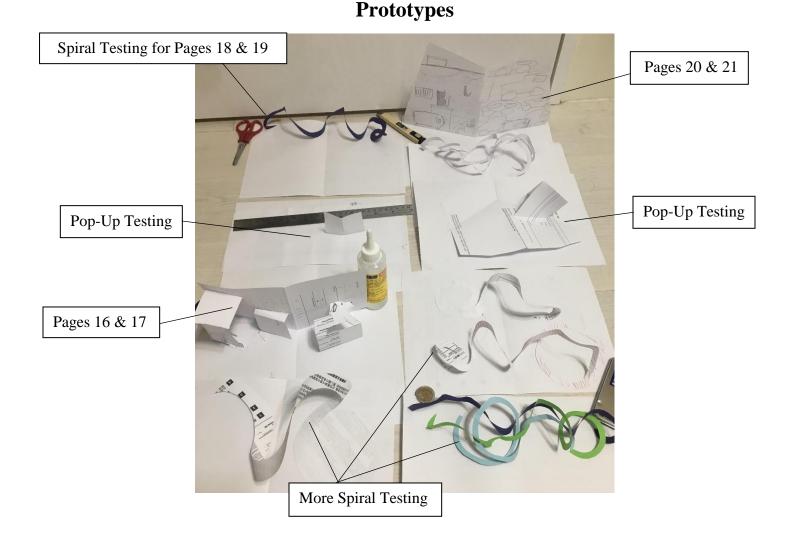
11		• Brain	idea that comes to your mind. Extend these ideas into stories until you have one you are satisfied with.	
5/5	Brainstorm how to place pop- ups to illustrate a story	PencilPaperEraserBrain	Once you have chosen a story you are satisfied with, sketch a visual layout of all the pages. Sketch drafts of the poses/forms of the pop-ups and annotate which textures to include where. Use paper and	10-30 m.
			draw loose drafts of which central pop-ups should dominate the pages, and how.	
5/6	Create the second story's first page pop-up	PencilConstruction PaperEraser	Design, measure, and cut out your pop-up in preparation for the printed book.	20-35 m.
13		ScissorsExacto Knife		
5/7	Create second page's pop-up	PencilConstruction PaperEraser	Design, measure, and cut out your pop-up in preparation for the printed book.	20-35 m.
14		ScissorsExacto Knife		
5/8	Create third page's pop-up	 Pencil Construction Paper Eraser 	Design, measure, and cut out your pop-up in preparation for the printed book.	20-35 m.
15		ScissorsExacto Knife		
5/9	Create fourth page's pop-up	 Pencil Construction Paper Eraser 	Design, measure, and cut out your pop-up in preparation for the printed book.	20-35 m.
16		ScissorsExacto Knife		
5/10	Create fifth page's pop-up	 Pencil Construction Paper Eraser 	Design, measure, and cut out your pop-up in preparation for the printed book.	20-35 m.
17		ScissorsExacto Knife		
5/11	Flexible			
5/12	Flexible			
5/13	Flexible			
5/14	Design your logo	PencilPaper	Brainstorm logo ideas. Make sure the logo is strongly connected to your	10-35 m.

18		 Laptop Digital Tablet & Pen Drawing App 	product/idea. Try out different designs until you have one you are satisfied with.	
5/15	Sketch and create cover, back, and spine	 Pencil Paper Laptop 	Brainstorm your cover and back. Make sure it is attracting and visually appealing. It would be best to include your	20-50 m.
19		 Digital Tablet & Pen Drawing App 	logo here.	
5/16	Send to print	MoneyFiles	Do research on good printing places. Make sure they have book binding services. This part will cost anywhere from	Printing & binding may take from 1 – 5 days.
20			600-2500 NTD, so keep a budget in mind.	
5/17	Flexible			
5/18	Flexible			
5/19	Flexible			
5/20	Flexible			
5/21	Flexible			
5/22	Pick up the bound book and start	• Book	Open to the first page of the	10-15 m.
21	- gluing first pop-up	GluePop-Up	second story and glue pop-up according to your design.	
5/23 22	Glue second pop-up	BookGluePop-Up	Open to the second page of the second story and glue pop-up according to your design.	10-15 m.
5/24 23	Glue third pop-up	 Book Glue Pop-Up 	Open to the third page of the second story and glue pop-up according to your design.	10-15 m.
5/25 24	Glue fourth pop-up	BookGlue	Open to the fourth page of the second story and glue pop-up according to your design.	10-15 m.
5/26 25	Glue fifth pop-up	 Pop-Up Book Glue Pop-Up 	Open to the fifth page of the second story and glue pop-up according to your design.	10-15 m.
	Completion	• гор-ор	Check all over your book and pop-ups and see if you're satisfied with the final product!	

