

**A Study on Characteristic Design Element for Cartoon and Animation: in
Indian Context**

A thesis submitted

In partial fulfillment of the requirements for the Degree of
DOCTOR OF PHILOSOPHY

by

Bhaskar Saha



Department of Design
Indian Institute of Technology Guwahati,
Assam, India 781039

January 2020

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Roll No. 156105004

Under the Supervision of
Professor Debkumar Chakrabarti, PhD



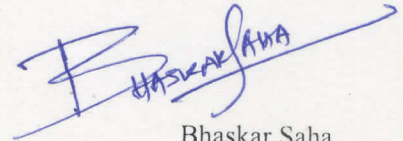
Department of Design
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DECLARATION

It is certified that the work contained in this thesis entitled “**A Study on Characteristic Design Elements for Cartoon and Animation: in Indian Context**” has been carried out by me, a student in the Department of Design, Indian Institute of Technology, Guwahati (IITG), Assam, India under the guidance of Professor Debkumar Chakrabarti being submitted for the award of Doctor of Philosophy. This work has not been submitted elsewhere for a degree.

Place: Guwahati

Date: 08 - 01 - 2020



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CERTIFICATE

The research work presented in this thesis entitled “**A Study on Characteristic Design Element for Cartoon and Animation: in Indian Context**” submitted by Mr. Bhaskar Saha to the Indian Institute of Technology, Guwahati, Assam, India for the award of the degree of Doctor of Philosophy, has been carried out under my supervision. This work has not been submitted for the award of any other degree or diploma to this institute or any other institute or university. He has also fulfilled all the requirements including mandatory coursework as per the rules and regulations for the award of the degree of Doctor of Philosophy of Indian Institute of Technology, Guwahati.



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Place: Guwahati
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Date: 08-12-2019
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Abstract

The thesis looks into the acceptance of cartoon and animation as a medium of infotainment by Indian viewers – both children as well as their guardians and of Indian character elements are identified, user can add value in communicating the spirit of Indian ethos.

Design of a character plays an important role for every story. A character gets implemented in various means of entertainment like film, series, gaming, movements, comics, books, etc. All these means help the character to achieve the attention of the people and popularity. Cartoon character design is connected to media imaging and based on marketing strategies. Country isn't simply environmental or physical yet is, indeed, similar to a person, that is, a living element with a body, life, brain, soul and with a one of a kind of disposition and virtuoso. In this point of view to be on an Indian way, it is intentionally and eventually open to and tuned in to the spirit and psyche of India.

In this thesis it has been focused on the creation of cartoon characters having the Indian back drop and to find out the unique elements prevalent in India. With the help of these unique elements create cartoon character design which signifies the Indian tradition culture, style with aesthetic attire. Indian states house specific cultural and language population. This thesis work has confined on Six culturally rich states to find out elements of cartoon characters which can be called easily Indian cartoon characters. Character configuration is regular to all fields in the visual media industry, regardless of whether in film, publicizing, games or print. Creator thinks of characters and visual arrangements that pass a message to a target audience which they would be able to relate to their entertainment needs and intellectual capability. The gesture poster of the character may differ from studio to studio but the basic principles remain common. While making the character, the designer is given an idea regarding the look, style and story of the character and then the designer concentrates on the works related to the given idea.

It was hypothesized that identification of design elements revealing Indianness through cartoon characters and animation representing India in a socio culturally provincialized discourse would facilitate its communicative expression. The aim of the thesis is to look into the possibility of design elements from the prevailing practices at various art forms, ornamentation and decoration responsible for communicative expression of Indian-ness can be used as guidelines for cartoon characters and animation representing Indian ethos.

First level of study was conducted on students and their guardians to know their liking about cartoon animation films or series. The outcome confirmed that students were mostly influenced by the foreign cartoons (as easy available to view in comparison of Indian made ones) and they

use to copy their favorite cartoon characters in their daily lives. It led to think when kids behavioral changing look place after watching cartoon, series of e-learning sources material may be made available to make subject matter more attractive. Guardians showed interest towards Indian-ness and they want to give their children the flavour of Indian tradition, culture, aesthetic and ethnicity through the animated cartoon design.

The question raised if a series of Indian identity cartoon character is developed and used in appropriate to infotainment using modern techniques be beneficial in today's context. From this first level of understanding a philosophical thinking led the main experimental work to design cartoon elements having Indianness flavour. The base of this main experiment was the unique elements of Six culturally enriched provincial characteristics by detailing the elements and define Indianness through it.

The whole thesis work is presented in four chapters.

Chapter – 1

Introduction: Animation and Cartoon Character Design - Setting Goal of Better Communication

The chapter presents a brief review on the animation cartoon character in the industry and prevailed practices abroad and in India, the possibility of a strategy to study in the context of expressing Indian ethos through specifying character ideology as a contributing factor in effective communication.

Chapter – 2

Perception Prevalence on Foreign Cartoon Animation and Indian Children

This chapter experiments children's liking of animated cartoon characters and views of their guardians that motivates looking into the need for designing cartoon character in a new way with specific reference to Indian viewers.

Chapter – 3

Elements of Cartoon Character Reference to Perception of Indian-ness

The third chapter is focused on unique design elements for cartoon character. This study works on potential design elements and unique features for Indian cartoon character design. 209 volunteers or participants who participated in the main experiment were taken from National level (Kendriya Vidyalaya) Schools going children. This experiment was conducted in two

phases like such as first part was based on existing cartoon characters and the base of the second part was developed design cartoon character. After the completion of experiment, through statistical analysis the result of the main experiment was justified.

Chapter – 4

Discussions and Conclusion

This chapter sums up the content of the study and discusses experimental results with the statistical points highlights the literature reviews. This chapter describes the detailing of the unique elements used to develop cartoon character having Indianness. This chapter also gives an overview of the limitation and recommendation.

The research approach of this thesis was story telling through cartoon character putting interest in kids or children. Recognition of cartoon character elements through the assessment of these unique elements, influenced by socio-cultural and economic perspectives of Indianness. It engages the recognition as well as the development of the existing basic cartoon characters socio cultural and specific expression of human body components with specific reference to eye the most expressive.

Key words: Cartoon, Characteristic design elements, Aesthetic, Ethnicity, Tradition, Culture, Context of origin.

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CHAPTER 1: INTRODUCTION:

ANIMATION CARTOON CHARACTER DESIGN AS A MEDIUM OF COMMUNICATION

Chapter Overview

The chapter presents a brief review on the animation cartoon character in the industry and prevailed practices abroad and in India, the possibility of a strategy to study in the context of expressing Indian ethos through specifying character ideology as a contributing factor in effective communication.

ANIMATION CARTOON CHARACTER DESIGN AS A MEDIUM OF COMMUNICATION

1.0 Introduction

Multimedia communication of a social message targets specific representation and its effectiveness is normally follows encoding easiness and ability of decoding the intended target to reach the designed destination, either accepting or rejecting, when it is linked with their basic understanding of life along with tradition and ethnicity.

The transmission of customs, beliefs and rituals from generation to generation that have continued in a group of people of society for a long time without changing is known as tradition (Green, 1997). It strengthens and supports moral principles, faith, freedom, an honest good education, personal dutifulness, selflessness etc. and makes a medium where ideas and views can be assembled and established which is needed in real life. In family relationship, tradition plays an important role and culture also has important influence in all aspects i.e. views, humour hopes, loyalties, worries fear. While working and making relation with the people it represents and helps to understand their culture.

That fact of a state of belonging to a social group that has a common national or cultural tradition is ethnicity. Language, religion, society culture, clothing, music, method of cooking etc. are linked to this. Ethnicity plays a vital part for unity bond and inter-relation as well as for social dispute. It is an inherited status in Society. A Share-Culture is seen on an ethnic group. Yet there is variance and sharp distinction. In various ethnic groups the characteristics of propagators, language, religion, forms of dress food habits rituals remain distinct.

Aesthetic is concerned with beauty or the appearance of beauty and the nature of art. It is a set of principles underlying the work of a particular artist or artistic movement. All the moods of human mind for the art i.e. paintings, music, poetry reveal through aesthetic.

People's feeling, liking and acceptance are also found influenced by aesthetic presentation of the message (Munro, 1986). Aesthetic ethics human manners and behaviour are controlled by fairness when the presentation is morally suitable and be attractive (Dewey, 1882). James Page proposed that in forming a philosophical reasoning for peace education aesthetic ethics are most essential (Page, 2008) and while making any

communication design these should be kept in mind. Today's effectiveness of multimedia and animation presentation thus can be said depends on target groups, cultural specificity and social ethics.

Practice of making characters are linked with ethnicity, for example, myths and religion. Society has been motivated by the approach and expand of myths and mythology all through hundreds of years with characters that motivated the deepest sentiments of individuals (Bartlett, 2009). Thus, formation of characters has become an essential technique not only for illustration or visual and storybook arts but this is without a doubt a vital technique planned for the entertainment production studio and Industries. Characters of different ethnicity have special visual description in different medias and, for that reason, producing unique character design may be especially problematic looked into.

1.1 Cartoon and Animation: A Medium of Communication

The term cartoon came from the Italian cartone, signifying "huge paper". It is a full-measure drawing made on paper as a full size examination for work of art. During the sixteenth century it had been first used for fresco painting, a strategy including the utilization of color to a wet lime plaster wall. In the present situation it has been observed that with help of cartoon characters, worldwide has been developed through the entertainment process like, comics art creation, utilization and allotment of digital character art in the form of videos, images, and textual descriptions. Numerous kinds of artwork, including hilarious inscribed delineations or illustration, ironical political drawings, and animated film can be considered as a form of communication or expression of a specific message, which is known as cartoon.

Many times it is observed that cartoon animation can express more minute elaboration than that of real life filming. Animation is a way of making a movie by using a series of drawings, computer, graphics or photographs of objects, such as puppets or models. These are differences of presentation from one another creation with specific references to the appearance in movement. It is evident that long ago in the past, the concept of moving images to depict some form of events and happenings were developed, now a day's animation is taken as a new art form with adapting technological advantages.

Animation is basically that consists of cartoon series of drawing and photographic features of its subjects in a humorously (or contents having wit / satire) exaggerated way

through filming. Cartoonist is the creator of cartoon as well as he puts them in a movement series become animator to communicate to mass.

1.2 Inclusive Expression of Cartoon and Animation: Attraction of All Age

Animated characters are very often found in children's television, movies etc. These Characters are created to attract the audience. Not only children but also all the people of all ages are influenced and attracted by the animated characters. Many efforts have been made to measure its effects. It is found that through the characters are interesting for the children, they do not meet up their preferences and demands. The character should match with the context of target groups background and capabilities to understand. As an example it can be said that the characters of cartoon for younger children are of extraordinary features round eyes which are not found exactly for older children. Yet there is no prominent difference, so there remains a confusion regarding the differences of children's choices and elements representation in characters.

There are constant efforts to go for newer approaches in this endeavourer, and Indian animation is trying to adopt an inclusive approach characterizing with Indian elements. This gives a scope to study how today's inclusiveness adaptation is effective and appropriate, and what would be feared stick for judging its efficacy in communication to target mass homogeneous cultural group or heterogeneous with universal understanding.

1.2.1 The Journey from Formation to Transformation

From the very begging of efforts to express some thoughts social issues or intellectual narration through visual images various attempts have been taken in different times, lasted for varied duration and led to next development. Cartoon is such platform of expressing thoughts with abstract imagination added to the real life presentation journey of cartoon can provide a platform of understanding the relevance of Indian efforts.

1.2.1.1 Expression of Cartoons. Painters such as Raphael and Leonardo Da Vinci (Fig. 1) continued displaying cartoons proudly in museums around the world. A world-renowned collection of cartoons for tapestries by Peter Paul Rubens, one of the most famous artists of the seventeenth century, is displayed. It was not until 1843, the "cartoon" used to be

referred to anything but preliminary sketches for visual art. The British Magazine Punch famous for its ironic drawings coined the modern use of the term. At that time, the Houses of Parliament were being restructured after a fire, preliminary drawings, or cartoons were invited from the artist for the selection of new paintings and murals.

