FUNCTIONAL GUIDELINES WITH BRAILLE REPRESENTATIONS WITH MORPHOLOGICAL INVESTIGATION FOR SIGHTLESS CHILDREN'S IMAGE BOOKS SUBTITLE: AN INNOVATIVEAPPLICATION FOR UNSIGHTED KID'S TALE BOOKS.

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Abstract - Paper deliberates the usage of typesetting and prevailing braille script together to state a tale. The studyis centered on the training multisensory education through the usage of equipment currently in the marketplace and considered as and complementaryinstructiverespite in the form of braille tale book. Play is anessential component in kid's life, which is introduced by inherent curiosity. Education will be effortless when it's performed through play. The reasoning growth is very effective in natural education. This diversereasoninggrowthfollows the cyclic pattern which is defined through Learn, Explore, Experiment and Contribute (LEEC). Nature uses amorphousprocedureto address curiosity and initiates play. At the culminationof the play, children study about themselves and others. Nature addresses this cyclic pattern through its Natural Resources. However the recent concern from the researches pinpoints the deficiencyof collaborationamongst kids and Natural sources. Through the organized methodthese Natural sources can be imitatedin the form of image book to connect the gap. In thismanuscript, Morphological Analysis (MA) is used to plot the available Natural Resources in the form of proportions and its choices. Whileold-style books are produced with lined storytelling can lettoinvestigatethe page spatially, leading to new acquaintancesamongstreader and the book.

Index Terms - Braille,Morphological Investigation, Environmental study and play, Inprogress exploration design.

I. INTRODUCTION

Communication is a process of transfer of information from one person to other through proper media. Though there are novel procedural and exclusiveintendedat the unsighted, obtainabilityof various mediums for communication for blind are insignificantwhich is not in the case of sighted people. Braille is an arrangement of elevated points upon surface which symbolize an alphabet that can be sensed with the index and middle finger of the visionless individual to decode produced linguistic[5]. When the kids play, endlessmomentumand creativityis shown. During the play kidsappreciatethat the surrounding is a variedplace with limitless potentials. The Environmental Reserves deliver motivation, enthusiasm, resources and the agenda for play.When crafting kid's book, the connection between the visual along with the story line and the creation of braille book has been the center of this investigation design. 'Inscriptioncreates a pictorial image: the shapes, dimensions and positioning of letters on a page contribute to the message produced, creating declarations which cannot always be rendered in spoken language'[2].

In my practice as a designer, the connection between typography and symbolic interpretations play an important role. I have intended to push against the conventional use and meaning of story line to explore the visual dimensions of language to make it creative. Children will be encouraged to become imaginative and innovative during the continuous Exploration and Experimentation. With the collective experience the child finally ends up in Contribution. Contribution results in newer invention which is for the betterment which is explained in further paper.

For sighted children story books have combination of visuals and story results in intellectual development, whereas gap can be witnessed with sightless kid's story books which contain majorly text in braille script.

II. EVALUATION

A. Developing Strategies

The primitive methods of training blind writing system are same as the recent means. But there is nothing achieved as innovatoryin instructive prospectus. Together sighted and sightless kids are able to sense acquainted substances effortlessly. Amalgamating braille and pictograms which is avital aspect thus delivering a way for the additional fundamental access by creating an educational aid to impart the unsighted kids from preschool to fifth standard kids [5].

B. Typography and Construction of page

The purpose of old-style book typography is to interconnect the author's message in a legible, readable manner without drawing attention to itself. This means attracting the reader into the text and elucidating the structure and order of the text so the reader cantraverse gate the book with ease, as well as linking the text cordially with other elements in the book (including illustrations, captions etc.). A well designed book shows a congruent balance between the physical (direct) and associative (indirect) aspects of typography.

C. Morphological Investigation

Morphological Investigation (MI) is used to examine

available measurements and the choices. MI is a method to study, represent structure and form of physical or conceptual entities, by deconstructing them into their basic dimensions and options. The method also allows identification of newer or novel permutations as well as the impossible ones. Further major Natural Resource is mapped with its pictograms copyright form and the form should accompany your final submission.