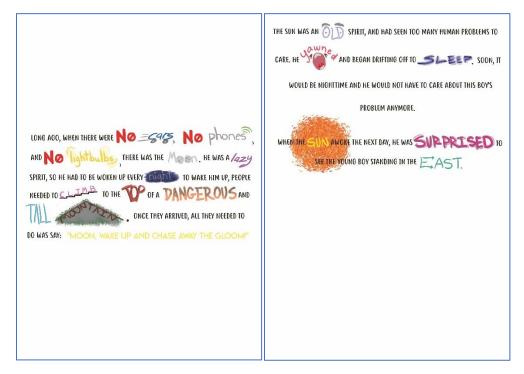
Strand ii - Excellently designed educational toy which shows evidence of original thought

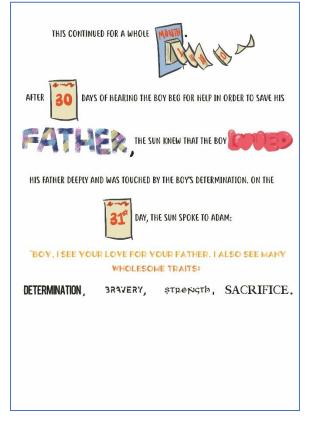
The final finished design is an A3 full-color book. It has 26 pages (not including cover and back page), with an Acknowledgements, Introduction (serving as brochure), and two stories. Story One, titled 'The Lazy Moon', is about a boy who persuades the sun to wake up the moon every night. Consisting of eleven pages (including the title and end page), the story encourages children to imagine scenes from books and draw them on paper, which improves their motor skills, creative thinking, and cognitive development. Story Two has nine pages and includes five different pop-ups. Children can then write a story based on the pop-ups, building their cognitive development, motor skills, and creative thinking.

Strand iii - The educational toy is finished and meet all the design requirements. The toy is aesthetically pleasing and original.



