

Communication Design Project 3

Visual Guide to learn Devanagari Calligraphy

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Project Guide :

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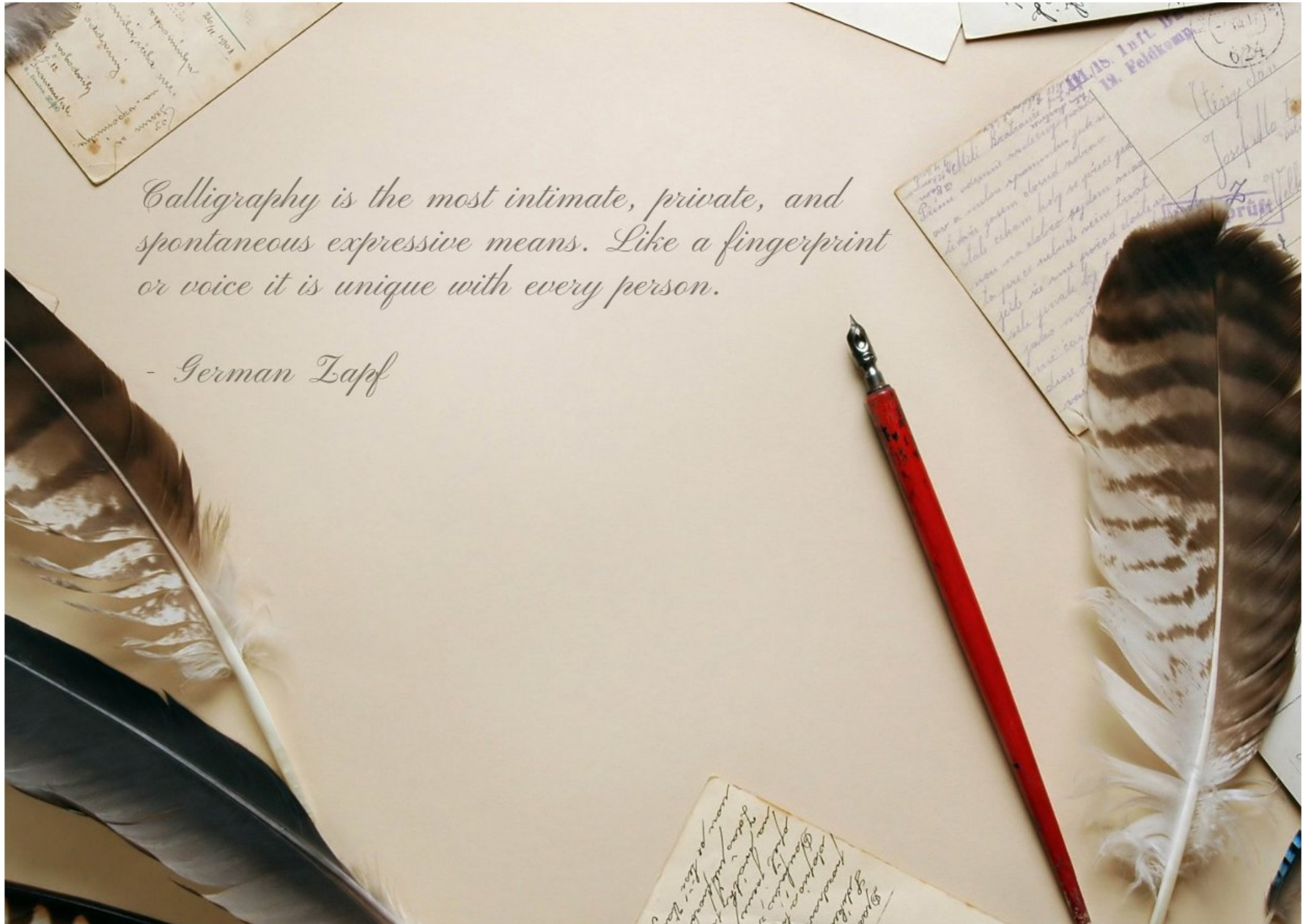
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Calligraphy is the most intimate, private, and spontaneous expressive means. Like a fingerprint or voice it is unique with every person.

- German Zapf

Image from <https://wallpapersafari.com/>

Objective

Before we start, one needs to know that this project aims to create a step by step guide for the teachers or the students (aged 10-15) themselves to be able to teach/learn the traditional form and writing methods of Devanagari.

Introducing them to different tools and techniques of writing Devanagari and all the other essential information a student needs to know before they learn the form in depth.

Target audience: Children between the age of 10-15 years

Introduction

We all in school have learnt “Hindi” by reciting Ka, Kha, Ga... practised writing its form in our Hindi notebooks that consisted of 4 lines, two reds and two blues. Did you ever wonder from where our script derived and how it was written in the early ages when there was no pen or a pencil?

Devanagari is the script in which Hindi is written. It evolved from the Brahmi script.

It is an essential and widely used script in India. It is mainly used to write Marathi, Nepali and Sanskrit languages. It is an additional script for other languages such as Punjabi, Sindhi and Kashmiri. It is written from left to right.

It traditionally has a diagonal axis opposite Latin at about 30–45°. Recognizable by a horizontal line that runs along the top of full letters.

Devanagari consists of 33 consonants and 12 vowels, and three others. It is an abugida, as each consonant has an inherent vowel (a) that can be changed with the different vowel signs. Most consonants can be joined to one or two other consonants to suppress the inherent vowel. The resulting form is called a ligature. Having no case distinction, i.e. no majuscule and minuscule letters.

We never knew about all the above information in school, did we? However, now that I had the privilege to learn the traditional calligraphy form and techniques of writing Devanagari, I took it upon myself to make it easily accessible for all students from different backgrounds.

Further, you will find some brief information about the Devanagari script ...

The grouping of vowels and consonants is called Swaras and Vyanjanas respectively and is done according to the phonetic point of articulation.

CONSONANTS

There is a difference in pronunciation between aspirated and unaspirated consonants. We see the exact difference between dental and alveolar (or retroflex) consonants.

Hindi distinguishes between the retroflex “t” sound (ट) and the dental “t” sound (त). The retroflex “t” is pronounced with the tongue touching the palate further back than the English “t”. The dental “t” is pronounced with the tongue touching the palate further forward than the English “t”; the tongue should touch the back of the teeth. Each of them also has an aspirated version.

It also distinguishes between the retroflex sound of “d” (ड) and the sound of the dental “d” (द), and each of these also has an aspirated version.

Suppose we want to write two consonants lumped together without an intervening vowel. In that case, one can literally chop off the trailing part of the first consonant letter and attach what has left to the second consonant for example, प्यास (“Thirst”).

Another method of recognizing a “half” or “schwa-less” consonant is the “halant” sign which is used chiefly in words borrowed from Sanskrit.