D. References

There is clearly a gap, which requests attention. The deficiency of existing technology, lack of standardization or insufficient application of standardization has been long standing difficulties in the field of acquainting information with respect to tale interpretation.

For fortitude with surface of current research picture book, coated PVC sheet is used to make it consistent and ceaseless [5].

III. PROBLEM CLASSIFICATION

The procedure of a book is aunceasing discussion between writer, originator, illustrator and manufacturer. In conventional kid's publication, books often progress in the conservative method – the text is written first, the illustration is done in relation to the text and the designer comes in at the end to put these together this may be the spatial page and active typography.

This made the kernel for my investigation project where no such amalgamation is observed for braille tale books.

IV. STATEMENT

To offer a piece of a hardware for sightless kids with equivalent studying of tale and picture book.

V. METHODOLOGY

A. Acquiring Procedure

When the child is playing, it's very difficult to differentiate the "Play" component from "Learn" component. As Piaget defines the cognitive development every aspect of play ends in cognitive learning of a child [4].Multiple Intelligence theory defines varies forms of intelligent that can be developed within children with their effective learning and children will establish broader vision with the help of different learning methodologies [3].

Below is the Learn-Explore-Experiment-Contribute chart is showcased which describe the natural learning process. Curiosity being the root and contribute at the tail. In this proposed chart the current research projects is between explore and experiment whereas the sightless child explores the book which aids to imagine with observation.

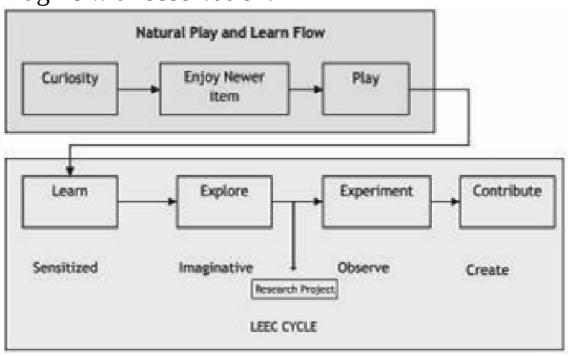


Table I Natural Learning Process

B. Pictogram Derivation

For the natural forms a story telling activity in collaboration with 'Bookwallah Organization' (NGO based in India and Chicago works for educational expansion from all age groups). Considering the requirement of this research project children from grade 1 to 5 are subject.

C. Experiment

Purpose: To derive pictograms from children for research project for sightless children story books.
Subject: Children from grade 1 to 5.
Investigation Material: Art papers, paints, sketching material.
Testing: Each group was narrated simple short stories and they were asked to illustrate any interesting part.
Purpose: The primary intension behind the activity was to derive common forms of different existing elements.
Data Analysis: Below are few painting collage and we will be further analysis a form to extract pictograms.
Below are few examples of house and further simplification towards braille pictogram.

Observation

1. Different grades drew different forms (fig 2.1) further linear drawings were drawn by the children (fig 2.2) but to reduce the visual complexity, simplest forms were short listed.
2. Children preferred graphic free forms than realistic approach.
3. Being children with vision could express more in their interpretation rather than adult invasion in their creative thought process.
4. The linear drawing forms were more refined and universal with grades and easy in identification.

Conclusion:

1. Many pictograms were derived using morphological method explained below.
2. The activity irrespective of the color since our area of research being for blind.
3. Symbols being universally common the two dimensional symbols are converted to three dimensional pictograms.



Fig 1 Painting done by visual children from narrated stories.