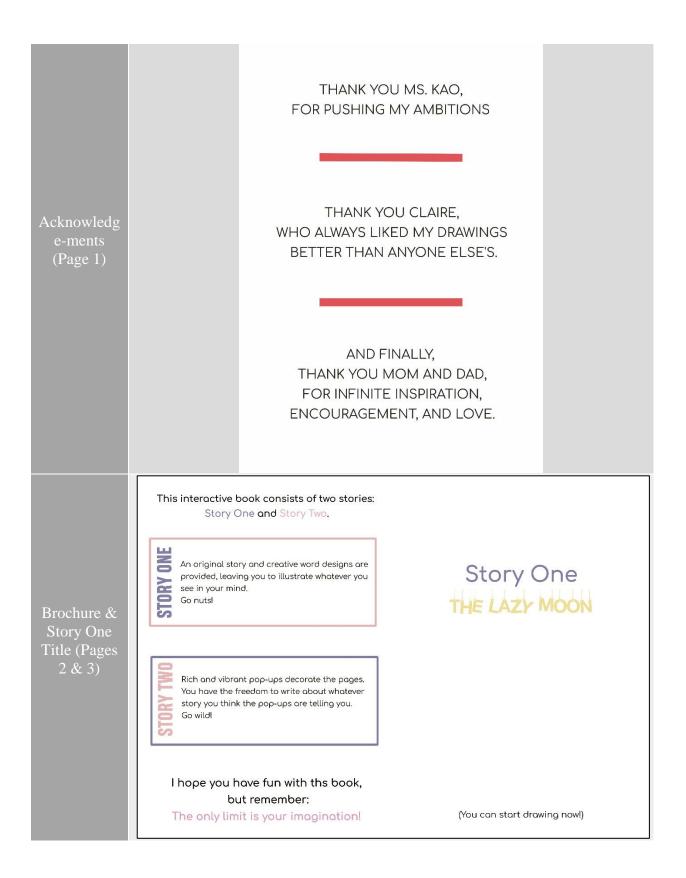
Story One Initial Versions

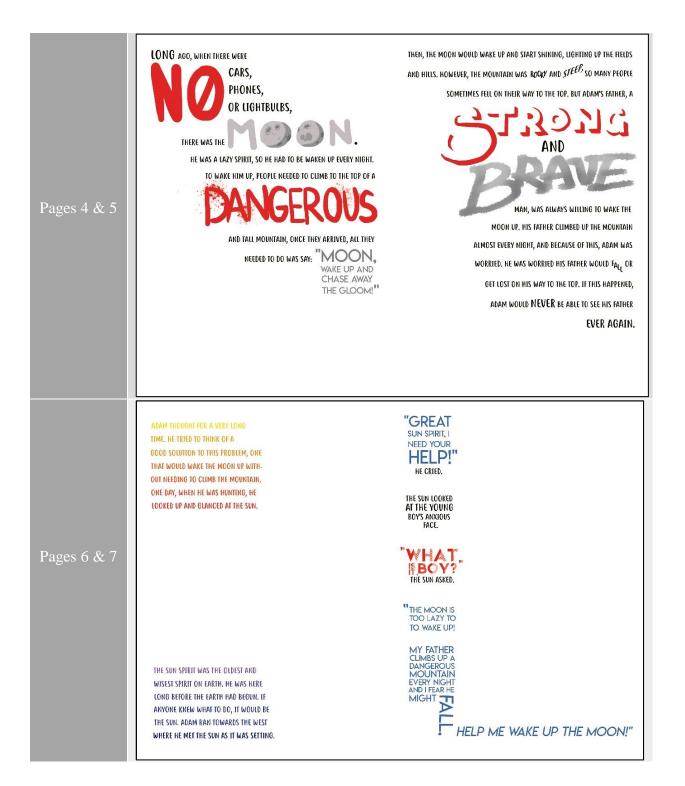




Final Product

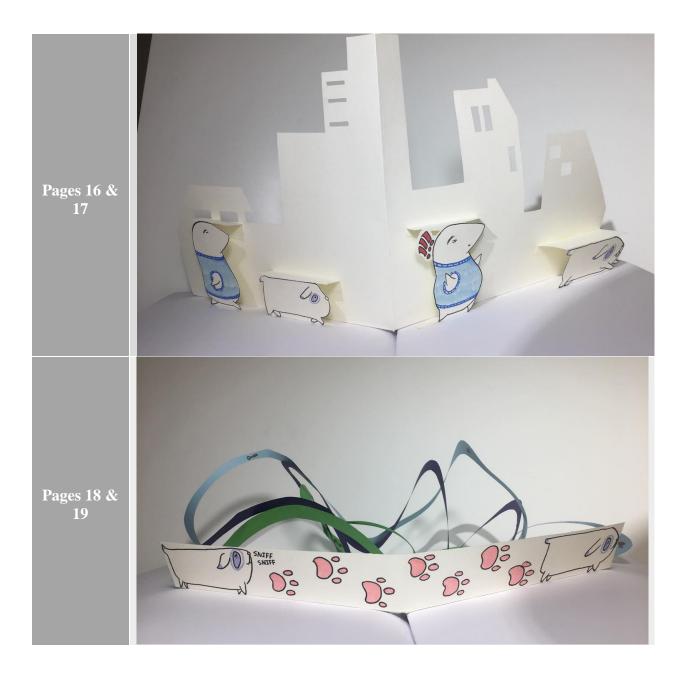
Product	Picture
Logo	
Book Cover	

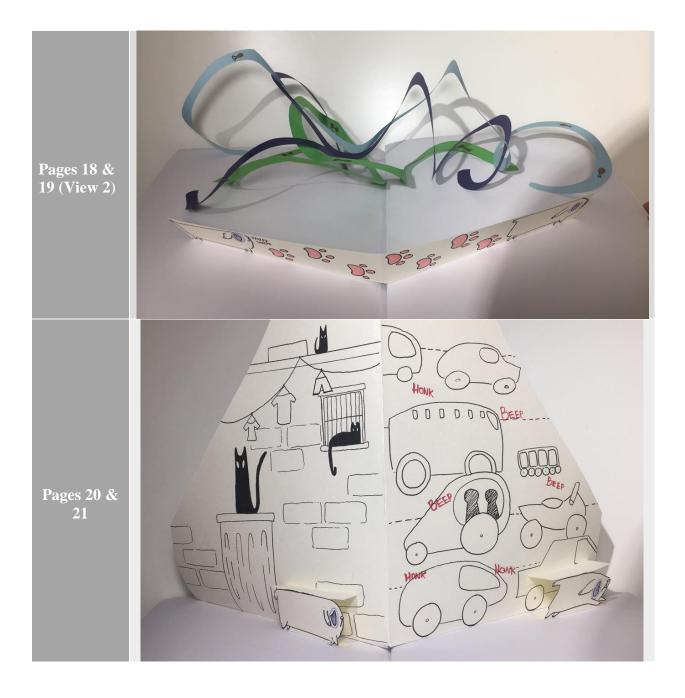




THE SUN WAS AN OLD SPIRIT, AND HAD SEEN TOO MANY HUMAN PROBLEMS TO CARE. HE YAWNED AND BEGAN DRIFTING OFF TO SLEEP. SOON, IT WOULD BE "THE MOON IS TOO LAZY! NIGHTTIME AND HE WOULD NOT HAVE TO CARE ABOUT THIS BOY'S PROBLEM PLEASE, HELP MY FATHER WAKE UP THE MOON!" THE SUN IGNORED THE BOY AND CONTINUED ON HIS PATH TOWARDS THE ANYMORE. WEST. WHEN HE ARRIVED THERE, HE WAS 11 TO SEE ADAM ALREADY THERE. "THE MOON IS TOO LAZY! PLEASE, HELP MY FATHER WAKE UP THE MOON!" YET THE SUN SPIRIT IGNORED HIM AGAIN. Pages 8 & 9 WHEN THE SUN AWOKE THE NEXT DAY, HE WAS TO SEE THE YOUNG BOY STANDING IN THE EAST. THIS CONTINUED FOR A WHOLE MONTH. AFTER 30 DAYS OF HEARING THE BOY BEG EVERY IN ORDER TO SAVE HIS FATHER, THE SUN KNEW THAT THE BOY LOVED HIS FATHER DEEPLY AND WAS TOUCHED BY THE BOY'S DETERMINATION. ON THE 31ST DAY, THE SUN SPOKE TO ADAM: WHEN THE SUN WOKE UP IN THE EAST, THE BOY, I