Consonants

क	ka	[kə]	ख	kha	[kʰə]	ग	ga	[gə]	घ	gha	[gʰə]	ङ	ṅa	[ŋə]
च	ca	[tʃə]	छ	cha	[tʃʰə]	ज	ja	[dʒə]	झ	jha	[dʒʰə]	ञ	ña	[ɲə]
ट	ṭa	[tʰə]	ठ	ṭha	[tʰʰə]	ड	ḍa	[dʱə]	ढ	ḍha	[dʱʰə]	ण	ṇa	[ɳə]
त	ta	[tə]	थ	tha	[tʰə]	द	da	[də]	ध	dha	[dʰə]	न	na	[nə]
प	pa	[pə]	फ	pha	[pʰə]	ब	ba	[bə]	भ	bha	[bʰə]	म	ma	[mə]
य	ya	[jə]	र	ra	[rə]	ल	la	[lə]	व	va	[və]			
श	śa	[ʃə]	ष	ṣa	[ʃʰə]	स	sa	[sə]						
ह	ha	[ɦə]												

Additional consonants (only used in loanwords)

क्	qa	ख	kha	ग	ga	ज	za	ङ	ra	ढ	rha	फ	fa
----	----	---	-----	---	----	---	----	---	----	---	-----	---	----

Common conjunct consonants

क्ष	kṣa	ज्ञ	jña	क्त	ttka	त्र	tra	द्व	dva	श्र	śra	द्य	dya
द्द	dda	त्त	tta	द्ध	ḍha	द्भ	dbha	द्म	dma	ह्य	hma	ह्य	hya

Special ra forms

रु	ru	रू	rū	र्प	rpa	प्र	pra	ट्रे	tre
----	----	----	----	-----	-----	-----	-----	------	-----

Image from <https://www.lingvozone.com/Hindi>

VOWELS

In English, the pronunciation of unstressed vowels is changed to an “uh” sound, known as reducing a vowel sound. In Hindi, English speakers must constantly be careful not to reduce these vowels, significantly not to reduce the final “ah” sounds to “uh.” This can lead to misunderstandings about grammar and gender.

Every consonant letter by itself automatically includes a short “a” vowel sound unless otherwise specified. This short “a” sound is like the “a” in English “about” or “career.” In linguistics, this sound has a unique name: “schwa”.

Each vowel letter has two forms:

The dependent form (matra) indicates that a vowel (other than schwa) is attached to a consonant.

The independent form implements when the vowel occurs alone, at the beginning of a word, or after another vowel. In other words, the

independent form is used whenever there is no consonant for the vowel to attach.

Hindi vowels can be nasalized; a nasal quality adds to the vowel sound. The sign for nasalization is a tiny dot placed above the “clothesline.” For example, मै (“I”). It is pronounced like the French word “main” (“hand”).

In some words containing long vowels (e.g. आ and ऐ), the nasalization dot is accompanied by a small moon. This sign is called “Chandra bindi”. For example, हँ (“am”). It is pronounced like “hoo”, with the vowel nasalized.

Vowels and Vowel Diacritics

अ	आ	इ	ई	उ	ऊ	ए	ऐ	ओ	औ	अं	अः	अँ	ऋ
a	ā	i	ī	u	ū	e	ai	o	au	aṅ	aḥ	ām	ṛ
[ə]	[a]	[i]	[i:]	[u]	[u:]	[e]	[æ:]	[o]	[ɔ:]	[aŋ]	[əh]	[ã:]	[r]
प	पा	पि	पी	पु	पू	पे	पै	पो	पौ	पं	पः	पँ	पृ
pa	pā	pi	pī	pu	pū	pe	pai	po	pau	paṅ	paḥ	pām	pr

Image from <https://www.lingvozone.com/Hindi>

Existing Methods to learn Devanagari Calligraphy

There are many ways a person can learn devanagari calligraphy which commonly includes the following:

WORKSHOPS / COURSES:

A lot of respected and renowned artists like Achyut Palav, Delhi Doodler, Chaitanya Gokhale, Amritanshu Das, and many more have taken the initiative to bless us all with their knowledge of calligraphy through online and in-person workshops, a few of which include the following:

Teaching basic strokes

Holding the tool

Formations of letters and words

VIDEOS ON YOUTUBE:

Tutorial videos are one source readily available on the internet where one can follow the steps and look at the various ways of Devanagari calligraphy.

PRACTICE BOOKS:

Books that can help students learn Devanagari calligraphy alone can consist of illustrations; some might have graphs with written letters, mainly consisting of written practical knowledge.

Information about tools and ink can also be available in a few books.

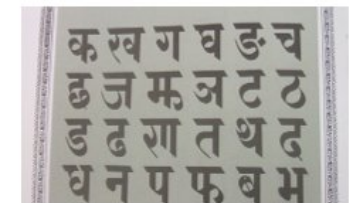
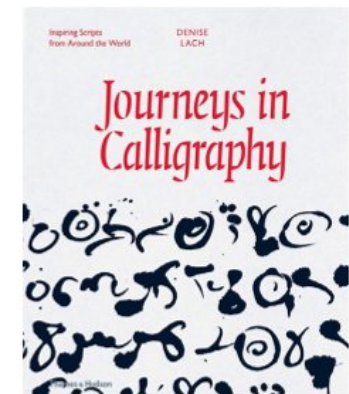
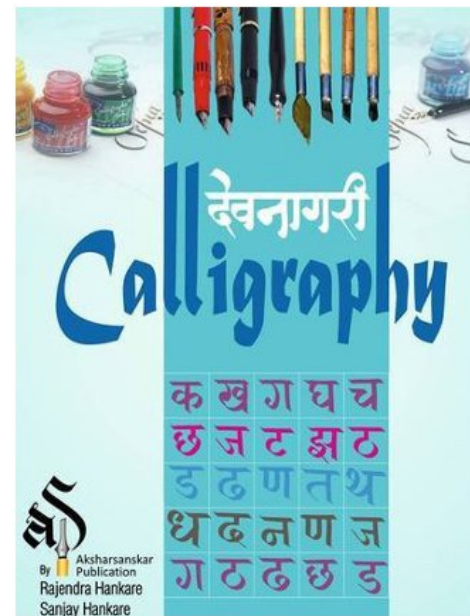
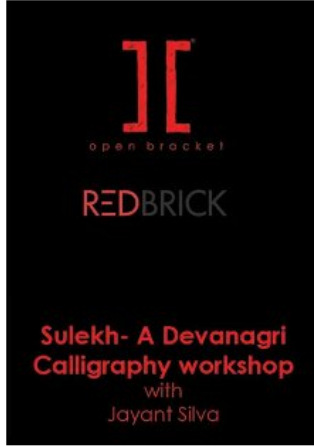


Image from <https://www.amazon.in/Learn-Devnagari-Calligraphy-Revised-Book/>



क ख ग घ च छ झ ज ठ ट ढ ढ ण त थ

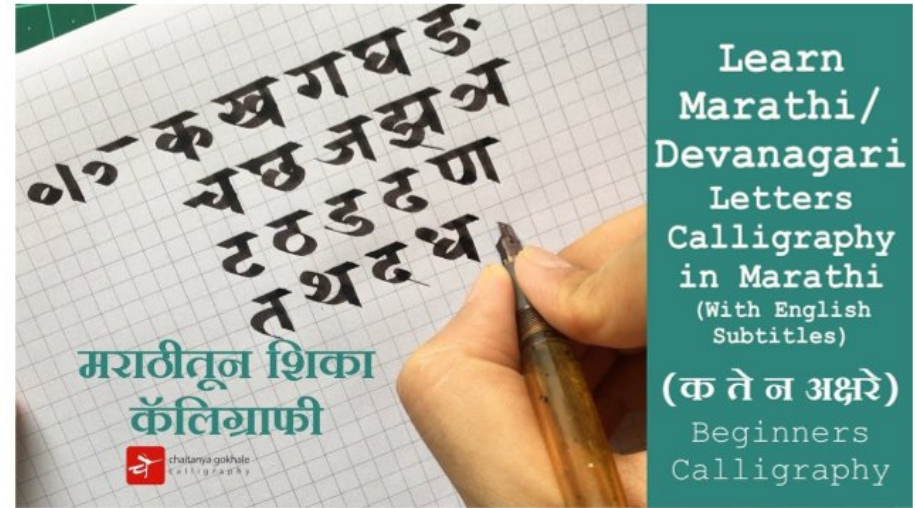


Image from Google Images | <https://www.youtube.com/watch?v=jXDl6r-UnFw>

Problem Areas

The methods mentioned earlier to learn Devanagari calligraphy are very informative and helpful. However, because the focus group are students of age 10-15 years, the above methods can be complex for a student to learn and practice.