A description of pictorial satire used to be considered as the term cartoon. In time, any form of humorous drawing referred as cartoon and in the early twentieth century the term was referred to animated drawings. The journey has taken specific directions based on specific communication theme and accordingly shaping the characters to represent the context and content.



Fig. 1: The Virgin and Child with Saint Anne and Saintn John the Baptist, by Leonardo da Vinci, which is sometimes called ‘The Burlington Houe Cartoon’.

[A] Political Cartoon and Caricature. Caricature is a likeness that captures a person’s physical traits and simultaneously exaggerates them for humorous (and sometimes mean-spirited) effect; while Cartoon may be perceived as a visual art form consisting of hand or computer-drawn images, often (but not always) created for humorous effect. A caricature

is a powerful tool of the political cartoonist. An editorial cartoon is considered as Political cartoon having political and social message through illustration or 'comic strip'. In the early 1500s emergence of cartoon was first made by political cartoons during the Protestant Reformation in Germany. Broadsheet posters and illustrated pamphlets having the images of protesting the actions of the powerful Catholic Church were distributed, through which a large portion of the population was reached effectively (The University of Virginia, 2006).

Benjamin Franklin's 'Join or Die' as reproduced in Fig. 2, appeared to be the first political cartoon in America, where detached parts of a snake represent the Colonies. From the starting the image had an openly political purpose and for his plan for an inter colonial association to deal with the Iroquois at the Albany Congress of 1754 he used it in support. It was published in 'virtually every newspaper on the continent' (Iamb, 2004).

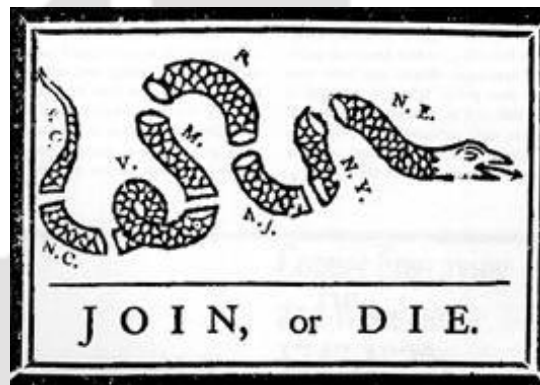


Fig. 2: Join, or Die. by Benjamin Franklin was recycled to encourage the former colonies to unite against British rule, (retrieved from www.wikipedia.org) appeared to be one of the first political cartoon.

It is also noticed that cartoons play constructive role and on the other hand, can exacerbate existing tensions. In some cases worldwide protest and violence have been caused by political or editorial cartoon, like in 2005 publication of caricatures of the Muslim prophet Muhammad in a Danish newspaper. In present time 'gag cartoons' can be found in many contents like magazines, newspapers, and greeting cards which are usually consisted of solo art work and moreover with a caption immediately under or a 'speech balloon'. In the United Kingdom 'Comic strips' are also famous as 'strip cartoons' and these are found regularly in sequence. Cartoons are generally referred to 'Comics' or 'funnies' in the United States. Humor, adventure and drama are mostly represented in this

medium. Some comic strips are serial in nature with a story line, continued daily or weekly and most comics strips are stand alone. Charles Schulz was a famous comic strip cartoonist who created the Peanuts cartoons (www.newworldencyclopedia.org).

[B] Animation / Cartoon Film. Animated movies and short films are referred as one of the most common modern usages of the phrase "cartoon". Animated presentation is often referred as cartoon, even it is mostly used in reference to lesson for children, featuring anthropomorphized animals, superheroes, the adventures of child protagonists, and other similar themes. The father of the animated cartoon, Winsor McCay, produced a landmark animated cartoon titled Gertie the Dinosaur in 1914 shown in Fig. 3. Gertie the Dinosaur, a character, featured first specifically for animation and the true prospective of the medium was showed. Winsor Mc Cay had also animated comic strip character “Little Nemo” in 1911 which marked the beginning of the traditional animation process.

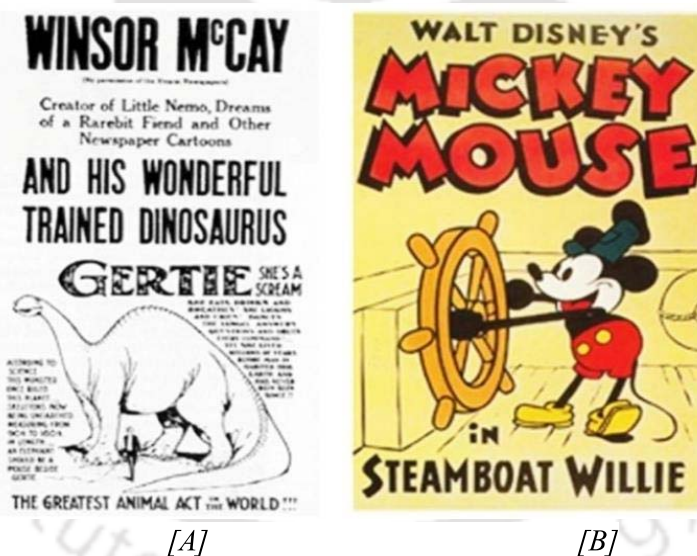
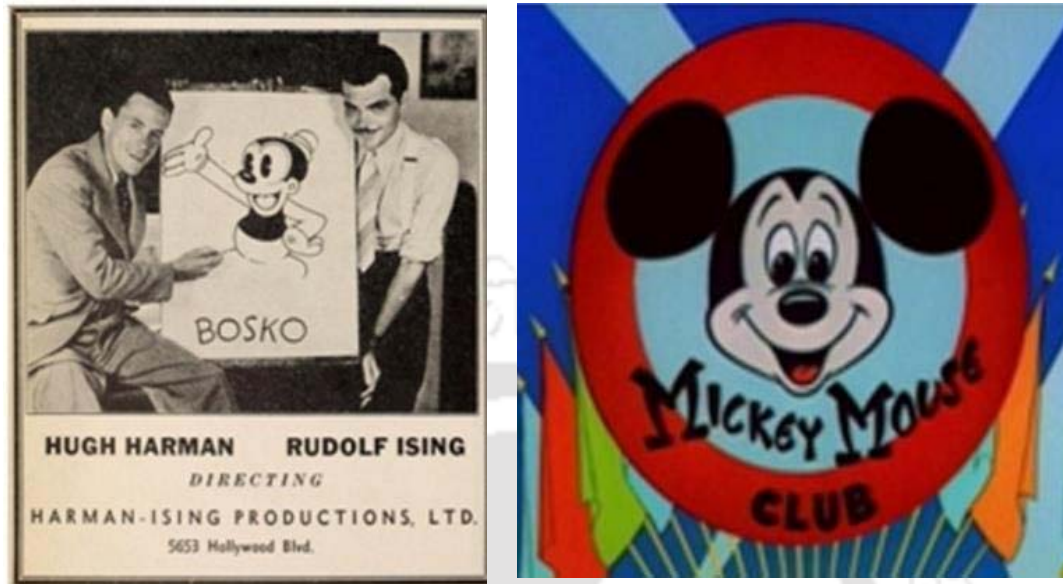


Fig. 3: [A] Gertie the Dinosaur (1914) and [B] Mickey Mouse's (1928) retrieved from www.wikipedia.org: Land mark of animated cartoon.

Legendary animation director Chuck Jones said, "*the two most important people in animation are Winsor McCay and Walt Disney, and I'm not sure which should go first*". Five years later, the world famous Felix the Cat, who came into view in a series of cartoons was created by Otto Messmer (www.newworldencyclopedia.org). Here non-human characters presented humanizing performances and become appreciated by all.



[A]

[B]

Fig. 4: Two popular examples of using non-human character may be [A] Hugh Harman and Rudy Ising, (www.likelylooneymostlymerrie.blogspot.com) and [B] Mickey Mouse Club (www.wikipedia.org)

Walt Disney's Steamboat Willie is one of the most famed early cartoons and first to integrate synchronized sound. Mickey Mouse's first feature performance was this, which released in 1928. Disney encouraged its animators to portray character with more realistic, as in Fig. 4, movement to create an animation empire like Snow White and Fantasia, breakthrough masterpieces were also created by it (www.newworldencyclopedia.org/entry/Cartoon).

Many researcher, Disney animators Hugh Harman and Rudy Ising, viz. Fig. 4, founded Looney Tunes in 1930, three years later both of whom left to form MGM cartoon studio. Cartoon tradition of exaggerated slapstick comedy was introduced by directors Tex Avery and Bob Clampett, that has continued until today. Characters like Bugs Bunny and Daffy Duck represented the talent of individual animators as well as the ability to collaborate in a studio-based, assembly-line type system.

Cartoons were publicized in movie theaters until the late 1940s. To show full length films separated by a cartoon and newsreel, it was distinctive for theaters of the day. From

the 1930s-1950s, many "golden era" cartoons were originally designed to be seen on the big screen. One of the first cartoon studios to regularly air cartoons was Disney which included them in live action programs like The Mickey Mouse Club (www.newworldencyclopedia.org).



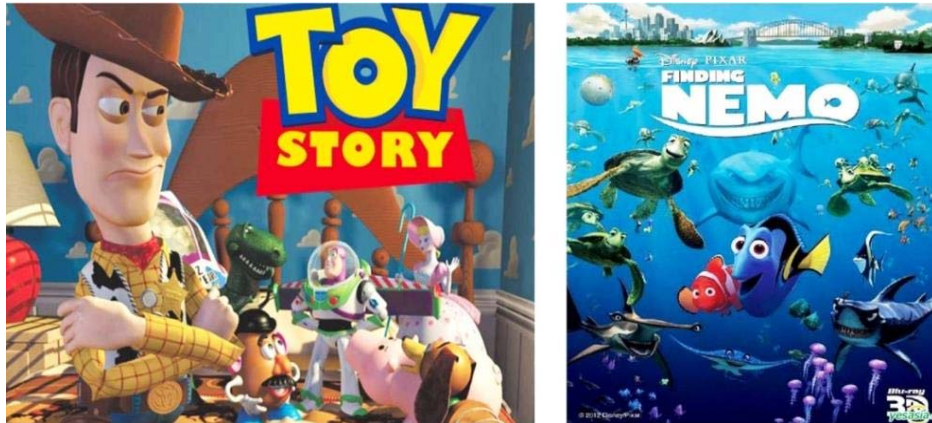
[A]



[B]

Fig. 5: Longest running cartoon shows as reproduced [A] The Simpsons , Source from www.wikipedia.org and [B] Flintstones retrieved from www.histcultco.info

A simple, less theatrical approach to animation was created by United Productions of America (UPA), a studio formed by ex-Disney animators in 1950s. Bold colors, abstract renditions of clouds and trees, and limited movement were used instead of natural colors and detailed background by UPA. Exclusively television produced more cartoons. Time and money saving techniques were adopted by the other animators, though in the process many lost UPA's aesthetics. The Flintstones and The Simpsons, which premiered respectively in 1960 and 1989 were two of the most popular and (www.newworldencyclopedia.org). longest running cartoon shows as reproduced in Fig. 5.