SEE YOUR LOVE FOR YOUR FATHER. BOY WAS THERE, WAITING FOR HIM. EVERY MORNING ADAM CRIED OUT: LALSO SEE MANY WHOLESOME TRAITS: DETERMINATION BRAVERY STRENGTH SACRIFICE "THE MOON IS TOO LAZY! PLEASE, HELP MY FATHER WAKE UP THE MOON!" Pages 10 & 11 AND EVERY WHEN THE SUN WAS SETTING IN THE WEST, THE BOY WAS THERE AGAIN, CRYING: "THE MOON IS TOO LAZY! PLEASE, HELP MY FATHER WAKE UP THE MOON!"

Pages 12 & 13	BECAUSE ARE ISHALL WAKE THE MOON UP EVERY NICH. MUD YOUR FATHER WILL NOT HAVE TO CLIME THE WITH THAT, THE SOURCE WILL NOT HAVE TO CLIME THE WITH THAT, THE SOURCE RAYS ACROSS UP IN THE SOURCE, SHINING HIS COLLEGE RAYS ACROSS THE LAND, AND ADAM WENT HOME INTO THE ARMS OF HIS BELOVED FATHER.	the end
Connector & Story Two Title (Pages 14 & 15)	Did you enjoy Story One? Now comes Story Two. Remember, this time you're the one creating a story! The pop-ups are there to act as a guideline (you can break the guideline entirely if you wish).	(Your story starts here!
	Have fun!	(Your story starts nere! You can finish writing the story, then come back and decide on a title you want!)







Design Requirements – Fulfilled?