During my self-exploration with calligraphy, taking help from the above sources did help me to understand the concepts of calligraphy. Keeping myself in the shoe of the 10 or 15-year-old student, I realized that there was not just one but a countable amount of issues a student could face while learning from the above sources; some of them are:

- There is a specific target audience with every different method.
- Some methods/ products may or may not be available to the targeted audience of this project.

E.g., A student in a rural area might not have internet connectivity or an appropriate device to view videos on youtube or attend a course online.

Or

A student might not have the budget to attend a weeks course online due to budget constraints.

Some sources are just one-time use practice books, which for a student can again not help build a good foundation for further practice because of the limited space.

The above sources do not teach anyone to MAKE THEIR TOOL with the available resources around them on a budget; instead, the learner is asked to invest in tools which can be expensive.

The product should be such that it can be readily available to every student, by which I mean the students of a high-end school in a city to a student in a school in a village without having to spend over the knowledge of learning something as beautiful as Devanagari calligraphy.

It should not be a source of boredom or stress but a talent a student could acquire by practising calligraphy without worrying about the sources and the material.





Nevertheless, another problem one gets to see with the targetted audience is that children (10-15) in school are taught Devanagari through the traditional method, namely, the varnamala or aksharmala. Varnamala is the arrangement of sounds for an Indic script and symbols used for Devanagari.

The arrangement is read along the rows and is the traditional sequence in which the students are taught. Beginning with the vowels and moving through the chart, learning the sounds and symbols one by one. This method can

cause students to remember the sound and not the form of the alphabet.

The form is not much focused in schools either; instead, the students are expected to have good handwriting! For this, the teacher recommends a student buy handwriting fixing books, which might or might not have the correct form of the letter, getting us back on the same issues of one-time use instead of one-time investment products.

अ	आ	इ	ई	उ	ऊ
ऋ	ए	ऐ	ओ	औ	अं अः
क	ख	ग	घ	ङ	
च	छ	ज	झ	ञ	
ट	ठ	ड	ढ	ण	
त	थ	द	ध	न	
प	फ	ब	भ	म	
य	र	ल	व	श	
ष	स	ह	क्ष	त्र	ज्ञ श्र
०	१	२	३	४	५
६	७	८	९		

 कौआ - <i>Kauwa</i> - Crow	 कबूतर - <i>Kabutar</i> - Pigeon
 Kitchen - किचन	 Kangaroo - कंगारू

3-5 Years

Page 1 पृष्ठ १

This work by Dinker Charak is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. Downloaded from <https://www.ddinnxx.com/learn-hindi>.
Crow by Phạm Thanh Lộc from the Noun Project | Pigeon by Brandon Kraeger from the Noun Project | Kitchen by Vectors Point from the Noun Project | Kangaroo by Iconic from the Noun Project

Handwriting practice lines for the letter 'क'. Each line contains the letter 'क' followed by an illustration of a crow, a pigeon, a kitchen, or a kangaroo, and then more 'क' characters. The lines are arranged in a grid format.

This is an image from the book of dinker charak for the soul purpose of handwriting practice. As seen the proportion of "Ka" is not quite right.

Exploration of Devanagari

As a part of my DES project, I started by understanding the script's history, its mediums, and its tools. Apart from this, it was of utmost importance to understand the anatomy and the basic strokes of Devanagari calligraphy.

During this journey, I also took down points that were important to keep in mind for my P3. Some of them included on to hold on the pen, understanding the angle of the nib, the flow of ink, by which I mean the pressure to be applied over the paper, the difference in the texture of writing and how it affects the result.

The practice started with basic strokes, understanding every letter's anatomy and fundamentals. But to come up with something easy and affordable, I did not restrict myself to the medium. Tools like flat brushes, bamboo sticks, bobby pin Mehendi, highlighter, etc., were also used to understand and

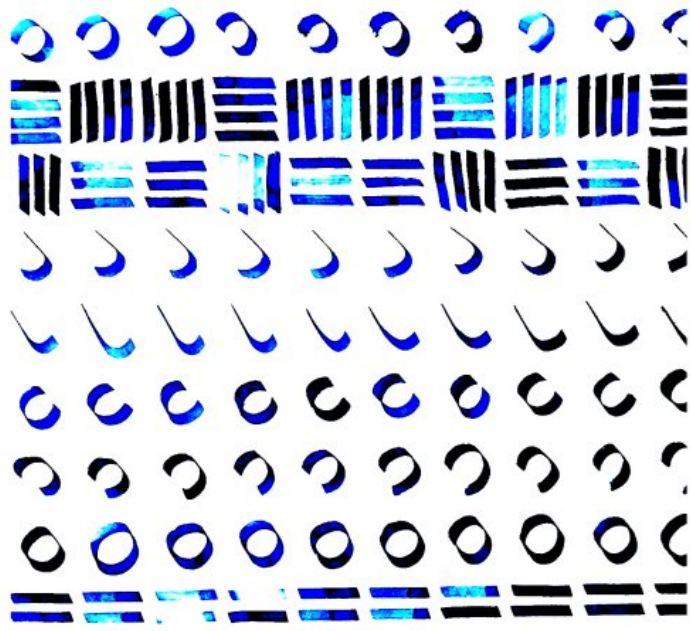
explore calligraphy. The use of acrylic ink on parchment paper also resulted in the making of beautiful light lamps. Some videos were also recorded to showcase the calligraphy and track the improvement.

I also took the help of the existing methods to learn calligraphy, and one thing that came to notice was the information to explore was pretty much scattered. Having it all in one place would've made it easier for me in many ways.

The outcomes of my practice and explorations have helped me have a more profound knowledge of the subject and have been a good source for developing this P3 project.