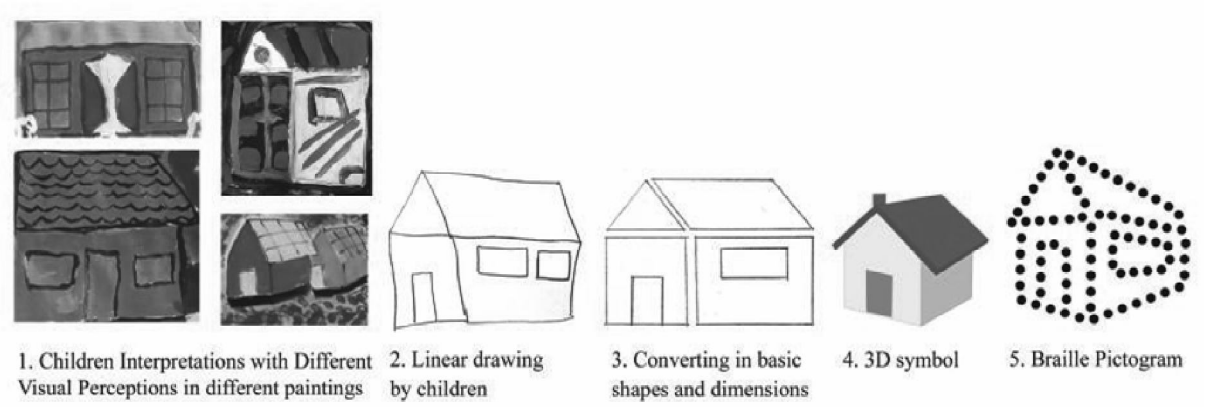


Fig 2 Conversion of forms from painting and linear drawing to easiest shapes keeping essential features to blind in braille to pictogram

D. Morphological Investigation

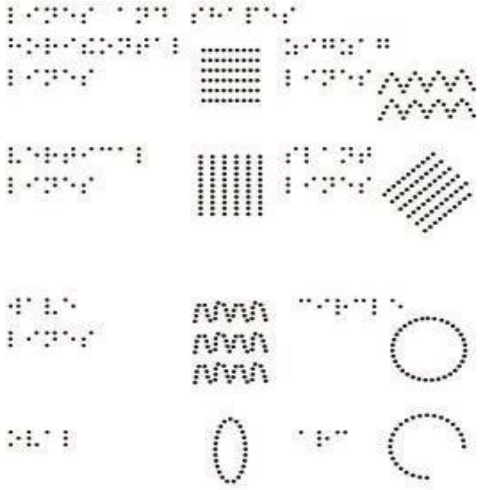
Morphological investigation is aninfluential technique to study and signify, structure and form of physical or conceptual entities. Various permutations of the dimensions and options in the specific context of any entity represent its corresponding manifestations in the physical world. The method also enables identification of newer or innovative combinations as well as the impossible ones, and hence serves as a powerful visual tool for systematic creativity and innovation[6].

These necessities aid the designers to imitate the resources in the form of picture book to meet the children development. Every child development is different; however through this structured exploration the designed picture book acts as a learning material to acquire. Morphological analysis further provides systematic way to map the requirements for sightless.

However with the systematic process most of the possible options and combinations are done mentioned below. Rather than exposing with designed pictograms blind children were first taught the basic shapes to help them to identify combined shapes for the research picture book.

E. Mapping of Natural forms for sightless children

Once the early stage of learning of shapes is done (fig 3) analysis is done keeping unsighted children mapping process of learning. The learning depends on the moment of hands and for proper absorption of thform initially guidance is necessary later making the kid's individual learner. The sightless children can identify these new designed pictograms[5].