The main design requirements were that it has to be an international toy, and that "*The solution* [*has to be*] an interactive pop-up children's book that encourages and promotes creativity while engaging children's imaginations.". I do believe that this book could be marketed and sold internationally, as English is, and will most likely remain the 'common language' of the world. Every country teaches English as a core subject in elementary, and parents are consciously sending children to tutors or cram schools to help improve their children's English outside of school. The final product is indeed an interactive pop-up book of two parts. It engages children's imaginations by allowing them to draw/write their own interpretations of the images/words provided in the book.

Strand iv - Changes made to the design have been noted in the plan and reasons and/or explanations have been provided.

Measurement Change: I previously wanted the book to have a page size of A1 when laid open, meaning that each single page would be A2. However, due to size restrictions of the printers, I had to scale my initial measurement down to A3 (A2 when laid open). There was one printing shop that *could* print A2, however, it would take 10-15 days and would require too much money (~2000NT\$).

No Textures: As previously explained, the textures required too much attention to detail that could not be adequately completed with glue and scissors. Instead of risking the whole book, I decided to leave the textures out completely. While the book may have lost more variety and fun, I believe that leaving out the textures was the right choice. It would be hard to texturize certain words in Story One, and including textures in Story Two would be extremely complex and might mess up the pop-ups.

Target Audience: My initial target audience was set at five years and older, with the maximum recommended age being eleven. However, as my book progressed, it became apparent that a child of five years would have difficulty interacting with the book. In order to overcome this, I decided to increase the recommended age to eight; this would be around Grade 3. Children Grade 3 and higher would have much less of a problem with this book; to some, it would be a fun challenge, while to others, it might serve as an enjoyable book to waste time in.

Steps 11 & 12 – Insertion of 'Step 11.5': The reason why I decided to add in 'Step 11.5' was because making a pop-up is not exactly common knowledge. Duncan Birmingham's videos certainly helped me a great deal; his tutorials are clear and easy to follow, allowing for an easy and fast understanding of the basic mechanisms behind pop-ups.

5/4	Brainstorm second storyline	PencilPaperEraserBrain	Brainstorm the second storyline with mind maps or bullet points. Write down any idea that comes to your mind. Extend these ideas into stories until you have one you are	10-30 m.
11.5	Watch Duncan Birmingham's free YouTube tutorials on how to make various kinds of pop- ups .	YouTubeWifi	satisfied with. Start from Tutorial 1, where he explains the basics behind pop-ups. Then, take a look through the various kinds of pop-ups he teaches and keep in mind a few you like/prefer.	
5/5	Brainstorm how to place pop- ups to illustrate a story	PencilPaperEraserBrain	Once you have chosen a story you are satisfied with, sketch a visual layout of all the pages. Sketch drafts of the poses/forms of the pop-ups	10-30 m.
12			and annotate which textures to include where. Use paper and draw loose drafts of which central pop-ups should dominate the pages, and how.	

Steps 13-17 & 18-20 – **Switching order:** After watching Duncan Birmingham's tutorials, I realized I couldn't create the pop-ups without having the printed book on my hands first. This is because the pop-ups' measurements depend on the size of the 'base' paper, which in this case, would be the book. As a result, I had to design the logo, cover and back page, and spine first. I then sent the book to print. Only when I received the printed book did I start creating the pop-ups.

5/14 18 (13)	Design your logo	 Pencil Paper Laptop Digital Tablet & Pen Drawing App 	Brainstorm logo ideas. Make sure the logo is strongly connected to your product/idea. Try out different designs until you have one you are satisfied with.	10-35 m.
5/15 19 (14)	Sketch and create cover, back, and spine	 Pencil Paper Laptop Digital Tablet & Pen Drawing App 	Brainstorm your cover and back. Make sure it is attracting and visually appealing. It would be best to include your logo here.	20-50 m.
5/16 20 (15)	Send to print	MoneyFiles	Do research on good printing places. Make sure they have book binding services. This part will cost anywhere from 600-2500 NTD, so keep a budget in mind.	Printing & binding may take from 1 – 5 days.

5/6	Create the second story's first page pop-up	• Construction Paper	Design, measure, and cut out your pop-up in preparation for the printed book.	20-35 m.
13 (16)		EraserScissorsExacto Knife	the printed book.	

Criterion D

Strand i - Explains more than one method in clear terms how the educational toy could be tested. The methods used ought to produce accurate data.