[A]

[B]

Fig. 6: Computer-generated imagery (CGI) [A] Toy Story (1995), retrieved www.aminoapps.com and [B] Finding Nemo (2003), retrieved www.thevirginia.org

Through full length movies cartoons continue to have success; cartoonists create images with the help of modern techniques in computer animation as traditional animating processes could not make it possible. The examples of computer-generated imagery (CGI) are the movies like Toy Story (1995) and Finding Nemo (2003), shown Fig. 6. It does not mean that animators do less work by using CGI technology. The first completely CGI-animated feature, Toy Story, took four years to complete; even the same amount of time was taken by the Disney animators to complete Snow White and the Seven Dwarfs. Cartoons are playing role as the subject of controversy for long in the areas of merchandising and violence. Mostly since, children or kids are main audience of cartoons. Around existing products, cartoons like Strawberry Shortcake and He-Man were created in the 1980s. It has been observed that there are also a growing number of "adult cartoons". Certain styles of animation are not generally referred to as "cartoons" like Japanese anime (www.newworldencyclopedia.org).

With this, it would be good to look into the oriental side of identity and uniqueness to the context of visual presentation.

1.2.1.2 The Onset - Formation. Initially, the time period referred to complete-scale drawings for diverse varieties of fine art, for example, frescoes and embroidered works of art. Since the mid-nineteenth century it gained the importance of a pictorial parody, entertaining and frequently ironic in its depiction of social and political occasions. Magazines, for example, Punch and The New Yorker, promoted this visual type of joke,

which has kept on being utilized with extraordinary impact on society. Commentary on matters of current concern has been provided. Through the editorial cartoon the lives of powerful and influential persons also have its impact. Younger audiences are provided entertainment with the adventures of humanized creatures, superheroes, and child protagonists. Cartoons have played an important role from fine art to political commentary and entertainment (Zeke, 2015). The journey thus initiated has set a domain of expression and a constant search for newness.

1.2.1.3 Transformation. Cartoon character's origin is worldwide with less known localized sources of origin, that is spread across the global information of lithographs, stone cast, mural painting, painting etc.

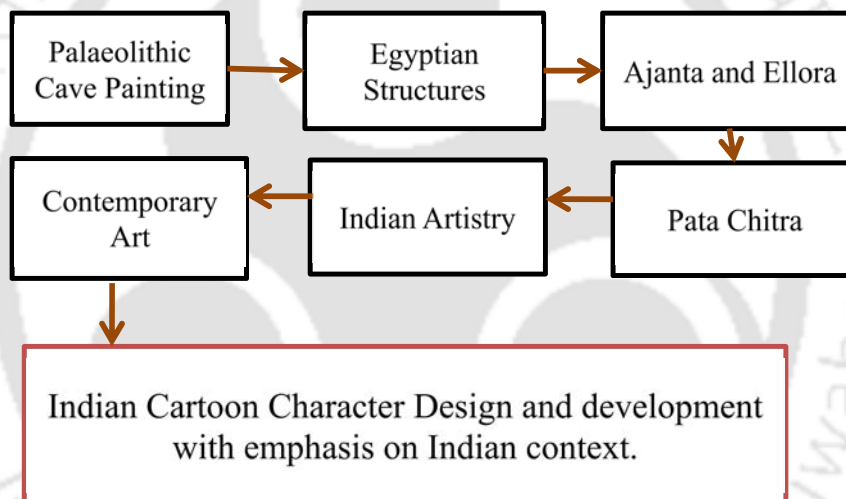


Fig. 7: Modern Animation: Evolution of pathway traversing to the context of being Indian in flavour.

Ancient art and paintings are mostly survived in the Paleolithic caves, viz. Fig. 7, where artworks such as cave paintings demonstrates a unique sense of creativity and group involvements. Even with the lack of adequate skills and tools, the portrayal of the scenes from the daily lives are evident in the cave paintings. Often animals such as deer and bison are sketched and curved on the walls with multiple legs to depict movement and motion, as shown in Fig. 8. The entire lifestyle of the Paleolithic people is depicted on the walls with uniform information structure (Moreno, 2014).

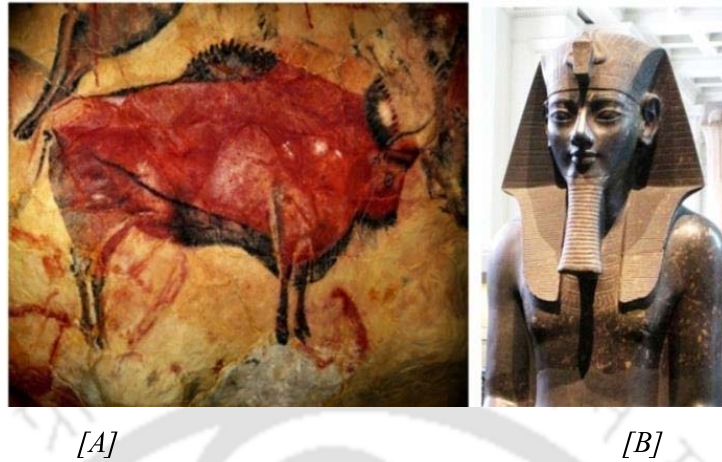


Fig. 8: [A] Paleolithic caves art (retrieved www.khanacademy.org) and [B] Ancient Egyptian sculpture. (retrieved www.ancient.eu): examples of early experiences.

The influence of sense of portrayal (Fig. 8) lead to outstanding structural and planning designs around the world. The Egyptian culture saw the rise of intrinsic infrastructural designs which included forms and elements big enough to see and expressive enough to attract people till to this date. The pyramids of the Egypt are not only eye catching structure but possess high extent of technological sense. The structures other than the pyramids such as the Papyrus Plant has a distinct design that convey the expertise of the sculptor. The artifacts such as vases and pots belonging to that era have unique forms and design elements which are not only attractive but even vibrant in colours (Joshua, 2016).

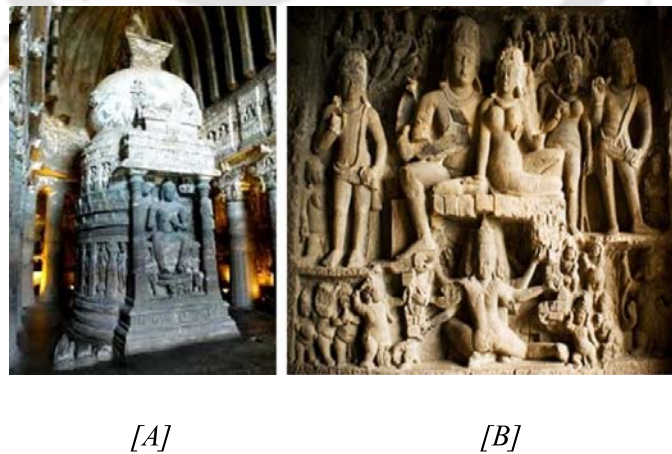


Fig. 9. [A] Ajanta caves No. 26 art, retrieved www.nriol.com and [B] Ellora Cave 29, Ravana shaking Mount Kailasa retrieved www.indianluxurytrains.com.

The influence of the trend and evolution in the field of dedicated forms and designs can be well traced to the Indian subcontinent and can be seen at the Ajanta and Ellora caves, as shown in Fig. 9, where different types of sculptures are seen. The forms and styles used were highly proficient and detailed. Entire series of Kama sutra and structures of Buddhism can be found on the walls with outmost expertise (www.nriol.com). These can be considered as early form of modeling based story telling with static presentation of sculptured Fig.9, that led us to think of modeling animation. In that sense India was well versed with what we have lost in time or it can be said that western influence made us ignore our original characterization of the time, place and event. This inspires us to relook into how Indian identity could be identified and practiced in characterization of multimedia and communication through animation.

The rural areas of Bengal in India possess a special form of art that is a world known form and still practiced in India. Patachitra is one of the type and style of painting on cloth or any movable surface base as reproduced in Fig. 10, where the Indian mythological entities were portrayed with the use of modern forms and style.



Fig. 10. Bengal Patachitra: a form of capturing time and event in art form. (retrieved www.craftsvilla.com)

Even after being made with simple colours and forms the paintings are so detailed and clear that the viewer can make an understanding of the entire storytelling on the strips. It was one of the first concept drawings and paintings of what we know of concept art today. The implementation of character details has always fascinated people (www.craftmark.org). The Indian nation has seen various established and well-known artists that have mesmerized the world with their contribution to the field of art and form. Nandalal Bose, a very well-known artist from West Bengal, India, has done enormous

amount of paintings that have strong lines and with stronger motives, as shown in Fig. 11. The characters were influential and attractive to the audience (www.wikiart.org).

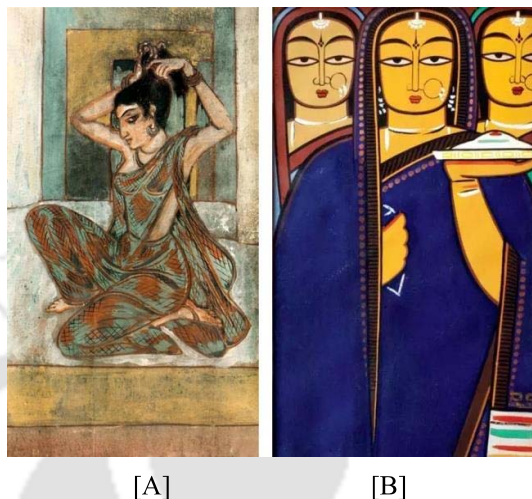


Fig. 11. [A] Nandalal Bose' painting: expression of line and motives, retrieved www.tallengestore.com and [B] Jamini Roy's painting: enriching Indian feeling in art form, retrieved Suresh Jayaram. Apr 4,2015, image used for non-commercial academic purpose.

Inspired with Japanese style of art, Jamini Roy, another well-known artist from West Bengal, created paintings that included forms that were typically Indian. The styles were somewhat referring the Japanese forms but the implementation of those forms together brought out something that was enriched in Indian forms and styles (<https://en.wikipedia.org>).



Fig. 12. Ramananda Bandyopadhyay painting, source: [ishikagoenka123](https://www.ishikagoenka123.com). October,2015, image used for non-commercial academic purpose references.

Similar styles were used by Ramananda Bandyopadhyay, who used strong lines and flows in his paintings, as could be seen in Fig. 12, and was widely known for the colours that he used to depict the characters (Artville, 2014).

Through the gradual process of evolution, the use of forms, lines, colours and different styles of paintings and sculptures have given rise to the formation of modern day comics and cartoons that are used in animation. An overall design approach to come up with a cartoon character with proper designation to the uniqueness of the Indian elements and forms to bring out the flavours and essence of belongings such as a Bengali cartoon character can be look into. The questions come if the approach would be It is an approach towards portraying a character belonging to a particular province and part of India or universal approach would be preferred.

After indulging in all the new invented devices to signify the sense of motion, the pictorial depicts as a different mode of presentation were next seen in normal household objects such as pots and bowls. The forms have evolved from its original existence of the ancient caves to somewhat modern styles. Those forms were also used in monuments and temples to show the extensive lifestyles of the people in that era. The use of pictorial forms is still evident in modern household objects and in monuments that still stand tall in grace. The conclusive reasoning of those forms in household or monuments are merely for the purpose of showcasing (Loder, 2019).

The forms and techniques used to show emotions and concrete messages were only possible through strong illustrations and sketches that had a particular theme. This was a kind of up gradation from the purpose of just showcase to the deliberation of emotions and messages. The stylizations were aimed at a generalized context that could be comprehended to the audience. The advancement of the art of illustration and sketches show the light of what we know as comics or comic strips.

These strips generally had a series of a stories told to the audience with the help of drawings depicting expressions and emotions along with the dialogues. Comics are still popular among a certain group of audience and thriving (www.pbs.org). Along with all the evolutionary journey of forms and styles of pictorials has ultimately given rise to computer generated animation, which uses techniques and skills along with dedicated software to

bring the imaginary world of animation to life. Through all the steps it has followed as an evolutionary process the animation is the point that comprises of all the required and essential aspects of the pictorial forms (Zeke, 2015).

The history of animation technology showcasing moving art pieces and images changed over the years – we are now in a world when computer and internet technology help to create some terrific animated videos enjoyed by diverse assemblage.