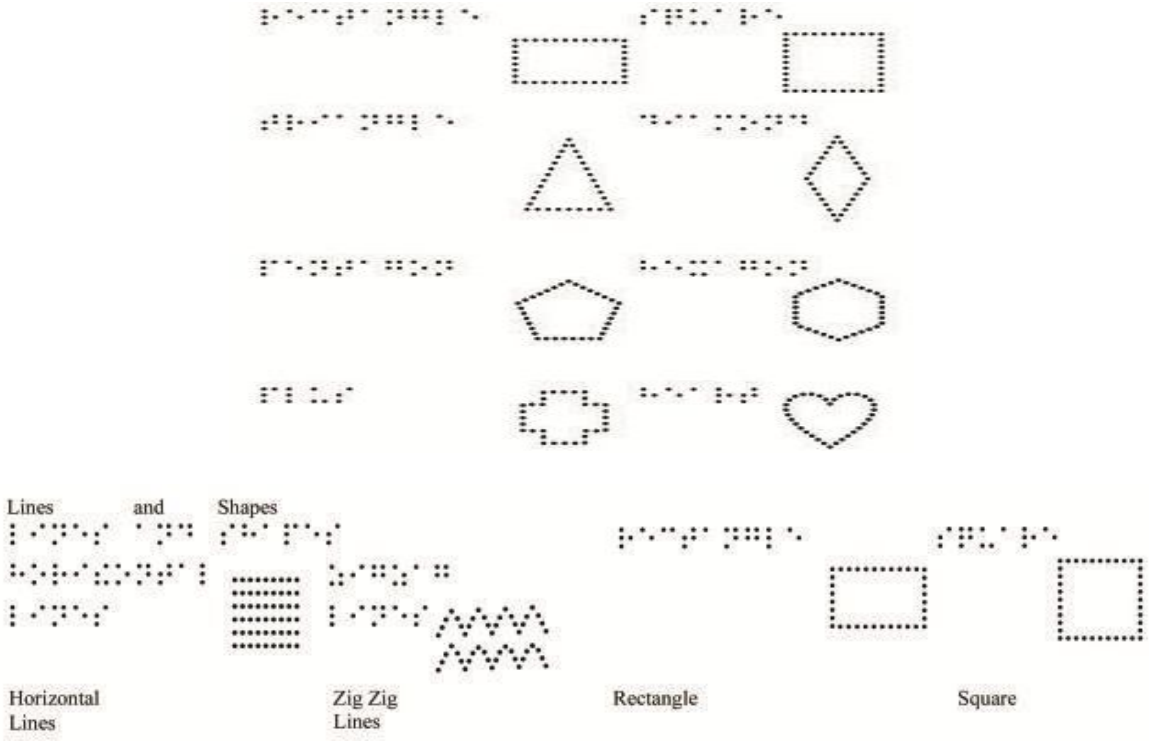
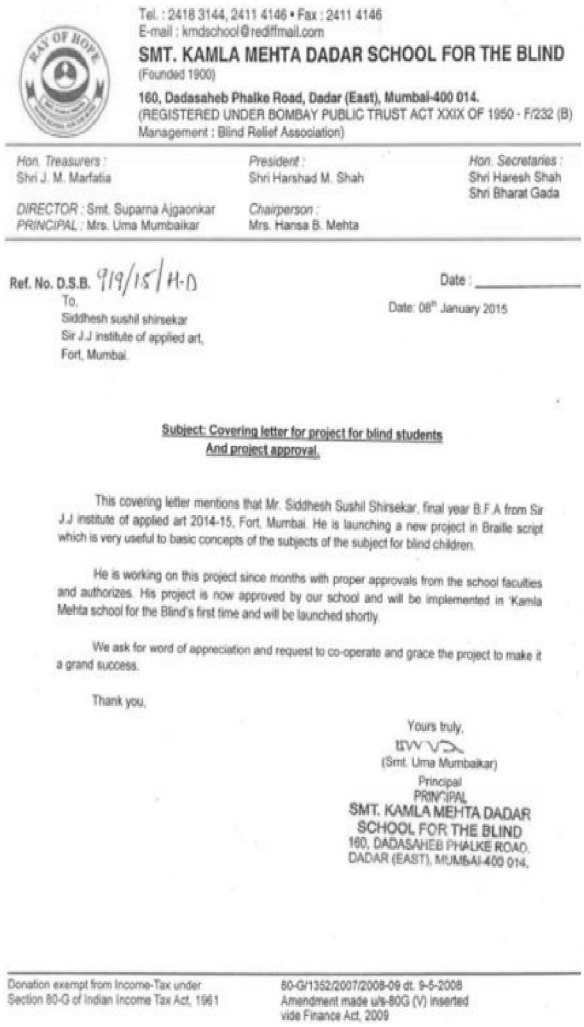