BASIC TOOLS USED FOR PRACTICE





फ फ ण ण ण ७ ७ ७ ७ ७ ७
 ल ल ल ल ल ल ल ल ल ल ल ल
 ल ल ल ल ल ल ल ल ल ल ल ल
 ल ल ल ल ल ल ल ल ल ल ल ल
 प प प प प प प प प प प प
 प प प प प प प प प प प प
 फ फ फ फ फ फ फ फ फ फ फ फ
 फ प प फ प प फ फ फ फ फ फ
 फ फ फ फ ५ ७
 य य य थ थ थ १
 य य य थ थ थ ५
 श श श श श श २ २
 र र र र य य य य य य
 ख ख ख १ २ ३ ४

ग ग ग न न न
 म म म भ भ भ
 त त त ० - १ २
 घ घ घ घ घ घ घ घ घ घ घ घ
 छ ध ध ध ध ध ध ध ध ध ध ध ध
 ट ट ट ट ट ट ट ट ट ट ट ट ट ट ट ट
 ट ट ठ ठ ठ ठ ठ ठ ठ ठ ठ ठ ठ ठ ठ ठ ठ ठ
 ढ ढ ढ ढ ढ ढ ढ ढ ढ ढ ढ ढ ढ ढ ढ ढ
 ह ह ह ह ह ह ह ह ह ह ह ह ह ह ह ह
 क्ष क्ष क्ष क्ष क्ष क्ष क्ष क्ष क्ष क्ष क्ष क्ष

व व व व व व
 ब ब क क क क क क
 क क ० - १ २
 च ज च ज च ज च ज
 ज ज ज १ - २ ३

PRACTICE OF BASIC STROKES AND LETTERFORMS

DESIGNED LAMPS DURING EXPLORATION OF DEVANAGARI CALLIGRAPHY





Shot from videos



Mehendi



Bamboo Sticks



Bobby Pin dipped in ink

Anatomy of Devanagari

With its immense and limitless character set, many moving parts, and complex shapes, the Devanagari script can feel intimidating to someone new to it.

S. V. Bhagwat is usually credited with doing the first graphical analysis of Devanagari letterforms, albeit these were handwritten and not typographic. In his study from 1961, Bhagwat divided letterforms into categories based on their construction and shape and created a scheme for anatomy.

A more fine-tuned version of the same approach is seen in the work of Bapurao Naik, author of the monumental three-volume work *Typography in Devanagari*, published a decade later in 1971. Naik put the basic Devanagari letters into five categories based on their vertical stem and how it interacts with other strokes. These categories are a full bar with attached strokes, a full bar with loose strokes,

a short bar, a bar in the centre, and without a bar.

Both Bhagwat and Naik's schemes highlight terms used for vowels and other signs.

The next notable attempt to formalise type anatomy was by Mukund V. Gokhale. An exciting aspect of his work is that he roughly used the human body — in conjunction with the thickness of a pen stroke — as a reference to define the vertical metrics of Devanagari letterforms.

The vertical metrics he defined were:

- Urdhvarekha (upward or top line)
- Shirorekha (headline)
- Skandharekha (shoulder line)
- Nabhirekha (navel line)
- Zanurekha (thigh line)
- Padrekha (foot line)
- Talrekha (bottom line)

<i>Letters</i>	<i>Common element</i>	<i>Letters</i>	<i>Common element</i>	<i>Letters</i>	<i>Common element</i>
ग म भ न	ं and/or ँ	प ष फ ण	ष	अ आ ओ औ अं अः	अ
र स (ग ख)	र (र)	ट ठ ढ द (क्ष)	ट	ए ए	ए
ल ल लृ	र्	ऊ ड इ ई श ह	ड	ञ ञ्	ञ
व ब क ख	व	य थ	य	उ ऊ	उ
च (ज) घ ध छ	व or ष	श ळ ण अ	—		

Groups based on graphical similarity one of the six grouping systems for letters by S V Bhagvat.



Graphic elements in Devanagari Letters

Naik, Bapurao S. Typography of Devanagari, vol. 1 Bombay: Directorate of Languages, 1971, p. 214. Courtesy of Vaibhav Singh.

A
B
C
D
E
F
G

Kānā
काना

Long ikār
दीर्घ ईकार

Short ikār
ह्रस्व ईकार

कः का कि की

Visarga
विसर्ग

A
B
C
D
E
F
G

Short ukār
ह्रस्व उकार

Long ukār
दीर्घ उकार

Ri mātrā
ऋ की मात्रा

Rī mātrā
ठ की मात्रा

कु कु कु कु

A
B
C
D
E
F
G

E mātrā (vowel sign)
ए की मात्र

Ai mātrā
ऐ की मात्रा

O mātrā
ओ की मात्रा

Au mātrā
औ की मात्रा

के के को कौ

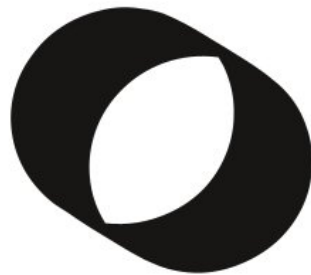
A
B
C Chandrābindū चन्द्रबिन्दु
D
E Closed counter क Knot गाँठ Open counter ल Open loop भ Rukār form रुकार
F
G Nuqtā नुक्ता Halant हलन्त

A
B Reph रेफ Horizontal conjunct संयुक्ताक्षर Akhand conjunct अखण्ड संयुक्ताक्षर
C
D
E Rukār form रुकार
F
G Nuqtā नुक्ता