1.2.2 Down Memory Lane: Milestone of Cartoon and Animation

Different time periods have experienced innovative ideas and tactful use of technology available at that time, viz. Table. 1 can be referred as a journey of animation film that expresses while compiling land mark events (Moreno,2014).

Table 1. Timeline showing important milestones in Global history of cartoon and animation.

Time	Milestone
1887	Goodwin invents nitrate celluloid film.
1894	Louis Lumiere invents the cinematograph. It was the first machine to show movies successfully on a screen.
1908	Emile Cohl makes his first film, Fantasmagorie, considered by many to be the first animated film.
1912	Approximately 5 million people daily attend the cinema in the US.
1914	Winsor McCay's Gertie the dinosaur was the first major triumph in character animation.
1915	Circa 1915: the earliest known Japanese animated film depicts a boy wearing a sailor uniform performing a salute.
1920	19 year old Walter Elias Disney started working in animation at the Kansas City Slide Company.
1922	Disney's first animation studio is located in Kansas City and is called Laug-O-Gram Films.
1928	Disney creates Mickey Mouse while being on a train. Steamboat Willie was the first successful sound animated film; it made Mickey mouse an international star.
1930	The Warner Bros. Cartoon are born.

1932	Walt Disney wins his first Academy Award for Flowers and Trees. It was the first film to use 3 strip Technicolor in animation.
1934	Disney's The Tortoise and the Hare wins the Academy Award.
1937	Walt Disney produces Snow White and the Seven Dwarfs, his first animated feature.
1940	Disney produces Pinocchio and Fantasia
1941	Fleischer Studios produce the Superman series.
1943	MGM's Yankee Doodle Mouse wins the Academy Award.
1947	Warner Bros' Tweetie Pie wins the Academy Award, this is the first shot featuring Tweetie and Sylvester together.
1950	The first Computer animation is created, "Bouncing Ball" done at MIT by Saxenian. Disney produces Cinderella,
1953	Walt Disney's Peter Pan is released.
1954	Warners Bros. introduced the Tansmanian Devil in Devil May Hare directed by Bob McKimson.
1956	Anecy, the first major international animation festival begins within the framework of the Cannes Festival.
1961	Hanna Barderaintroduces Yogi Bear on TV. Walt Disney releases One Hundred and One Dalmatians, the first Disney feature to use Xeroxed cels.
1963	Astroboy series is released.
1966	Walt Disney dies in December, 15 th .
1969	Warner Bros. stops producing animated shorts. Moomin, a Japanese animated series, is released.
1974	Heidi and Doraemon are released that year.
1975	Maya the Honey Bee is broadcast for the first time.
1976	Marco and Candy Candy are released, among other T. V. series.
1977	Monarch: The big Bear of Tallac comes out. Single frame video tape animation systems were introduced.
1979	Every Child wins the Academy Award. Banner and Flappy is released. Hayao Miyazaki directs his first movie The Castle of Cagliostro.
1982	Tim Burton produces his puppet short Vincent.

1983	Inspector Gadget is released. It was the first animated television series to be presented in stereo.
1984	Studio Ghibli produces its first movie Nausicaa of the Valley of the Wind.
1985	Captain Tsubasa is broadcasted for the first time.
1986	Pixar is created. Ghibli produces its second movie The Castle in the Sky.
1988	Ghibli releases a new film called The Grave of the Fireflies.
1989	The Little Mermaid comes out. Tin Toy wins the Academy Award, Pixar, first computer animated film to win an award.
1990	The Simpsons debuts on TV
1991	Disney's Beauty and the Beast premieres.
1992	Cartoon Network broadcasts in two million homes. Disney releases its new film Aladdin. Sailor Moon appears on TV for the first time.
1994	DreamWorks Studio is formed. The Lion King comes out.
1997	Ghibli's Princess Mononoke is released in Japan and becomes its biggest motion picture hit of all time, animated or live action.
1998	The Prince of Egypt. DreamWorks' first animated feature is released; as well as Disney's Mulan.
2000	DreamWorks releases its second animated movie The Road to El Dorado.
2001	Spirited Away comes out. It becomes the highest-grossing film in Japanese history.
2002	Disney releases Treasure Planet and Lilo & Stitch. Ghibli debuts with another film called The Cat Returns.
2004	Howl's Moving Castle comes out. It becomes one of the most financially successful Japanese films in history.
2005	Avatar: The Last Airbender debuts on TV as well as Johnny Test and Ben10.
2006	The Girl Who Leapt Through Time is released and wins the Animation Kobe Award.
2007	Nickelodeon promotes its very first Sponge Bob Square Pants television movie, attracting 8.8 million viewers.
2008	Ghibli releases its new movie, Ponyo, and wins the Japan Academy Prize for Animation of the Year.

2010	Ghibli's The Secret World of Arrietty comes out. The French movie The illusionists wins the European Film Award for Best Animated Film
2011	SyudioGhibli releases From up on Poppy Hill and wins the Japan Academy Prize for Animation of the Year, again.
2012	Disney releases a new short film called Paperman and wins the Academy Award for Best Animated Short Film.
2013	Ghibli produces two films: The Tale of Princess Kaguya and The Wind Rises, Hayao Miyazaki announces his retirement.
2014	Ghibli announces its closure and produces its last animated film When Marnie was Here. Glen Keane creates an independent short film called Duet.

Table. 2 and 3 can be referred as a journey of Indian animation film and series and International Co-productions films in which Indian production houses and studios were involved. The list of Indian animated cartoon. It includes simulated films, some significant short films, direct to video releases and International films or series in which Indian production house and studios were engaged. (<https://en.wikipedia.org>).

Table. 2. Timeline showing important highlight in Indian history of cartoon and animation.

Time	Milestone
1915	Agkadyanchi Mouj-The Game of Match Sticks is the first Indian Stop-motion film directed by Dhundiraj Govind Phalke.
1934	The Pea Brothers is the first animated film to get a theatrical release in India. Directed by Gunamoy Banerjee, Studio is MP Studios Bharatlakshmi Studios.
1934	On a Moonlit Night is the First Indian animated film with a soundtrack directed by Birendranath Sircar in the studio of New Theatres Calcutta.
1947	Cinema Kadhambam is First animated film in South India directed by N. Thanu in Gemini Studios, Tamilnadu.
1957	The Banyan Deer is the first film by Film Division's Cartoon Unit which was prepared by Shanti S. Sharma in Films Division of India, Films Division's Cartoon Unit.

1967	Inquiry is the First film to win National film Award for Best Non-Feature Animation Film directed by C. T. Baptista.
1968	Baap Re Baap is National Award for the Best Film on family planning made by Indian animator Ram Mohan in Family Planning Association of India Prasad Studios.
1971	You Said It is National Film Award for Best Non-Feature Animation Film made by Indian animator Ram mohan in Prasad Studios.
1974	Ek Anek Aur Ekta is the Educational short film aired in Doordarshan made by documentary film maker Vijaya Mulay in Films Division of India, National Council of Educational Research and Training (NCERT)
1990	Deepa & Rupa: A Fairy Tale from India is the Indian-American co-production and First Indian film to combine live action and animation throughout the entire length made by Manick Sorcar in Manick Sorcar Productions.
2000	Pandavas directed by Usha Ganesarajah in in Pentamedia Graphics. The Five Warriors First animated feature film completely produced by an Indian studio and National Film Award for Best Feature Film in English.
2002	Alibaba (Alibaba & the Forty Thieves) directed by Usha Ganesarajah in in Pentamedia Graphics.
2003	Son of Aladdin directed by Singeetam Srinivasa Rao in in Pentamedia Graphics. He is a Producer, screenwriter, composer, singer, lyricist, and Indian film actor. Mustafa and the Magician, In 2016 it was released as Mustafa and the Magician in the United States and was submitted for consideration for the animated feature film Oscar by this name.
2004	The Legend of Buddha directed by Shamboo Falke in Pentamedia Graphics.
2005	<ul style="list-style-type: none"> ▪ Bhagmati: The Queen of Fortunes directed by Ashok Kaul in Zee Telefilms/ Zee Institute of Creative Arts (ZICA). a number of parts and characters are in live-action of this film. ▪ Hanuman directed by V. G Samant in Percept Picture Company through the traditional techniques and won producers Guild Award for best special effects. ▪ Gulliver's Travel directed by Anita Udeep in Pentamedia Graphics. ▪ Sahibzadey: A Saga of Valor & Sacrifice directed by Sukhwinder Singh Vismaad in Vismaad through traditional techniques and First Punjabi animated feature film.

2006	<ul style="list-style-type: none"> ▪ Printed Rainbow is the Kodak Short Film Award at the International Critic's Week section of 2006 Cannes Film Festival made by Gitanjali Rao. ▪ Bal Hanuman directed by Pankaj Sharma in Astute Media Vision Eagle Home Entertainment. ▪ Kittu was a first traditional animated film in Telegu language and directed by B. Sathya in Bhargave Pictures. This film was awarded National Film Award for Best Animated Film. ▪ Krishna was a computer animated Indian feature film directed by Aman Khan. ▪ Banda Singh Bahadur directed by Sukhwinder Singh Vismaad.
2007	<ul style="list-style-type: none"> ▪ Inimey Nangathan directed by Venkybabu in Maayabhimham Media P Ltd and awarded National Film Award for Best Animated Film. ▪ Bal Ganesh computer animated music feature directed by Pankaj Sharma in Shemaroo Entertainment Astute Media Vision. ▪ Return of Hanuman action adventure film directed by Anurag Kashyap in Percept Picture Company , Toonz Animation India.
2008	<ul style="list-style-type: none"> ▪ Ghatothkach is based on life of Mahabharat directed by Singeetam Srinivasa in Shemaroo Entertainment Sun Animatics. ▪ Dashavatar based on mythology ten incarnations of Lord Vishnu directed by Anushvi Production Phoebus Media. ▪ Cheenti Cheenti Bang Bang directed by R. D Mallik in Elecom Fiesta Production. ▪ Roadside Romeo is the 3D animated romantic film written & directed by Jugal Hansraj in Walt Disney Pictures, Yash Raj Films, Disney World Cinema and Tata Elxsi. This film was awarded National Film Award for Best Animated Film, Nominated for Visual Effects Society Award for Outstanding Animation in an Animated Motion Picture. ▪ Jambo Bollywood animated film directed by Kompin Kemgumnird in Kantana Animation, Percept Picture Company and Eagle Motion Pictures. ▪ Sundri: The Brave Kaur directed by Sukhwinder Singh Vismaad in Vismaad.
2009	<p>Bal Ganesh 2 directed by Pankaj Sharma in Shemaroo Entertainment Astute Media Vison.</p>

<p>2010</p>	<ul style="list-style-type: none"> ▪ Pangaa Gang directed by Pankaj Sharma in Shemaroo Entertainment Astute Media Vision. ▪ Bal Hanuman 2 and Bal Hanuman: Return of the Demon also directed by Pankaj Sharma in Astute Media Vision. ▪ Bird Idol directed by Jyotin Goel in Goel Screen craft Irealities Technology. ▪ Lava Kusa: The Warrior Twins directed by Dhavala Satyam in Dhavala Satyam based on traditional method. ▪ Baru-The Wonder Kid directed by Sachin Gote in Lemon N Yellow Productions Shri Vishnu Entertainment. ▪ Ramayana: The Epic directed by Chetan Desai in Maya Digital Media Warner Bros. India. ▪ Toonpur Ka Super Hero directed by Indian film maker, storyteller and ad-film director in Kireet Khurana based on CG animation Live-Action.
<p>2011</p>	<ul style="list-style-type: none"> ▪ Crackers directed by Anil Goyal and written by Priyank Dubey and produced under the RTM Technologies Pvt Ltd. ▪ Jumbo 2: The Return of the Big Elephant directed by Taweelap Srivuthivong in Kantana Animation Eagle Home Entertainment. ▪ SuperK-The Movie Kiara The Brave directed by Smita Maroo and vijay S. Bhanushali and written by Vibha Singh and Jaspinder S. Kang in Shemaroo Entertainment Studio.
<p>2012</p>	<ul style="list-style-type: none"> ▪ Bal Hanuman 4: Attack on the Universe directed by Pankaj Sharma in Astute Media Vision. ▪ Chhota Bheem and Curse of Damyaan directed by Rajiv Chilaka made by Green Gold Animation. ▪ Arjun – The Warrior Prince directed by Arnab Chaudhuri and produced by UTV Motion Picture, Walt Disney Pictures, Tata Elxsi. ▪ Krishna Aur Kans (Hey Krishna) directed by Vikram Veturi in Reliance Entertainment. ▪ Delhi Safari (Jungle Safari) directed by Nikhil Advani in Krayon Pictures . ▪ Sons of Ram directed by Kushal Ruia in Maya Digital Studios, ACK Animation Studios, Cartoon Network India.