Testing Method 1 – Survey

One method the educational toy could be tested is through an online survey. The survey would be targeted at Grades 2-5. The reason for including an age group below the recommended age is because I want to see how many children below the age recommendation are able to understand and play with the toy. I would send the survey to 10 people in every grade, meaning that I would get 40 responses back. Questions to include in the survey would be:

- Do you like to draw/write?
- What would you think of an interactive pop-up book which allows you to draw out a story and write your interpretation of one?
- Do you understand the vocabulary and meaning of this paragraph? (insert one of the book's paragraphs)
- What do you think of this layout? (insert one page of book layout)
- What do you think of these pop-ups? (insert one pop-up page)
- Would you want to buy one of these books?

The answers would then be collected via Google Survey, and analyzed appropriately. This method of survey would allow anonymous feedback, but the children wouldn't be able to actually interact with the book and would have no way to properly gauge how interested they are in it.

Testing Method 2 – Real-life Toy Testing

Another method of testing which would produce accurate data is through real-life testing. I would test out my toy on the target age group (G3) and see how they react. This could be done through KSS's Grade 3 students. Two girls and two boys would be selected to partake into a 'Toy Testing' session, where I would supply color pencils, markers, and papers. The book would be laid out in front of them and briefly explained. Then, I would leave them to their own devices and watch as they interact with the two parts of the book. Their products (stories and drawings) would then be collected and analyzed for the level of interpretation. This way of testing would provide much more accurate data than the survey. I would also be able to take pictures of the data and find out how much they understand. I would then be able to change the target audience as I wish.

Final Decision

The final testing method I chose was Testing Method 2 - Real-life Toy Testing. I think it allows me a more hands-on approach to my target audience's reaction. I would be able to gauge real 3^{rd} grader's reactions to my product, and see how much of the story they can understand. I can also find out how many people in a class are interested in such a book, as well as the level of their interest.

Strand ii - Explains whether or not the educational toy succeeded by comparing the finished set to the design specifications.

The design should be:

□ Interactive

The book is indeed interactive; the children can both draw and write their own stories in the book.

□ Open-ended

I would argue that it does contain lots of open-ended elements. However, it isn't entirely openended the way bricks or action figures are. It's open-ended in the fact that children can draw whatever they visualize with the guide of the words, or write whatever they perceive in the popups.

□ Visually appealing

Personally, this book is visually appealing to me. My family and peers have also told me that it looked aesthetically pleasing, so this design specification could be seen as completed.

□ Kid-friendly

It's kid-friendly due to the fact that the pages are hard to tear, and the cover of the book is semiwater proof. The stories contained in the book also revolve around kid-friendly themes.

\Box A real book

The book has a cover page, a back page, and contents. It's glue-bound and looks professional. This design specification has been completed.

The design should have:

\Box An attractive cover page

The logo stands dominant at the front of the cover page. Its colors match each other and the minimalism of the design is neat, clean, and attractive.

\Box Two interactive parts

Story One allows the children to interact with the book by letting them draw out the story. Story Two allows interaction by letting the children right out their own perceived story.

□ Pop-up elements

Story Two is dominated by pop-up elements of various kinds.

□ Texture elements

This was the only design specification I missed. The texture elements would be too hard to incorporate in Story One, unless the words were really big. I did have a few large words, but to cut and glue the textures onto the pages would have made it seem very low-quality. I also had the choice to include texture for Story Two, but I opted for pop-ups instead. However, as I mentioned before, texture elements weren't really a necessity; they're something that would have been extremely nice to add on, but if adding them on ruined the book as a whole, then I would rather choose not to incorporate them into my design.

□ An original storyline

The two stories are all brainstormed, written, drawn, and crafted by me. You won't find any other book/story like this in the world.

□ Original, styled illustrations which share the same theme

The text layout in Story One all strive to have a 'whole' appearance. Their style doesn't deviate too much from one another, and they all share the same color theme. The illustrated pop-ups in Story Two also share a consistent style.

\Box Minimum of 15 pages

The final product has a total of 26 pages.

Strand iii - Write a detailed paragraph that describes possible improvements.