Basic Strokes



Horizontal Line



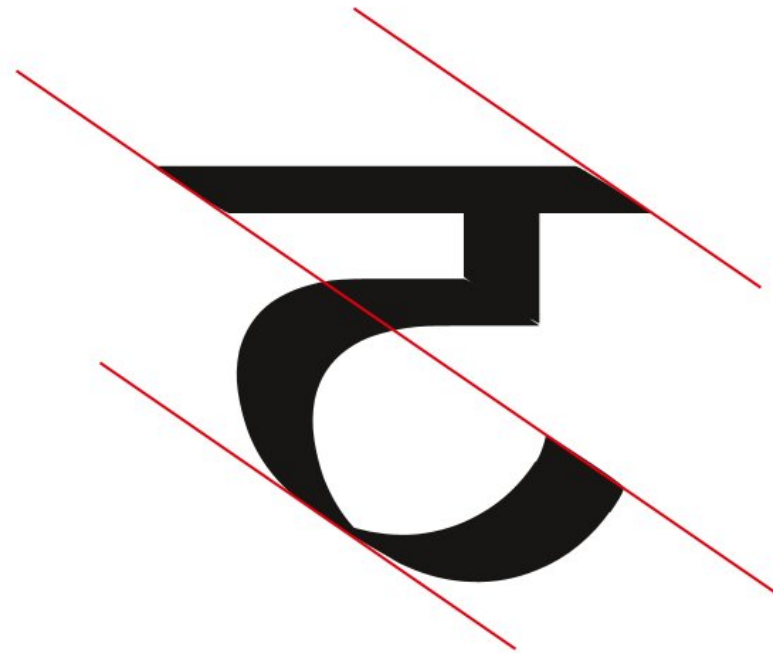
Closed Loops



Vertical Line

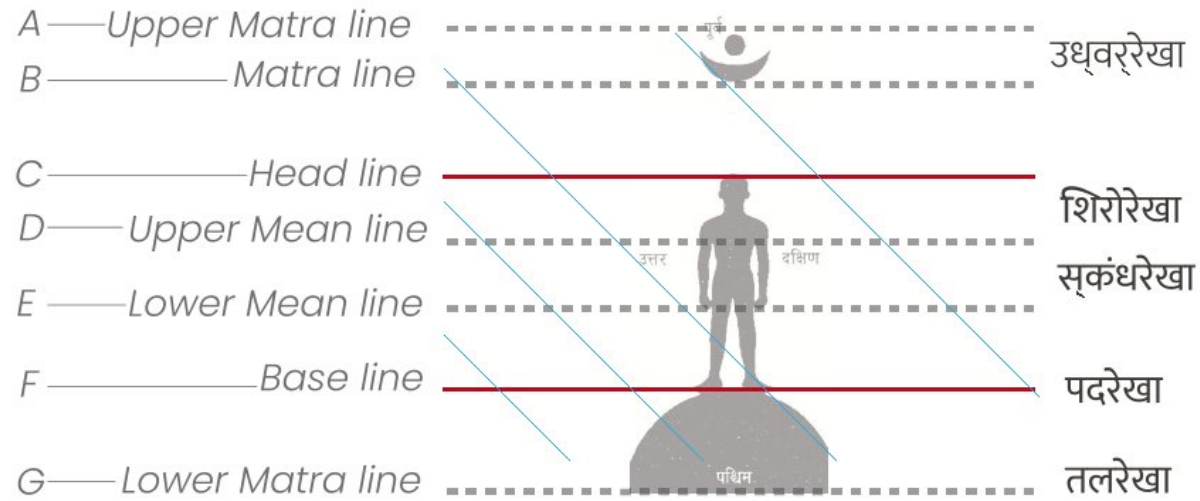


Open Loops



45 Degree Angle

The Grid



The guide lines which are common and have been delineated by all are:

- Upper Matra line, Matra Line, उध्वरेखा (topmost line)
- Shiro-rekha, Head line, शिरोरेखा (head-line)
- Initial line, Upper Mean line, स्कंधरेखा (shoulder line)
- Lower Kana line, Base line, पदरेखा (foot line)
- Lower Matra line, Rukar line, तलरेखा (extreme bottom line)

Importance of Fine Motor Skills in students

Fine motor refers to the group of skills involved in the ability to manipulate smaller objects with the hands and fingers, for example, grasping, holding and pinching. They are also critical for the development of emergent writing.

Writing is a complex process that requires the development of language, visual information, grapheme knowledge, word knowledge and concepts of print, to name a few. The motor control to produce text through drawing, mark-making and symbolic representations of letters is vital in the communication of the message.

Fine motor development is essential in developing the ability to mark-make and write effectively, so that a message can be communicated.

In order to hold a pencil with fingers a child

first need to be able to isolate his/her fingers from their palm. As they have more experience with fine motor activities, children establish more control over their fingers. This is what allows them to hold their pencil with their fingers and eventually develop a dynamic pencil grasp.

Two essential steps for better motor skills are:

- Finger and Hand Control

Messy play is a great way to help with hand awareness. Sand, shave foam and finger paint.

- Playdough
- Construction toys

- Pre-writing skills

Pre-writing skills are the things a child needs to be able to do before they are ready to write. This includes being able to colour and trace inside lines, and to draw certain shapes.

Shapes such as vertical and horizontal lines and circles form the foundation of most letters. Colouring and drawing are really important foundations for handwriting

- Activity workbooks with mazes and dot to dots



Construction toys/ Maze



Play Dough



Paint on hands

Image from Google Images

Exercises designed for students

After the study of basic strokes and calligraphy of devanagari my self, I realized that the only way a student can learn the art of calligraphy was by consistent practice and good understanding of basic strokes.

Keeping all the study and practice in mind I came up iwth a few set of grids and exercises for the students in order to understand the progress and reliablity of the exercise for the final product.

The first set is named as “The Doodle’ two sheets which have zig zag, cursive , horizontal and vertical, circular lines for the students to trace upon with the help of two pencils stuck together, in order to understand the thin and thick lines with the movement of hand on a constant angle.

Other tools like highlighter could be used too.

Set two “ The Singles” consist of Part A and B.

Part A – Strokes of alphabets to be filled in with the help of finger, crayons, flat brush and Ink.

Part B – Monoline alphabets to be drawn over with the help of highlighter, the wood stick tool or a carpenters pencil.

Set 3- “ The Grid” has head line and base line as a grid, Alphabets are in a high to low opacity. Here the students practice directly with ink and tool.

THE DOODLE

Kindly refer the below links to view the process:

https://youtu.be/_RO-hH2vOhc

<https://youtu.be/1T7NM3wm-vc>

<https://youtu.be/ksCcZnoYPhc>



THE DOODLE/ SET 1/ Devanagari Calligraphy /DevyaniGupta



THE DOODLE/ SET 1/ Devanagari Calligraphy /DevyaniGupta



THE DOODLE/ SET 1/ Devanagari Calligraphy /DevyaniGupta

THE SINGLES

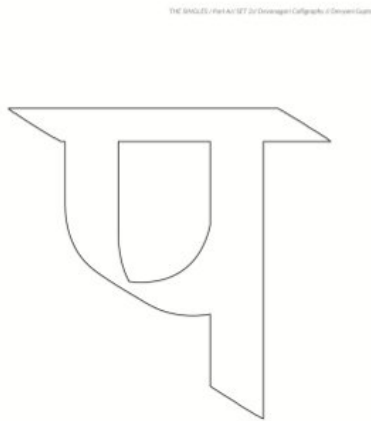
Set2 A- Strokes of alphabets to be filled in with the help of finger, crayons, flat brush and Ink.

Kindly refer to the below links to view the process:

<https://youtu.be/0JvBqLCzvJw>

<https://youtu.be/yNh9Cdkwspg>

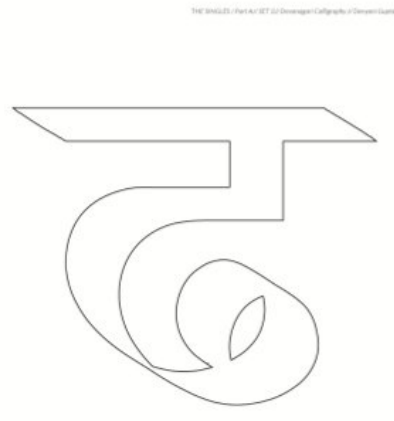
<https://youtube.com/shorts/NgAPHJsZnjY?feature=share>



The Singles

Instructions:

With the help of paint, use your fingers to write over the dotted line



The Singles

Instructions:

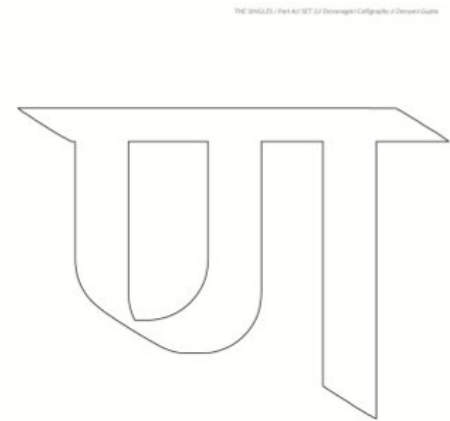
With the help of paint, use your fingers to write over the dotted line



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THE SINGLES

Set2 B-Monoline alphabets to be drawn over with the help of highlighter, the wood stick tool or a carpenters pencil.