	<ul style="list-style-type: none"> ▪ Chooran Goli directed by Pankaj Sharma in Astute Media Cision. ▪ Keymon & Nani In Space Adventure produced by DQ entertainment International and Viacom 18 Motion Picture, directed by RK Deepak. ▪ Swami Ayyappan directed by Chetan Sharma and Mahesh Vettiyar in Toonz Animation India. ▪ Bhai Subeg Singh Shahbaz Singh directed by Sukhwinder Singh in Vismaad.
2013	<ul style="list-style-type: none"> ▪ The Adventures of Sinbad directed by Shinjan Neogi Abhishek Panchal in Lodi Films Pvt. Ltd. ▪ Gunja A Wonder Girl directed by Reshma Jaiswal in Rudra Eye Network. ▪ Bablu-The Naughty Genie directed by Pankaj Sharma in Astute Media Vision. ▪ Chhota Bheem and the Throne of Bali directed by Rajiv Chilaka in Green Gold Animation Hyderabad. ▪ Savita Bhabhi directed by Puneet Agarwal in Kirtu. ▪ Once Upon a Time directed by Binu Sasidharan in FX3 Productions VIPs International.
2014	<ul style="list-style-type: none"> ▪ Mighty Raju: Rio Calling directed by Rajiv Chilaka in Green Gold Animation and awarded FICCI BAF for Best Indian Animated Feature Film. ▪ Kochadaiyaan directed by Soundarya Rajinikanth in Eros International Media One Global Entertainment Cinemorphic. ▪ Chaar Sahibzaade directed by Harry Baweja in Baweja Movies Irealities Technology.
2016	<ul style="list-style-type: none"> ▪ Chhota Bheem Himalayan Adventures directed by Rajiv Chilaka in Green Gold Animation, Hyderabad. ▪ Motu Patlu: King Of Kings directed by Suhas D. Kadav in Viacom 18 Motion Pictures, Cosmos Entertainment, Maya Digital Studios. ▪ Mahayodha Rama directed by Rohit Vaid in Contiloe Pictures in India. ▪ Chaar Sahibzaade: Rise of Banda Singh Bahadur directed by Harry Baweja in Eros International Baweja Movies Prime Focus. ▪ Sarvagunakar Srimanta Sankardeva directed by Manju Borah in AM Television.
2017	<ul style="list-style-type: none"> ▪ Hanuman Da' Damdaar directed by Ruchi Narain in R.A.T Films Percept Picture Company.
2018	<ul style="list-style-type: none"> ▪ Prabho Shivaji Raja directed by Nitesh Muley in Ganraj Entertainment.

	<ul style="list-style-type: none"> ▪ Hanuman vs Mahiravana directed by Ezhil Vendan in Green Gold Animations. ▪ Guru Da Banda directed by Jassi Chana in Pritam Film Production
2019	Chhota Bheem Kung Fu Dhamaka directed by Rajiv Chilaka in Green Gold Animations.

Table 3. Timeline of Collaboration work with India cartoon animation production and International Co-productions

Time	Country involved	Milestone
1992	Japan and India	Ramayana: The Legend of Prince Rama directed by Yugo Sako and Ram Mohan in Nippon Ramayana Film Co.
2000	USA, India	Sinbad: Beyond the Veil of Mists directed by Alan Jacobs and Evan ricks in Penta media Graphics, Improvisation Corporation.
2010	Canada, India, USA	<ul style="list-style-type: none"> ▪ Alpha and Omega directed by Anthony Bell Ben Gluck in Crest Animation Productions. ▪ Gaturro directed by Gustavo Cova in Illusion Studios, Toonz Animation India, Anima Estudios.
2011	France, India, Belgium, Luxembourg, United Kingdom of Great Britain and Northern Ireland, Canada	The Prodigies directed by Antoine Charreyron in Onyx Films Studio 37 orange Fidelite Films DQ Entertainment, Lux Animation, Norman Studios.
2014	USA, India	<ul style="list-style-type: none"> ▪ The Jungle Book directed by Jun Falkenstein and Kevin Johnson in DQ Entertainment. ▪ Legends of Oz: Dorothy's Return directed by Will Finn Dan St. Pierre in Summertime Entertainment, Prana Studios.
2015	Australia, India, United States of America (USA)	Blinky Bill the Movie directed by Deane Taylor in Assemblage Entertainment, Flying Bark Productions Telegael Screen Australia.
	Mexico, India	<ul style="list-style-type: none"> ▪ Wicked Flying Monkeys directed by Alberto Mar in Anima Estudios Discreet Arts. ▪ Top Cat Begins directed by Andrés Couturier in Anima Estudios Discreet Arts

2016	Mexico, India	<ul style="list-style-type: none"> ▪ Norm of the North directed by Trevor Wall in Splash Entertainment Assemblage Entertainment Telegael. ▪ The Swan Princess: Princess Tomorrow, Pirate Today directed by Richard Rich Brian Nissen in Crest Animation Productions, Nest Family Entertainment, Streetlight Productions, Sony Wonder, Sony Pictures Home Entertainment.
2017	Mexico, India	Bunyan and Babe directed by Louis Ross in Exodus Film GroupToonz Entertainment.
	Mexico, India, South Korea	The Swan Princess: Royally Undercover directed by Richard Rich in Crest Animation Productions, Nest Family Entertainment, Sony Wonder, Streetlight Productions, Sony Pictures Home Entertainment.

All the above animated cartoon films or series designed of all cartoon characters are very popular in entertainment world and all characters have their own identity. But among them the Indian cartoons character design is not showing the aesthetic and ethnicity in a full pledged way. At the same time, it is true that in some of the Indian works it has been tried to bring Indian context fully in the cartoon character design. May be due to the collaboration with the other countries the Indian cartoon character designs are getting influenced by foreign style and so Indian ethnic stylization is somewhere missing. On the other hand, it has been also observed that a few film or movies stories are based on Indian context and style but cartoon characterization are not matched with the Indian anthropology and does not give an Indian-ness. To give Indian-ness in Indian production, there is a scope to work to define Indian cartoon character and what approach can be taken to have that; can it be through the aesthetic and ethnicity? The present work tries to address this issues.

1.2.3 Expression of Idea through Cartoon and Animation

Animation widely known form is the rapid display of sequence of images of 2D or 3D artwork or model positions to create an illusion of movement. To present an animation for a particular purpose, one needs to idealize the character formation so that it serves the designated purpose of that animated cartoon character and emphasis on the particular subject. The creation of non-trivial animation works has developed as a form of more than just filmmaking with wider aspects. Presentation of an animated cartoon character should not only serve the purpose of its use but also should come out as an overall enchantment to

the audience creating a widespread positive impact on their minds. Criticism of animation has been common for all aspects of its related fields since its inception. With its popularity, a large amount of criticism has arisen, especially animated feature length films.

Many concerns of cultural representation, psychological effects on children have been brought up around the animation industry, which has remained rather politically unchanged and stagnant since its inception into mainstream culture (Green, 1997). Rather than just changing the entire ideation of the animation one needs to focus on the priority for creating an impact for the viewers to totally grasp the thing that the presenter wishes to convey. The need to express something that is better done with the help of animation is commonly done with the help of animation techniques. For an animated cartoon character to serve its suitable purpose it needs to be formed and created according to the theme and the mode of the presented subject, so that the viewers would not feel distracted from the original subject matter that it wants to convey.

The moment, the audiences feel that the presented subject has got something quite interesting and something that is different from rest of the textual or verbal presentations, that is the moment the ideation of the animation comes into full play. The way the presenter interprets something that is way ahead or different from as usual is the key to present an animated cartoon character to the full potential of it. To increase the interest level of the viewers and keep their involvement engaged to such an extent that nobody feels distracted and lagged, the presenter needs to think obvious things in such manner that the animation feels good and pleases the audience. Sometimes digging to the core level of the subject is very necessary to catch the audience by total surprise.

It is noticed that a particular idea which is not directly relatable to the subject matter through real life photography and filming can be presented with the help of animation in such manner where exaggeration and abstract presentation that it automatically becomes relatable to the subject matter and even the orientation of the animated cartoon character remains stable and to the mark of actual execution

1.3 The Transition from Cartoon & Animation

Cartoon animation series or films are apparently targeted to children whereas in reality the viewers are the whole family. Though the basic structure follows the children's genre along with simple visual appeals and a storyline.

Lot of these animated films also attract adults and parents as well because many a time stories and the content being shown can have a serious meaning presented through the visual elements and humorous presentation as experienced in Disney "UP" where it has humor with simplistic character structures but the story revolved around an upsetting theme of a man's journey after losing his wife. The hidden theme of the plot that children might not understand or grasp at that tender age. Animation approaches towards pleasing all audiences who view it and yet it is primarily targeted towards children and come up with a film that even the grownups can enjoy. The challenge now is how to approach in today's technology and expertise in creativity (DiSessa, 1982).

Walt Disney once said, "Animation offers a medium of storytelling and visual entertainment which can bring pleasure and information to people belonging to all ages everywhere in the world." Animation medium uses a storytelling style of presentation where it scopes for imagination on what is told and is the basic character to closely related to fantasy and liked by most of the viewers.

Globally various new gateways are opened through the cartoon animation style of vision with surprising design approaches. The viewers were introduced to talking animals to dancing fairies. Cartoon animation is a gift for viewers mostly kids, which gives the imagination of the most non-living things, dancing to the beat of a song, belief in fairy tales etc. The popular Jungle Book, Ducktales, Tom & Jerry, always reminded the viewers about the fun of imaginary animals and non-living things that can talk and run, too can entertain the audience. Many have tried to recreate the Hindu mythological characters like Krishna, Ganesha and Chota Bheem etc. which have an impact on the children.

From the Vedas, the epic story of Mahayoddha Rama - The Indian super hero, has been launched by the Contiloe. Such animated films or series place a new set of goals for the production houses. These type of films or series create interest in kids as well as adults about epic content and other various aspects. It is known that innovative thinking works on new challenges, create impact on the viewers' concept with a new flow of entertainment thinking in present scenario. Animation industries are trying to achieve the attention of their

target groups (viewers) through the concept of cartoon character design so that their production level can reach the highest stage.

From reel to animation, this transfer was quite challenging even though the mythological characters and their story had not changed. Storytelling was the most crucial part and that part had to be different. The selection of the main characters and how to focus it on a totally different target audience, was one of the toughest jobs. Mythological representation of different characters like Hanuman, Ram have been produced in front of the large collection of viewers from children to older generations by the Hindi general entertainment channels (GECs). Various departments of animation production are trying to impress kids as well as their parents right from the beginning through different creative techniques, skills and innovative design challenges.

The viewership of animation audience is as large as this world. English animated movies like Despicable Me, Ice Age, Kung Fu Panda, etc. are great success globally. Now a day's Hindi general entertainment channels (GECs) are focusing on mythological stories, which is really a refreshment for the viewers. The genre has become a tool to teach not only our kids but also adults and set the stories right out of Amar Chitra Katha. The involvement of animation and animation concepts are prospering at decent rate. Subjects with complex concepts and tough relations like Mathematics and Science can be easily taught to students with the help of animation and smart classes.