Possible improvements include margin changes, better pop-up designs, sturdier book covers, and the size of the book. A few pages in the book had incorrect margins, resulting in four or five lines which disappeared into the book spine. They could still be read, but you had to either tilt the book or your head to read it. It created a shifted center, which looked a bit off. Next time I should use the same margin length (probably 5 centimeters to be safe) for every page in order to prevent margin errors from happening. Another aspect I would like to improve are the pop-ups. It was my first time attempting to construct a pop-up story, so I personally thought it wasn't a bad first try. However, I would like to add more variety to the different types of pop-ups I have in the book; one particular type of pop-up appears three times in five pages. I would also possibly change the paper type. The one I used was great, but I feel like there are better choices out there. The book cover is also something I would like to improve upon. I do like the simplistic design, but it should be harder and sturdier, almost like paper cardboard. I would also add the name of my product next time. The last thing I would change is the book's measurements. I had initially wanted it to be A2 per page (A1 when laid open), but had to change it due to printing restrictions and time limits. Next time I undergo a similar process, I'll certainly keep in mind the mistakes to avoid and improvements to be done.

Strand iv - Design a detailed method to determine how the target audience reacted to your product.

1: Video Recording

I would set up a video recorder at the very start of the toy testing and use it to capture the children's various emotions regarding the toy. Of course, if they do not wish to be recorded then I won't. Filming their reactions could lead me to analyze which parts of the book they were confused by and which parts they liked. The various interactions between the four children could also allow me to understand how children interact with each other when faced with a task that requires creativity and individuality.

2: Product Collection

After the children have finished drawing/writing their stories and illustrations, I would then collect them. The different interpretations of the story and text would be valuable feedback in gauging how effective my product was. Illustrations which show lots of effort could mean that they enjoyed reading the story, which led them to work harder on their illustrations. Likewise, a well-developed and special storyline could mean that they liked to add personal interpretation to a universal story. The children's finished products would be extremely valuable in determining their reaction to my product.

3: Interview

Finally, after collecting their papers, I would interview them one by one (if time permits). I would also wish to film them and record their replies, which would help in evaluating my product later on. Some questions I would ask them are:

- What did you like most about the book?
- What did you like least?
- Did you enjoy interacting with the book?
- Would you want to do more?
- What sort of stories would you like to see?
- How would you improve the book?
- Is there anything else you'd like to say, any opinions?

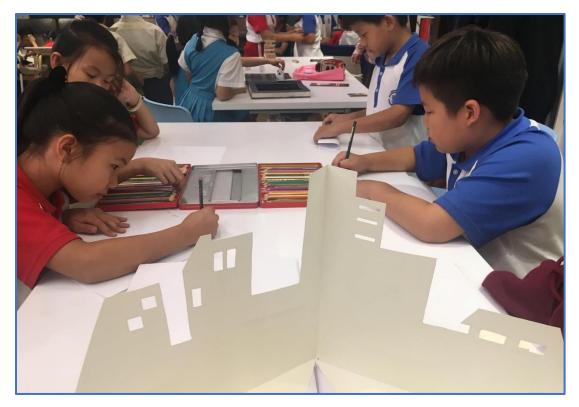
This valuable primary source would probably be the main evaluation form I would have.



3rd Graders looking over the introductory page



Drawing the first page of Story One



Writing about the first page of Story Two



Finished products

Conclusion

When the time for toy testing was up, the kids asked me "Will we be able to finish this?". I was a bit surprised, and I asked them, "....do you guys *want* to finish it...?". They were super happy and they said that yes, they did want to finish it. I was startled; I really didn't think the kids would like my toy that much. Maybe the kids would think it was enjoyable but wouldn't necessarily start on it unless someone told them to in the future. Their reaction to my book was a "Wow, dang, children actually like my book" moment for me. Personally, I do love my product, but I wasn't expecting anyone else to like it that much. I don't think I'll ever forget their reactions to my book.

Through the making of this product, I also learned a whole lot about the whole 'book-making' process. I learned about margin errors, different types of papers, factory measurements for book binding, how to make a pop-up story, how to choose the correct glue, how to make a book seem 'put-together'... it was definitely an invaluable experience for me. Still, as much as I love this first edition, I would love to create a better one in the future with all the improved details to add to my high school portfolio.

I initially thought '*Huge Minds Huge Books*' was an overly-ambitious project for me to take on, but in the end, I actually succeeded in producing a real book of my own. I guess it really is 1% inspiration, 99% perspiration.

Tiffany Ho G10 10115 6/22/2018

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