Fig 3 Braille book page with initial stage learningof shapes for further picture book analysis

Natural forms Mapped to Dimensions

Dimensions	Options		
Linear	Moving Ants	Snail	
Zig Zag	Snake	Worm	Caterpillar
Haphazard	Clouds		
Circular	Peacock Dance		
Rolling	Rolling Rocks		
Wave	Sea Waves	Tree Leaves	
Vertical	Rain Drops	Water Falls	Falling Leaves
Flying	Bee	Birds	
Oscillation	Monkey Tail	Dog Tail	
Rhythmic	Fish Movement	Elephant Walk	Cow
Spiral	Spider		
Jump	Frog	Monkey	Rabbit

Table II Natural Resources- Mapped to Dimensions [1]



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SMT. KAMLA MEHTA DADAR SCHOOL FOR THE BLIND
(Founded 1900)
160, Dadasaheb Phalke Road, Dadar (East), Mumbai-400 014.
(REGISTERED UNDER BOMBAY PUBLIC TRUST ACT XXIX OF 1950 - F/232 (B)
Management : Blind Relief Association)

Hon. Treasurers : Shri J. M. Marfatia
President : Shri Harshad M. Shah
Hon. Secretaries : Shri Haresh Shah, Shri Bharat Gada
DIRECTOR : Smt. Suparna Ajgaonkar
PRINCIPAL : Mrs. Uma Mumbaikar
Chairperson : Mrs. Hansa B. Mehta

Ref. No. D.S.B. 919/15/H.O
Date : Date: 08th January 2015

To,
Siddhesh sushil shirsekar
Sir J.J institute of applied art,
Fort, Mumbai.

Subject: Covering letter for project for blind students
And project approval.

This covering letter mentions that Mr. Siddhesh Sushil Shirsekar, final year B.F.A from Sir J.J institute of applied art 2014-15, Fort, Mumbai. He is launching a new project in Braille script which is very useful to basic concepts of the subjects of the subject for blind children.

He is working on this project since months with proper approvals from the school faculties and authorizes. His project is now approved by our school and will be implemented in 'Kamla Mehta school for the Blind's first time and will be launched shortly.

We ask for word of appreciation and request to co-operate and grace the project to make it a grand success.

Thank you,

Yours truly,
(Smt. Uma Mumbaikar)
Principal
PRINCIPAL
SMT. KAMLA MEHTA DADAR SCHOOL FOR THE BLIND
160, DADASAHEB PHALKE ROAD,
DADAR (EAST), MUMBAI-400 014.

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80-G/1352/2007/2008-09 dt. 9-5-2008
Amendment made u/s-80G (V) inserted vide Finance Act, 2009

VI. SEQUEL

Below is one of the stories from image book which serves the complete story in major four frames. The image book acts as a visual comic book manifestation where each happening is epitomized in the form of story board.

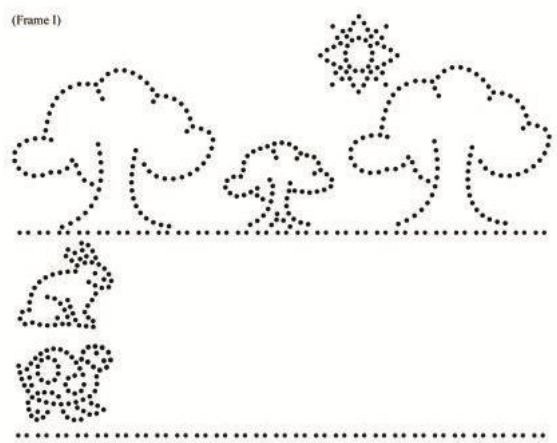
The picture book analysis below according to frames digital and braille picture book: (Tortoise and Rabbit)