Kindly refer to the below links to view the process:

<https://youtube.com/shorts/hrOqMp4ER8?feature=share>

<https://youtube.com/shorts/Zm9UxbQ4MtA?feature=share>

<https://youtube.com/shorts/NYahMUVqkoI?feature=share>

<https://youtube.com/shorts/C9jTrnVlkCA?feature=share>



The Singles

Instructions:

With the help of Carpenters Pencil, Highlighter or Flat Bamboo pen 45 degree cut nib, write over the dotted line.



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THE GRID

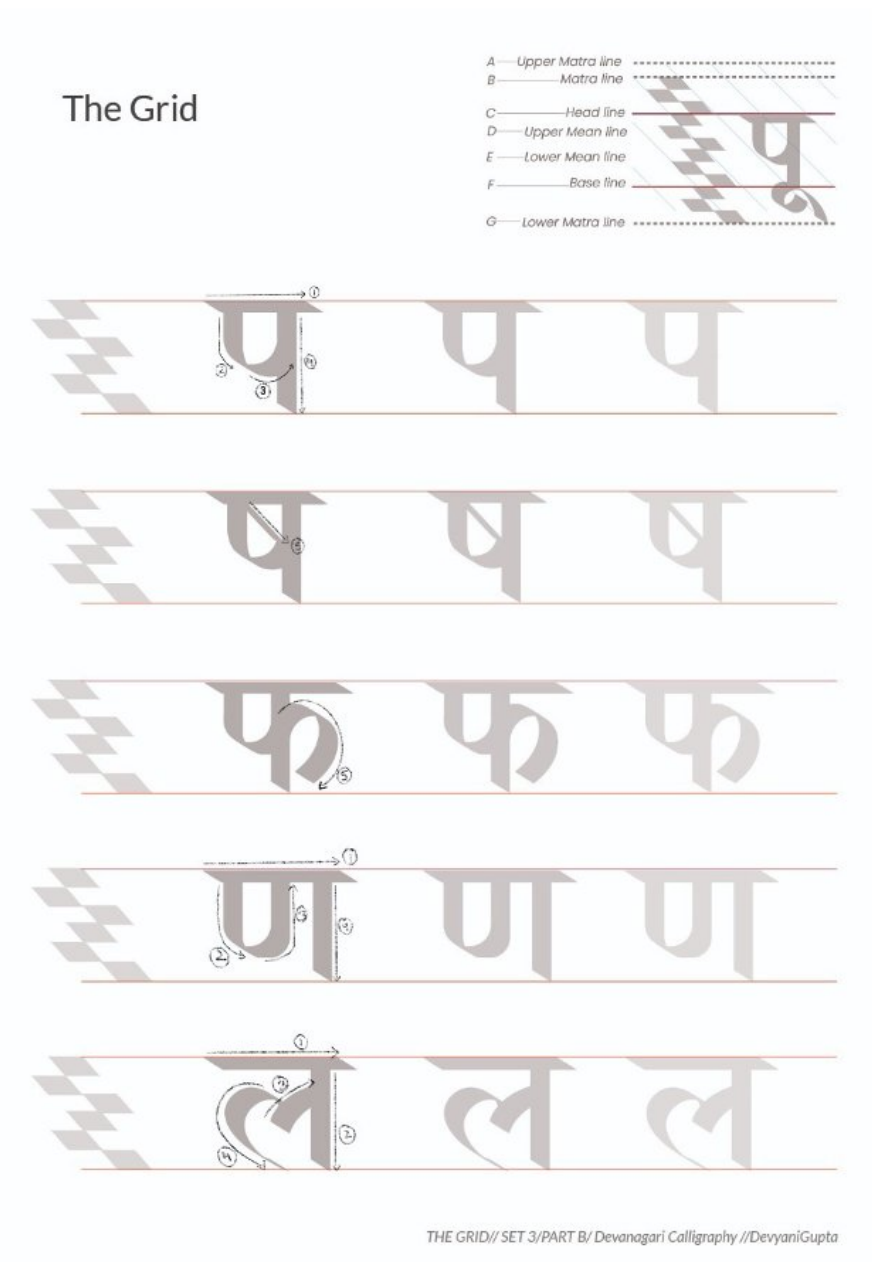
Set 3 – “ The Gris” consists of ” the head line and base line as a grid.

The sheet size is a4. Alphabets are in a high to low opacity. The first alphabet has the guidelines as to which stroke is to be drawn first.

The alphabets have been divided according to the stroke similarity, rather than varndmala, to make it easier for the student to grasp the form of the alphabet.

Kindly refer to the below links to view the process:

<https://youtube.com/shorts/czbyDP0ulAs?feature=share>



Workshop with students

The exercise sheets were surveyed with the students of age 10-15; the initial practice was for them to scribble on plain sheets in different motions for their hands to be free.