In present days' animation is also involved in the making of syllabus for different educational steps like e-learning process. The complex anatomy of the human body can be shown through proper use of animation to help young doctors to understand better. Training for flight pilots can also be given with the help of animation by using animated simulations to help the pilot keep practicing. Animation is not only a tool for educating the masses but can play a crucial role in the security aspect of the society and any country. Military personnel are trained with simulation to teach tactical decision, making skills and train themselves. Animation cannot be limited to one age group of audience, though at the majority of the times, the children are considered as the main target users of animation pieces but it could serve a whole lot of purposes at different age groups of audience.

1.4 Cartoon and Animation: The Present Scenario of Production

It is known that in the present days cartoon animation is getting highly influential entertainment for kids as well as adults all over the world. Kids are more attracted towards the cartoon animation. In Indian scenario it has been observed that kids are the most interested viewers of cartoon animation alike foreign scenario. Cartoon animation dominates entertainment market. Globally as well as Indian perspective are discussed below.

1.4.1 Global Scenario

At the present scenario, a huge aspect for communication is dependent on animation and a lot of work regarding animation is being carried out in today's world. Studies based on the workflow and strategies involving various stages of animation is being carried out at an encouraging rate. The industry has evolved tremendously in the course of time and as a result has created some mandatory aspects and regulations for the approach. The market strategies are somewhat different for different animation fields and yet the root regulatory aspects remain similar. Here are some of the experimental market scenarios for established and well known cartoon animations.

According to Aesthetes Benedetto Croce, an artist having skills is to create the motives that result in the readers' aesthetic to generate stimuli (Croce, 1963). It is a creative aspect for the animation role modelling and also should essentially create stimulus for the audience to come and view the animation.

Peng (2016) in his journal, "Market Analysis about Successful Animation Characters and The Important Elements Point of Create Animated Characters", stated that, creativity can also be considered as an activity that involves creative thinking and those having this aspect understood would have a strong visual result and will gradually grab the attention of the audience. At the present scenario, the animation market is booming at a high rate. The animation industries in China have seen a substantial growth and development in the recent years. Beside this, animation professionals and scope for higher education and vocational education has also seen development. Peng further states that, even with all the growth and development, there are very few on the market with outstanding quality of work while keeping the originality and artistry intact.

Kim (2011), in his study, ' Success factors of animation: a case study of Pororo', stated that Pororo the Little Penguin, which was a Korean TV animation series saw a rise in popularity and higher amount of viewing audience. While it was broadcasted in 130 countries, it gained a 57% viewer rating only in France (Min, 2014; Lee *et al.*, 2015). The original reason behind that it caught the attention of native as well as foreign young audience was that Pororo the Little Penguin had successfully captured the realistic and well organized personality with physical appearance of the prominent characters that were pre-defined in the production and pre-production stages. Many animated TV series, made in the United States have prospered with tight narrative structures and prominent characters from mythology, legends and fictional sources and has done a very good performance. As for the Japanese animation, they have incorporated their cultural aspects in a unique manner and with creative approach to establish their own genre (Peng, 2016).

1.4.2 Indian Portfolio

India has seen its part of animation pieces since 1974 with the title “Ek Anek Aur Ekta”, and ever since it has evolved in a billion-dollar industry. Animation emerged in India due to the initiative of Ministry of Information and Broadcasting, under government of India. In 1956, under the American Technical Co-operation mission, Clair Weeks came to India for setting up the first animation studio which later produced a piece of animation known as 'The Banyan Deer', in the year 1957. An interesting trend that helped the Indian animation industry to take its shape is the use of history, mythology and folk-lore as a source of content. During the 90s the Indian animation industry saw a steady flow of work (P.A.Inamdar College of Visual Effects, Design & Arts. 2014).

There have been many Indian cartoonists those who actively contributed to the formation of the Indian animation industry and market of as we know it is in the present times. Names such as Abu Abraham, Bal Thackeray, K. Shankar Pillai and R. K. Laxman have influenced the society with their sarcastic cartoons as well as political cartoons, often with a sense of humour and satire (Yoo, 2017).

The animation industry in India has three major aspects namely- Entertainment Animation, Entertainment Visual Effects and Custom Content Development. The majority of the works are titled under Custom Content Development or Outsourcing. This so called

phenomenon in the animation market has intensely increased the growth of Indian animation market and as a result Indian controls the 8% of the world's animation economy (TATA Strategic Management group, 2010).

At the present times, names such as KireetKhurana, Rajiv Chilaka, Ishu Patel and Bhimsa in Khurana have delivered exclusive animation pieces such as Toonpur Ka Super Hero, Detective Naani, Krishna series and Choota Bheem. These animation artworks have set the standards for the Indian animation industries and also examples of how proficiently the animation market can hold strong grounds in the Indian subcontinent (www.indiaeducation.net).

1.4.3 Relevance with Reference to Today's Communication

Animated cartoon characters and their use around today's world is quite prominent and being enhanced day by day. All aspects that are being dealt in most of the world activities can be presented by the help of animation. Once a character is formed, its use depends on the media and field it is associated with.

In the world of medical science also many crucial operations can be very minutely presented and their after execution can also be very well understood. This can help the upcoming generation of doctors can have a detailed visual communication on the subject other than their field of practical operations.

In the field of education, lessons can be presented to the students in a sequential way and resultantly create easier grasping aspects. Students who often feel lagged behind in some subjects can easily up mark their performances with the help of animation techniques. Students will have generalized idea. Interest's level of students can be increased if the use of animated cartoon characters are made. Military operations can be briefed and the training of the specialized soldiers can be made very quickly and can save a lot of time. In the world of economy and world business, animated cartoon characters play a very vital role as most of the trade making centers or organizations now seemly depend on the animation techniques to create eye catching advertisements which nectar buyers and viewers. Presentation of animated cartoon characters on the subject area highly depends on the characterization and isolation of the use of that cartoon character. Presentation of well-

developed animated cartoon characters can have a vast area of execution. Depending on the necessity of a particular issue that would be more appreciated if shown through the use of animation techniques.

1.5 Character Design Features of Cartoon and Animation

In all kinds of medias and forms, in all stories and narrative work various characters can be found which are used to make stories for books, movie, theatre, play or game. The creation of characters has been improved due to the growth of the studios or production (Lundwall, 2017).

Any comic book, graphic novel or animated feature achieve success through character design as it is one of the main elements. Designer or cartoonist try to provide express role, physicality and personality traits through the use of shape, size and proportion as their first design layout. The basic shapes and body-part proportions layer are required for design and perception (Tanvirul Md. *et al.*, 2011]. According to Bancroft (2006) and Beiman (2017), characters occupy space in the heart of the viewers through their role given in the story and for that.

Cartoon character design is a very highly impressive and challenging task for the designer. They should follow various visual steps or say creative techniques which came from the skills of designer conceptual thoughts. Viewers always remember character for their uniqueness. Practice and research are required to make a cartoon character.

1.5.1 Utilitarian Classification and Design of Cartoon and Animation

Various types of cartoons can be found in the market in respect of age, gender, race, and religion and basically there are three categories of cartoon like Comic, Illustration, and Animation.

1.5.1.1 Comics. Generally comic is a visual art as well as sequential art means it is a combination of drawing, text and different types of speech balloon with image caption. Earlier caricaturists used comic to illustrate caricatures and audiences were entertained with funny, entertaining and immaterial stories. Kids are very much influenced by such various funny entertaining cartoon characters like Naruto, Doreamon, Crayon Shin-Chan, Garfield,

Ujang, Kampong Boy, and Old Master Q. (Chong, 2008). Even they use to store the pictures of their favorite comics' cartoon. According to Will Eisner comics "... the printed arrangement of art and balloons in sequence, particularly in comic books" (Will,1996). Combination of sequential drawings creates a comic strip which is based on story and published in newspapers and magazines. It has been seen that India has produced various comic strips of different tastes and children have absorbed these comic strips very well. So it is required to work more on comic to include Indian aesthetic ethnicity in cartoon characters of comics.

1.5.1.2 Illustration. Drawing, painting, photograph etc. are deepened on Illustration concept and visually story, poem or a newspaper article can be explained by illustration.

It is known that earlier cave paintings were used as the means of illustration, later on printing press, illuminated manuscripts were hand-illustrated. During the 15th century Woodcut illustrations on books were available and 16th and 17th centuries printing came in existence as the means of reproduction of illustrations. Lithography was introduced to produce at the end of the 18th century (Chong,2008). Illustration is getting advanced day by day. New and various types of cartoon characters are coming out with the help of story board through illustration which influence children a lot to use these cartoon characters as greeting cards, advertisement, posters or cover art for books and magazines. The function of illustration is to make faces of characters and emotion in a story and create relation of brands to the ideas of human expression, individuality, and creativity.

1.5.1.3 Animation. Animation is the optical illusion of movement made by the consistent presentation of pictures of static components. The animation world is producing various animated series or films everyday of different ideas, concepts, stories, techniques etc. The Incredibles, Pokemon, Mickey Mouse, Kampong Boy, and Power Puff Girl etc. are examples of some animated products.

Animation productions depends on silks and techniques. Techniques produce and create each frame of a film or series individually. These frames are made by computers. In present day many updated software are available through which new planning and works can be implemented. These type of updated animation works attract the viewers a lot. As usually animation is getting flourished through cartoon character.

Early instances of endeavors to catch the wonder of movement into a still drawing can be found in Paleolithic cavern depictions, where creatures are appeared with different legs in overlay positions, unmistakably endeavoring to express the watched development. The phenakistoscope, zoetrope, praxinoscope and flip book, were early animation gadgets to create development from successive illustrations utilizing mechanical methods (Guy, 2017). Early animation gadgets gave the gate way to think and create animated works. In present day with the help of the animation gadgets new works are coming out, based on new techniques.

1.5.2 Character Design: Issues and Concern

Freddy (2015) has worked on character design by using aesthetic in animation sector. Distinguish mental and moral qualities of a person can be considered as character. It differs from person to person and sometimes it even determines the gesture-posture of an individual. In 1946, Asch (2015), an American psychologist wrote an article, 'Forming Impressions of Personality' where he talked about how "we look at a person and immediately a certain impression of his character forms itself in us". According to Su Haitao (2011) a skilled character designer and writer of the book, *Alive Character Design: For Game, Animation and Film* and described it, "design of human or humanlike characters of distinctive uniqueness and rich features for all kinds of visual media". Various opinions about character design indicates that every character has its uniqueness which can be seen in attire, face structure, skin coloures etc.

Sometimes, it gets difficult to follow the character design principles to the point as it differs from designer to designer. Many times, perspective of the designer determines the design of the character. Bodily features of a character can give an idea about its personality. The visual aesthetic of a character can be made up with some important elements like shape, colour and proportion. These are the part of features. While creating characters, designers give importance to costume, hair, accessories and props as the character design can be made highly naturalistic and realistic or well stylized (Freddy, 2015). The main motto of the designer is to make the cartoon character suitable with the overall animation studio pipeline.

Tillman (2019), a character designer and the author says how "the character is always in service to the story". The success of a character mostly depends on the story and

script. So it can be said in the field of character design, back story influences the visual appearance of the character. Before the making of a fictional character, a back story is created which plays a very significant role in the appearance of the character. According to Haitao (2011), a character designer needs to give importance to some basic essentials of the character like personality, hobbies, friends, families and even pets of the character. According to researcher a character becomes alive with these said essentials. Tillman also utters that while making the character, the designer should think about some questions regarding the character like who, what, when, why, how. The answers of these questions make a character unique and it influences the success of the project. With the help of back story, a character gets connected with the viewers. It establishes the attire, appearance, talk, behaviour etc. It means every character has its own and unique identity. From this discussion it is clear that research is necessary to make a distinctive character.