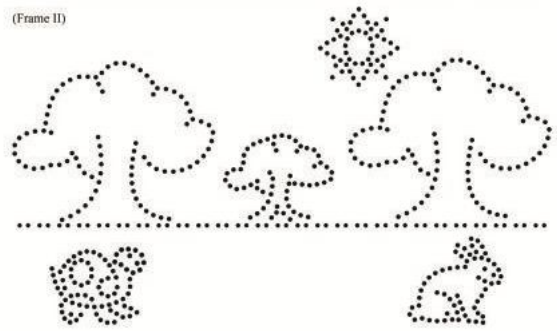
a. Frame I shows the starting point of the race between rabbit and tortoise with many trees pictograms as jungle and sun above.(Here the frames are divided with linear dots which is used in academics to separate a page by blinds)

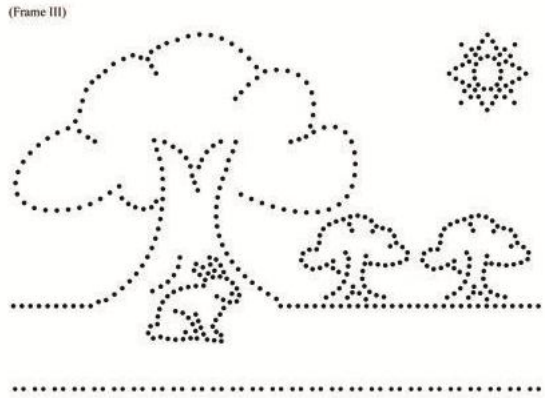
b. Frame II As the story progress the rabbit moves forward to tortoise being fast.

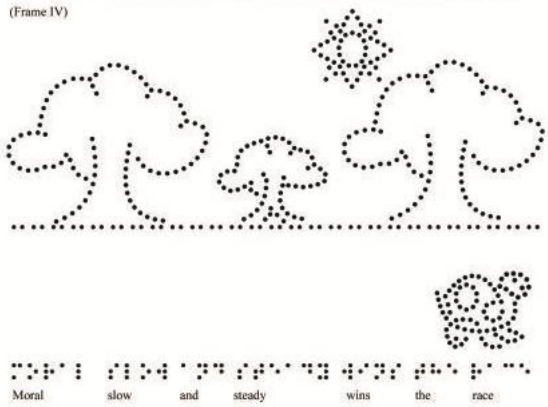
c. Frame III Rabbit assumes for victory hence takes rest under the tree.

d. Frame IV Last frame concludes with tortoise winning the race with moral message- 'slow and steady wins the race'.