Image shot during the testing sheets practice

WORKSHOP GALLERY



Image shot during the testing sheets practice



Image shot during the testing sheets practice

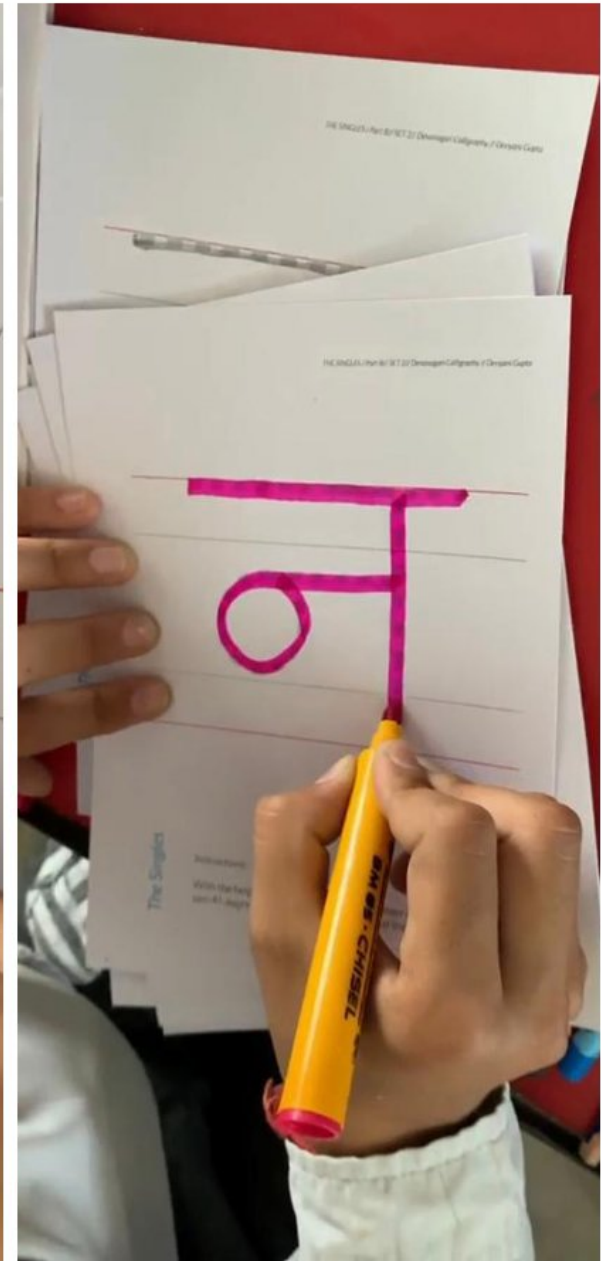
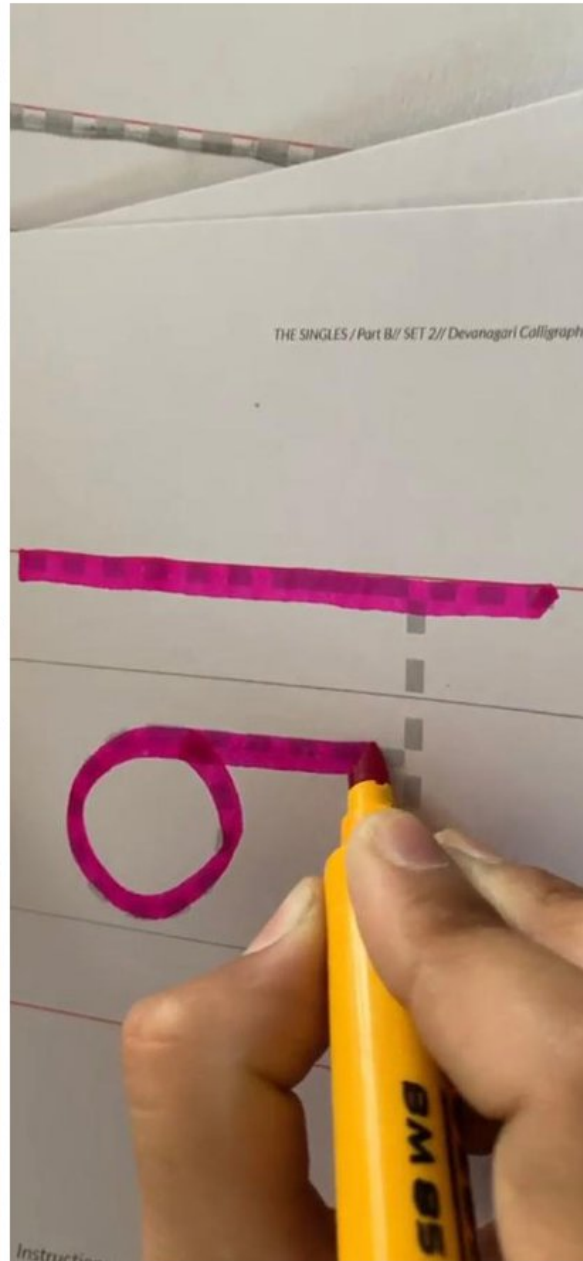
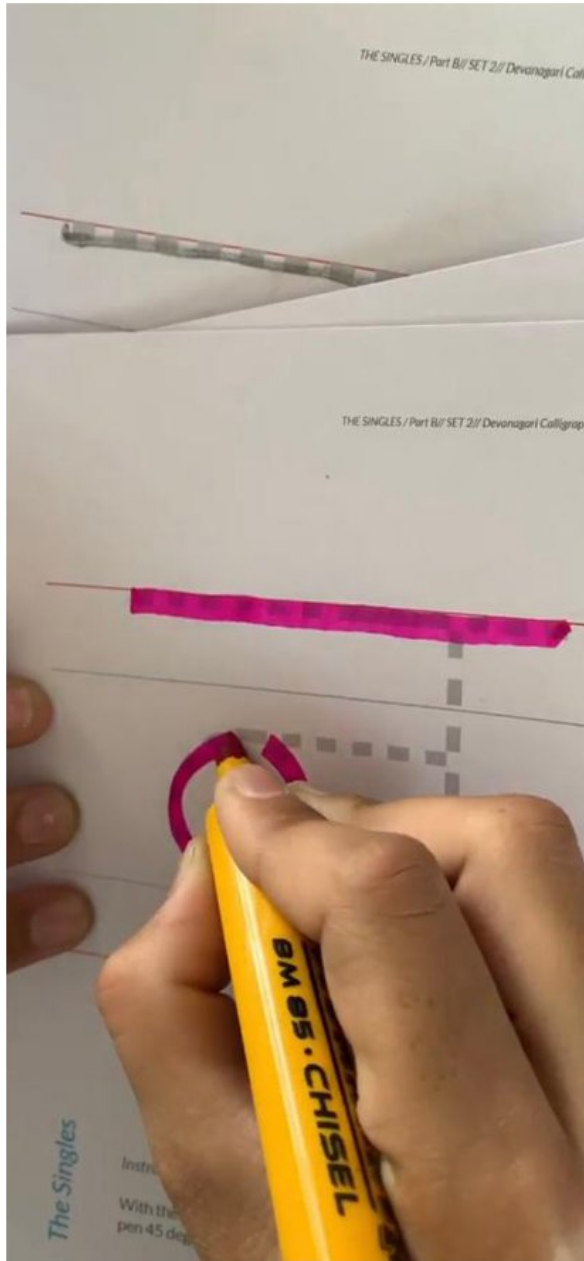
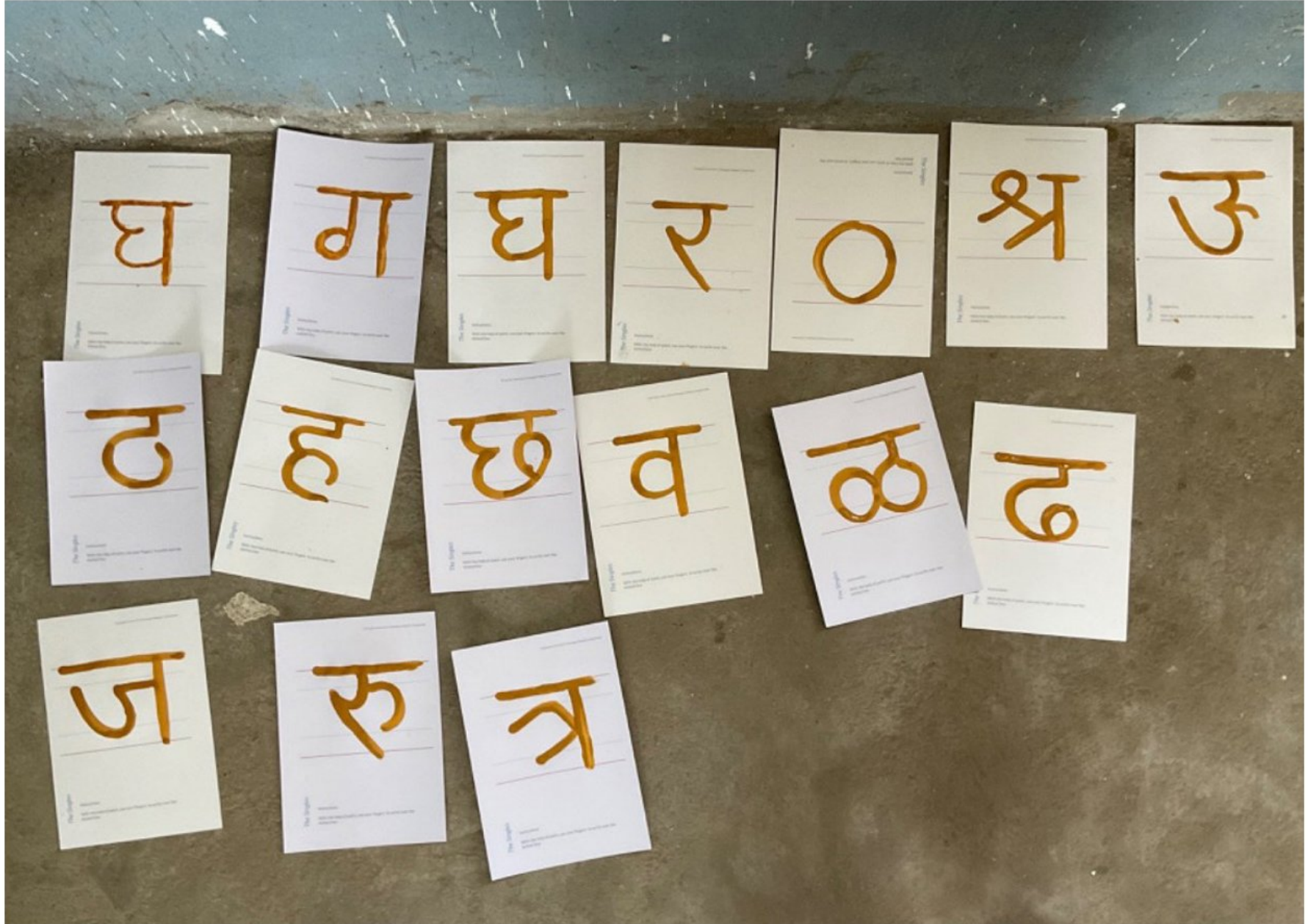