1.5.3 Archetypes or Prototypes of Character Design

American character designer Francis Tsai talks about how a character designer give importance to "visual cues" in an article in the Imagine FX magazine (Freddy, 2015; Tillman, 2019) speaks about archetypes as “the original model of a person, trait, or behaviour that we as humans wish to copy or emulate”. According to Asch (2015) a common thought of a person is made from a grouping of different characters which this person owns.

In case of storytelling and character design the common thought plays a vital role in the making of characters behaviour. Aesthetic ethnicity determines the appearance character of the archetypes which make them worldwide popular and recognized by the audience very easily. Archetypes have been categorized into various types. In storytelling and character design only some are common from them. Here the types are as follows:

Table 4. Characteristics of the Archetypes

Name of Character	Characteristic Features
Hero	Fearless and always stands with the good character.
Shadow or opposite of hero	Evil, egoistical and selfish.
Fool	The confused character who puts others in problems.

Anima/animus	Have gorgeous look and decent behaviour, gets attention of the hero.
The mentor	Guides the hero.
The trickster	Who deals with others in a diplomatic way and tries to full fill his or her own interest.

Each archetype acts according to their role to take way the story ahead. While the designing of the character, visual appearance is given importance by the character designer which helps the audience to recognize the characters of a story.

“How Can a Character’s Personality be Conveyed Visually, through Shape”, a paper written by Ekstrom (2013) put slight on halo effect in character design. This effect refers to the visual appearance where people hopes or thinks that the beauty expresses the good. According to a psychology professor at the University of Toronto, Dion (1972) generally the people who are gorgeous in bodily appearance are measured as greater than others who do not have.

From the above discussion it is clear that the Archetypes play a vital part in the making of character design. That is why cartoon character designers focus on aesthetic ethnicity to create a significant cartoon character.

1.5.4 Physical Features of Character Design

In character design physical aesthetics are given to the character for the development for the character's personality. It is very important to give the perfection to the character that is why shape colors and proportions are given priority. Freddy (2015) has talked about these important parts and here it has been discussed.

1.5.4.1 Shapes. Shape is very vital point for the creation of a cartoon character and squares, circles and triangles are mostly used shapes. The square represents confidence, stability, order, security etc. which make the character strong and reliable. According to Tillman (2019), that is the reason why the male hero is given square jaws and shoulders. From the feature film EPIC the character Ronin is one of the good examples of it. Inflexibility and strictness also get reflected through the square shape. Circles represents liveliness, risk-free, innocent, wholeness, and comfort. Even in nature also rounded shapes are considered

as non-aggressive and flexible. Most of the time pointed corners shows negativity like evil characters are mostly designed with diamond-shaped nose, pointy ears etc.

Basically shapes are related to the character as the profile sketches. Through the shapes, viewers or audience get clarity about the actions of the character. Tillman (2019) says that a character becomes full of life and nice when it is understood by its viewers. Even with the help of alike shapes, characters of the same group can be easily identified by the viewers (Freddy, 2015).

1.5.4.2 Colour. According to Stone *et al.* (2008) harmonious colour combination is a part of colour theory which got developed in the time of Leonardo da Vinci. Basically all colours come from three primary colours like red, yellow and blue. Colour has its own language which can be dealt with emotion and it has a psychological effect on its viewers. Colour expresses different meaning in various culture still worldwide there are some common sensitivities. Tillman speaks about basic primary colours and the secondary colours means the combination of colours like orange, green and purple etc. Red colour represents danger, enthusiasm, aspiration, force, anger, authority, ability, love and feelings. Blue represents a feeling of coldness, sorrow, knowledge, trust, remedial, respect, sympathetic, accuracy and intellect. Yellow colour symbolizes feelings of enjoyment, pleasure, energy, illness and distrust. Tillman (2019) also discusses about other colours and their symbolizing matters. In the creation of cartoon character design colour plays a significant role and it helps audience to understand the nature of the character. While using the colour for a character, the background story should be in mind.

1.5.4.3 Proportions. Freddy (2015) has discussed about proportion in his paper. Proportion increases the attention towards the design of a character and highlights certain characteristics about them. Cohen (2006) in his book, *Character Design: Learning the art of cartooning step by step* says that head ratios have importance in the measurement of a cartoon character. According to him, characters with three head tall are judged as sweet or young. In case of super heroes most of them are made up with head ratios of eight heads tall. For example, Japanese manga character design has been taken. These are designed conventionally as three head tall and with proportion of heavy head. It has been done to make a sense of attractiveness and humor among children and teenagers. Many more designers have made up cartoon character design with heavy head. Sometimes characters are designed with a ratio of larger arms and hands which is nonrealistic. This type of design

can be found in Pixar's *Wreck it Ralph* (2012). The reason behind this design was to show the character as damager of things, whether purposely or un-purposely. So it is clear that proportion is an important element in the making of cartoon character.

1.5.4.4 Stylized character design. According to Freddy (2015) style can be categorized in two different ways like stylized or naturalistic. Basically cartoon based projects are having stylized characters. These type of characters can be designed with exaggerated shapes, proportions and creativity when a character is explained by illustrated outline (Ekström, 2013). In the world of cartoon animation many stylized cartoon characters have been designed by the various cartoon designers. Walt Disney's *Bugs Bunny*, Cartoon Network's *Dexter's Laboratory* and *The Power Puff Girls* are the examples of it. Children use to copy these stylized characters to which they are very much attracted.

1.5.4.5 Costumes and accessories. Founded from the research of Freddy (2015) that character's personality will be developed through the costumes, hair, accessories and these are might be provided to practice shape, colour and proportions. From Thomas *et al.* (1995) research paper, it is found that English comic character Charlie Chapline said, "... the clothes and make up made me feel like the person he was (the character). I began to know him, and by the time I walked on stage he was fully born". It is clear that costumes play a vital role in the making of characters and audience also get interest for this. As the Disney's animation designer Thomas *et al.* (1995) and Ollie Johnston also wrote, "...the specific articles that the character wears make them a specific individual" and "... everyone is stimulated by the personality traits and cartoon business now that the character is becoming definite". Costumes create the identity of the characters. This is the reason why different characters are designed with different costumes. According to Cohen (2006) it helps the viewers or audience to recognize the character as well as their work, activities in the society, etc.

1.5.5 Production Pipeline of Character Design

Freddy (2015) includes in his research that in the animation production industry the project of making a character depends on the pipeline which is divided into three sections, they are pre-production, production and post-production (Freddy,2015). A character is created with these three section of pipeline. The work of the three sections can be different as per the project or content. Here, three section are briefly disused below.

1.5.5.1 Pre-production. Preproduction takes over the making of a cartoon character through the research. It creates a character on the concepts through the aesthetic view. When character has been that times it is required to observe variation about the main character and the other character. While making a character basic statistics, distinguishing features, social characteristics, attributes and attitudes, emotional characteristics, spiritual characteristics are given importance to improve the cartoon character design. According to Haitao, after having the knowledge about the character, the character designer does research for encouragement and suggestion regarding the making and development of a character. About a designer he also said, “curiosity coupled with acute observation” to produce various motivation. Even style or direction for the making of character is taken forward with the help of motivation and it continues the flow of ideas to the designer (Su H *et al.*, 2011). So, Uniqueness and individuality of the design as well as reality based concepts have importance in the making of character. Alike motivation, reference is also vital as it plays role in the creation of gesture posture of the character. After the completion of character making layout design, concept designer waits for the approval of the production Director and being approved it goes to the production for the implementation of the designed character.

1.5.5.2 Production. Production is the second stage of Character design where it gets developed. In this section the design of the character is refined through the regular sketch on the papers and different angle are drawn. Sometimes, keeping the likes and dislikes of the client in mind, the design of the character is exaggerated. In the creation of character, stylization means accessories, costume and hair. These are the elements which are needed to be developed to give the character a wholeness.

Later on 'clean up' process comes forward which is done by the clean-up artist. In this process the character is lined up with clarity and boldness means a final structure of a character is made. Then colouring stage approaches. The designer works on different colours to make the character visually nice.

After that texture, cloth and pattern are given to the character for realistic feeling. In this stage a character comes up with its full characteristic and gets approval from the clients. Lastly, the approved character goes to the post production part. There it is approved as the final character.

1.5.5.3 Post-Production. After satisfaction, it goes to the next step that is post production. In this process the character gets more detailing. Then the designer makes a character sheet which is called turnaround. Detailing of expression pose sheets are provided in this turnaround sheet. The character sheet is distributed among the artists from where they get the idea about the appearances of the character from all angles. Basically, it is made up of drawings of a character having front view, side view, back view and three fourth angle.

When the character goes to the three dimensional program, at that time model, texture, Rigging and most importantly facial expression divisions are required. After that it goes to the animation, lighting, compositing, VFX divisions and lastly to the editing and rendering part.

With the help of these above discussed important stages a character appears in front of the viewers or audiences through a cartoon animation movie where audiences get the idea about the culture of the character. It influences the viewers or audiences that increases the demands of the production house as well as country also.

1.5.6 Character Ideology

In this marketing strategies, it can get spread worldwide and may achieve popularity. In this way, character formation rapidly establishes a connection with the preferences of different clients (Croce, 1963).

The creation of character is the main part of a cartoon animation project. Although media plays a vital role for the success of a character, at the same time it is also true that the design of the character also attracts the people. Through it people gets the way to enter into the story on which the success of the character as well as the story depends (Peng, 2016).

The above discussion states that the character ideology not only depends on cartoon character designer's interest but also depends on outlook of the viewers.

1.6 Indian-ness: The Identity to Express

Here are a few discernments which may not adjust to the present substances of India. One must, in any case, remember that the 'present' India may not be simply valid for India or express her most astounding possibilities. What we are introducing here is our origination

of the more profound and inward being of India which contains her remarkable virtuoso and her higher conceivable outcomes.

As a matter of first importance, an Indian does not think about his country as a stretch of geology or an idea. He trusts that India is a living heavenly power, an incredible goddess and a part of Universal Energy. His concept of energy is to end up aware of this heavenly soul of the country and to venerate and serve her as the Mother. The Indian sees or tries to find in the topography of the country, the body of the Mother; in the financial, social and political existence of the country, Her indispensable power; in its way of life and religion, craftsmanship and writing, science and rationality, Her Mind and Soul. In the history and social legacy of India, the Indian can recognize the one of a kind otherworldly virtuoso of the spirit of India and her predetermination.

The Indian has a natural instinct and confidence in a profound reality past Mind as a definitive source and point of life. This instinct need not really show itself as a confidence in God. It might communicate as an earnest and steady mission for Truth. Yet, the Indian personality isn't happy with the external truth of law and procedure and marvel. Its desire is for the most profound root and embodiment of things, for instance, on the off chance that he is a researcher he isn't happy with knowing the laws and procedure of the external type of issue; he looks further on for the otherworldly cause and quintessence of issue. On the off chance that he is of a religious personality, he has an instinctual confidence in the inhabiting heavenliness. He scans for the holiness inside instead of without. Be that as it may, he doesn't have any elitist disdain for the admirers of external structure. He trusts that the inescapable Divine can show in any external structure or image.

Different qualities of the Indian religious personality are its non-unyielding and all-inclusive way to deal with the awesome reality. The Vedic announcement, "The Reality is one, yet the sages call it differently" was greatly implanted into the Indian mind. This incomparable resilience of the Indian mind can acknowledge even secularism as a religion and a way to God. The Indian religious personality could acknowledge Buddha who lectured a non-mystical religion, as a heavenly manifestation. Truth be told three of the best yogis of India, Buddha, Mahavira and Patanjali, lectured non-mystical otherworldliness and trusted that confidence in an imaginative godhead was redundant for profound salvation. All the three were acknowledged and worshiped by the Indian religious personality as incredible profound Figures. This is on the grounds that the Indian trusts that

a true and benevolent journey for Truth, in whatever field of movement, is as much a religious or otherworldly frame of mind as an enthusiastic confidence and commitment to God.