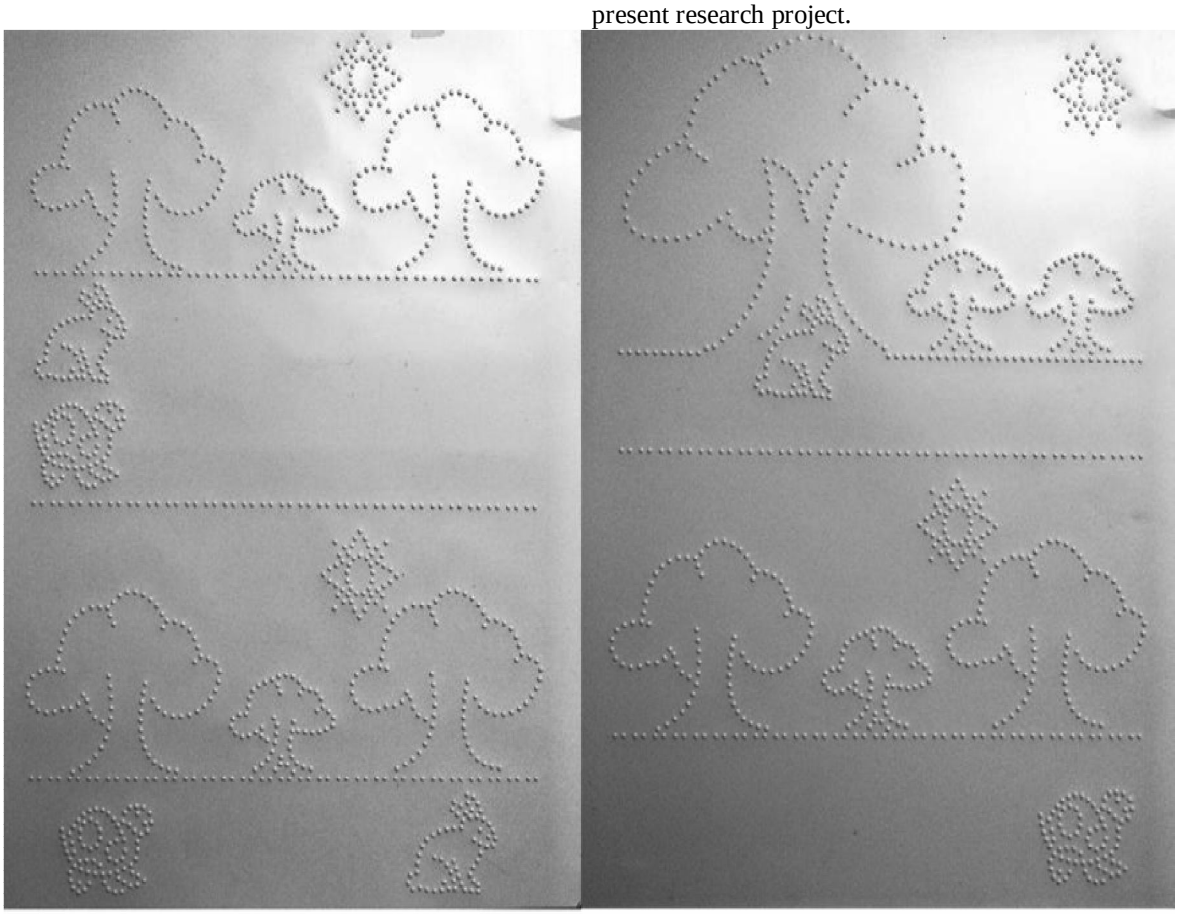








The complete story book is confirmed and agreed under the support of Smt. Kamla Mehta Dadar School For The Blind. Below is the sanction document for the present research project.



VII. ADVANTAGES

1. Image book uses the universal dimensions of braille dot to keep even acquiringmethod to bring out the sensitive description of the words in the form of pictogram.
2. Decreases the bulk amount of pages needed to construct a story which makes this image book cost effective.
3. Regenerationof pasts and imaging their future, while grounding themselves in the reality and fantasy in the image book.
4. Acts as a connectionbetween braille script and verbal illustrative talks and helps the sightless to unfold their imaginations.
5. The kid can associate the product beyond the designer's design purposes.
6. Cognitive expansionwhere acquiringshould enable the potentialsof thinking beyond philologicaland rationalintelligence.

VIII. LIMITATIONS

1. This project gives a tacticto imitate the natural forms for a kid to develop through image book.
2. There is no substituteto nature to the kid'sexpansion.
3. The table (Table II) provided here is to cite the way to discoverthe methodology and it can be updated.

CONCLUSION

1. Kid'sgrowth is very crucial since it lays the basisfor forthcominginfluencewith the help of picture book the child becomes an individual learner to reciprocate.
2. It reinforcesthe instructionpractice. For the game is an imperative tool to the growth of the examinationcriticizes of the authenticityand to see theirs with subject, and that they need other subject to can intervene and transmute, so they will become a 'product' of this culture.
3. The book like the rest of graphic design, never resides in isolation. It is a product of a literary but also social, cultural, economic and political context and finally, that when you work in allianceto communicate in an indirect rather than direct way; this can lead to unique and memorable reader experiences.

APPROACHING OPPORTUNITY

Book diversities with vocabularies, abundantattitudesperhapsfunctionalthrough devices and techniques.

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