Image shot during the testing sheets practice









Observations

PROS

- Easy when guided properly or with specific written or verbal instructions.
- Activities involving paint or any new material were found interesting.
- Students were more interested in solo participation.
- Storytelling and explanation were a better medium of understanding.
- Instruments like the compass “D”, when shown physically, made the students grasp over the 45-degree angle.
- Willingly practised sheets to do from home
- Explanation about the traditional Devanagari calligraphy intrigued students to learn more and gather information from the internet or by talking with their parents.

CONS

- Faced difficulty writing consonants without a headline and baseline.
- Sheets became boring, which had no verbal or written guidance.
- Confusion was evident when explained about a 45-degree angle without visuals.

Possible outcomes

1. A tracing guide with a written instruction journal for students to practice calligraphy.
2. A few recorded videos of “Do it with me” sessions where students will be able to download the reference files (Tracing sheets and grids on A4 paper) for practice and to learn calligraphy. The session will also introduce the students to the tools of Devanagari
3. A redo textbook which would have reversed embossed letter forms of Devanagari for better eye and hand coordination where the students can practice with the help of invisible ink, making it reusable and for repeated practice. A three-dimensional groove design.

During writing, the students will use a pen filled with invisible ink to follow paths and different strokes. The calligraphy will gradually fade away after drying. An excellent way to

enhance basic motor skills.

Note: All the above three ideas will have step-by-step instructions for the students per the product’s requirement.

Final Product

A guidebook consists of dedicated pages for each letterform where the letters are divided based on strokes for better hand and eye coordination and in a very simplified form.

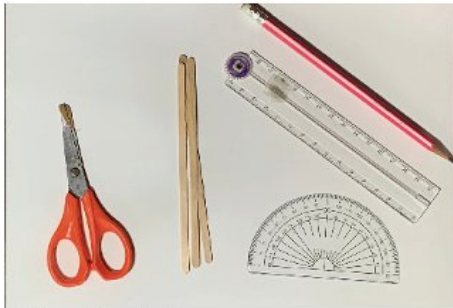
The book shall have a guide to making your own tool with images to follow. Materials can be readily available in a student's home or school stationery.

A guide to understanding the grid system.

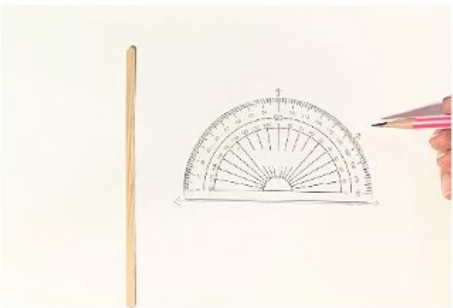
Keeping the cost in mind, these pages shall be available on a drive where once the sheets are used, the students or the teacher can download them and get them printed on an a4 sheet for further practice.

Below you shall find the" make your own tool guide page that will be included in the book.

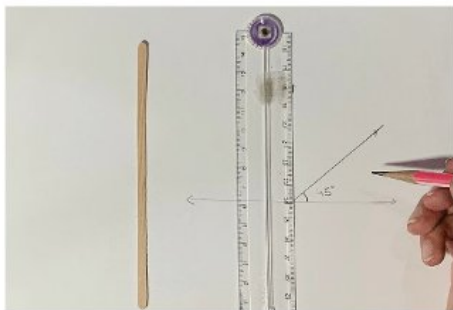




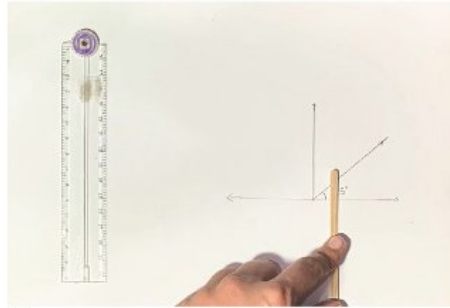
1) Material required:
Scissors, Scale, Protractor, Tea stirrer (wooden) and a Pencil.



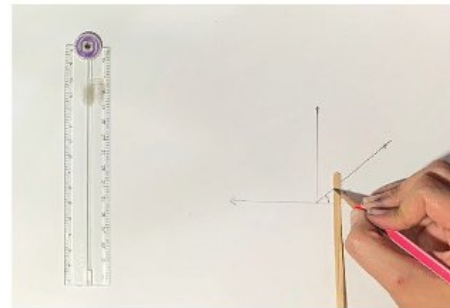
2) With The help of the Protractor, make on angle of 45 degrees on a plain paper.



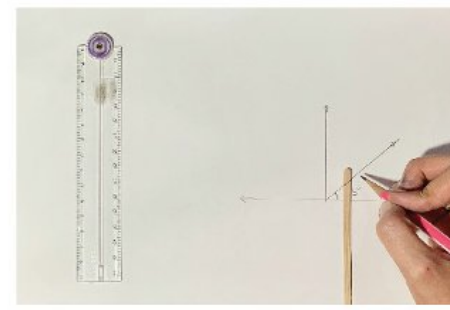
3) It should look like this.



4) Now place your Tea stirrer over the diagram, as shown in the above picture.



5) Draw a line in the direction of the angle with the help of the diagram over the Tea stirrer, as shown in the above.



6) It should look like this.



7) Take a pair of Scissors .



8) Put the Tea stirrer in between the scissors making sure that you are cutting over the line drawn with the pencil.



6) YOUR TOOL IS READY TO USE!

References

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Devanagari Script

- <https://www.dsource.in/case-study/designing-stencil-font-devanagari-script/introduction>

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Academic Learning Among 11-13 Year Olds

- <https://www.scholastic.com/parents/family-life/creativity-and-critical-thinking/development-milestones/academic-learning-among-11-13-year-olds.html>

- <https://www.education.vic.gov.au/childhood/professionals/learning/ecliteracy/emergentliteracy/Pages/finemoto.aspx>

Thank You!