1.6.1 Indian Ethnicity: Tradition, Heritage and Society

Indian Cultural history has been inferred by the retaining traditions, conventions, and customs from the two intruders and migrants. Various Indian traditions, social practices and talks are instances of this mixing together over hundreds of years. It was the origination of numerous religious frameworks like Hinduism, Buddhism, Sikhism which impacted this nation as well as the neighboring nations. India's method of life is among the world's most proficient; human advancement in India started around 4,500 years prior. Several sources depict it as 'Sa Prathama Sanskrati Vishvavara' — the first and the preeminent culture on the planet, as indicated by the All World Gayatri Pariwar (AWGP) association.

Artworks have been the most loved method of communication of human sentiments. In old India it has been even utilized as a device to show someone's religious convictions. Cavern Paintings from Ajanta, Ellora, Khajurago and Temple Paintings all are the declaration of this reality as it were. Most Rock workmanship in India is for the most part affected by Hinduism or Buddhism. Painting isn't really constantly made on a paper canvas or on the stones in India a naturally made hued flour structure (rangoli) is as yet a typical sight outside the doorstep of many (generally South Indian) Indian homes.

India is a place where there is shading and various societies, so clear in the changed dresses that beauty its kin. Indian conventional method for dressing is set apart by varieties, both religious and provincial with a wide selection of surfaces and styles. Straightforward Sari is hung by the Indian young ladies of various district in various style. Customary dress for Rajasthani and Gujarati young ladies are bright Ghagra-choli. South Indian young ladies wear half sari with duppatta. Churidar-kurta is worn by the north Indian young ladies however at this point a day's very famous with the youthful age also. Western dressing style is picking up its fame among the urban youth. Indian apparel is firmly related to the beautiful silk saris worn by numerous individuals of the nation's ladies.

A customary bit of dress for men is the dhoti, an unstitched bit of material that is tied around the midriff and legs. Men likewise wear a kurta, a free shirt that is worn about

knee-length. For exceptional events, men wear a sherwani or achkan, which is a long coat that with a neckline having no lapel. It is fastened to the neckline and down to the knees. A shorter adaptation of a sherwani is known as a Nehru coat. It is named after Jawaharlal Nehru, India's leader from 1947 to 1964, however Nehru never wore a Nehru coat. He favored the achkan, as per Tehelka, an Indian paper.

1.6.2 Expression Indianness: Aesthetics, Culture and Values

Generally, aesthetics is related to the field of art. Aesthetic is known as the art-appreciation as well as art experience also. Aesthetic attracts philosopher. Basically aesthetic came from a Greek word which says 'sense-perception'. Anything sensational can be regarded as aesthetic. It is related to inner emotion. Alexander Gottlieb Baumgarten first formally used the word aesthetic in 1735.

Later on it has been given a space as another branch of Philosophy. In Indian context also aesthetic has been given importance as art appreciation and art experience. In Veda, Puranas, also art forms like music, dance, architecture, painting etc., are found. Basically aesthetic comes from ethnicity. as ethnicity is related to the tradition, culture, which can be said as its own test. Ethnicity is the combination of the feeling related to the attraction of native and ancestral place/ origin/ tradition. In India there are many states and all these have their own tradition, culture. India is full of varieties cultural and traditional tastes.

That is why in Indian characteristics aesthetic ethnicity can be found easily. Many researchers are working in Indian aesthetic and ethnicity to know about the growth and development of Aesthetics in the Indian context.

Extensive Review of literature on animation /cartoon character design revealed that research is scarce w.r.t aspects viz. aesthetics; ethnicity; culture; society; tradition etc. The cartoon character / animation film/ story telling/ story boarding available as on date for public doesn't consider the above aspects of Indianness to its truest spirit per se - and their factors appear to be crucial for representation of Indian flavour in and around the cartoon character in any cartoon film/ story telling/ story boarding. There are a few lacunae in research done so far in this area resulting in very scarce documented research in the above

aspects. In addition to this, whatever could be known about the provincial characterization in India, mostly are websites which don't have regular article framework.

Hence, help of some authentic as well as popular websites has been taken to carry on the research work. The Review of Literature had no option but to adopt these websites as literature support for the present research work.

1.7 Research Done So Far

There is limited research in various arena of cartoon and animation. However, few experiments and research have done on cartoon characters. Cartoons have been used in several ways in the field of research like implementation in the advertisement, mascot design, e-learning resources, film and series, posters etc. Ms. Shuja and her group (Shuja *et al.*, 2016) attempted to explore the effectiveness of using animated characters in advertising having kids as target group. This study reflects that animated spokes or cartoon character plays a vital role in the advertisement of the product and recognition of the Product Brand Character and brand preference. Jose *et al.* (2014) has also imposed importance to the brand preferences of the kids and they also reported the positive impact of Cartoon and Animation on children for methods like e-learning resources etc. They also tried to analyze the brand preference among kids through the impact of cartoon in the association products.

Abdul MA *et al.* (2017) conducted a survey in Malaysia and Jordan, when they observed the effectiveness of brand awareness through the TV advertisement with the use of animated cartoons. A few such works have been done on the design of cartoon character across the Globe.

Some researchers have worked on the visual presentation of the character personality with the help of shape and explained how to implement the shape in the cartoon design (Islam *et al.*, 2001; Ekstrom, 2013). It is widely supported that children, especially the kids get influenced by cartoons. Studies also reflected that the picture of animated characters on packaged food & beverages manipulate the fondness and preference of the children as well as guardians' opinion about the product (Solanki *et al.*, 2015).

Approaches of research explored that animation as a way more interactive as a medium for some communication, while being applicable as techniques for educational

material also (Derya *et al.*, 2015). Kaplan *et al.* (2013) and his group in their research focused on the creation of an example which can be used 3D animation character design process through the various techniques, ideas and tools. Studies on aesthetics and design concept implementation of the three dimensional animation method have also been reported (Sekeroglu *et al.*, 2012).

Substantial quantum of works has been carried out and reported in implementation of tradition culture, art, aesthetics form etc. in cartoon design. Animation Model have been developed with the help of Chu Art Characteristics and implemented in the production (Shiyuan *et al.*, 2012). Peng, (2016) focused on the making of cartoon characters with the help of important elements and analyzed in the market (Peng, 2016). In present days, cartoon is not only used for animated movies or series but also used in gaming by the game developers. This scenario, apart from being that of entire globe, is somewhat similar for Indian context also - so far as research on caricature, comics and animation related works are concerned, with relevant association with current context.

From this literature of review, it has been found that Indian traditional, culture, aesthetic and ethnicity are of very different test and their artistic skills and concept are very impressive and communicable. In this research therefore have been attempts to create the perception and ambience of Indianness in the cartoon character design which would set in a new dimension in story telling / storyboarding / animation film.

1.8 Scope of Creating Awareness

People opting for animation as a career option are taking a field where one can enjoy while working and feel satisfied by their final outputs. The animation industry is growing at an extensive rate in today's world order and expected to grow further. It has developed itself from being an outsourcing facility to a creator of indigenous intellectual property. Opportunities exist with both government and private sectors. Those who start their own production houses can exploit the numerous hidden opportunities in animation industry up to the maximum extent. Sometimes it is referred one of the goldmine fields to explore.

The scope of animation in the entertainment industry is very high and growing each day. Not only core animated elements of the entertainment industry requires the expertise of animation but also simple and minute things in the entertainment world demand the

same. People tend to incline towards animation more than normal live action elements in the entertainment world. The viewers are pleased and grow very much interest towards it. In the present situation not only the minor aged group are the main targets but all the age groups are taken into account and content is created according to it. Education has a broader picture in the view. Each and every topic if taught with a touch of animation, it becomes quite easy for the students to undertake the matter well in their minds. It is quite intriguing to see that a simple textual or academic topics become so interesting that students tend to incline towards them more. Animation, today has very impactful resonance in socio-economic factors of the society. Animation is also quite an adequate tool spreading awareness among the public. All types of messages which are meant to spread awareness, contain animation techniques and its element even at the minimalistic approach. Animation and its area of limit is growing each day and are being accepted worldwide. Animation is indeed a powerful tool to communicate, spread awareness and for presenting things in a better way that is relatively easier to convey.

1.8.1 Scope of Research on Cartoon and Animation

Cartoon Character occupies a vast space of the entertainment world. Many works have been done on cartoon characters. Animated movies and series achieve success through cartoon character. Many countries reflect their own tradition and culture with the help of cartoon animation work and globally place it as their identifying cartoon design. These cartoons are having their own-ness which attracts the viewers towards them. In India also there is liking for cartoon animation and many works are coming out on it. Most importantly it is needed to state that there is a lack of Indian-ness in these Indian story based cartoons. So there is a scope to think about a cartoon character design and work on basic concept of cartoon principles which will present the Indian-ness completely.

1.8.2 Possibilities and feasibilities

There are many possibilities are in animation field. In present day many researcher, are working in animation field, even a few researchers are working on their domain by using animation concept. Still there is a lot of space to work on for example, use of animation principle, Pipeline in animation multimedia production house, Cartoon design, Scripting &

Storyboarding, Animation Techniques, Interface design through animation multimedia techniques and so on.

Animation is playing a vital role in kids and education are getting very much interested in animated contents, style, formation of character and that is why Indian production house are producing varieties animated works for helping the kids to gain more innovative type of concept to develop their ideas, concepts, creativity and knowledge. Presently it is seen that in this animated works Indian concept is somewhere missing, may be in cartoon character stylization, abstract of cartoon character, attire design etc. It is need to work on this space and settle a law for making cartoon character based on Indian concept, so that kids can get the Indian concept and style through this cartoon character designs. Indian production houses can also get benefit from this which will help to improve the financial part.

1.8.3 Relevance of the Idea

In animation world various countries are presenting their content, culture, style and design etc. through the cartoon character design, On the other side few countries their own cartoon animation film or series with the use of mixed concept and design.

India's animation production houses are creating their cartoon character design nicely with the use of Indian content. But it can be seen that this cartoon character design the significant of Indian content, traditional culture is missing. As it is known that India has verity of cultures and with the use of this culture different types of cartoon character design can be created which are showing Indian test and culture.

Try to create or develop a cartoon character elements design and implement in the animation film or series. After watching this cartoon character Indian children or kids will come to known about Indian traditional style and different test of different states.

1.9 Identification of Research Area

In this thesis it has been focused on the creation of cartoon character having the Indian concept. So the work has been done to find out the unique elements of different province

or states of India and with the help of these unique elements create cartoon character design which will signify the Indian tradition culture style with aesthetic attire.

There are so many province or states in India and in this thesis work has been done on Six province and states cartoon character design which are called easily Indian cartoon characters.

1.10 Research Questions:

- Are Children properly oriented towards the Indian traditions and aesthetic ethnicity as they visualized the animation/cartoon/multimedia shows with existing cartoon characters with are mostly influenced by the design element of foreign cartoon characters?
- How could we meet the requirement of Indian-ness related design elements of existing cartoon characters?
- How could the design elements represent Indian-ness in terms of aesthetics, ethnicity, tradition and socio cultural vintage of Indian subcontinent?
- How could a state-wise manifestation of Indian characteristics influenced the growing children to understand Indian-ness through animated (multimedia /cartoon based) storyboard/telling?

1.11 Hypothesis

Identification of design elements from socio culturally provincialized discourse as cartoon characters and their animated presentation would facilitate communicative- expression of Indian-ness.

1.12 Aim

The present study aimed at looking into identifying cartoon design elements towards communicative expression of Indian feel.

1.13 Objectives

- To understand the current scenario of acceptance of cartoon and animation by young children and their parents with specific reference to Indian traditions and aesthetic ethnicity.
- To study possibility of identifying manifestation of Indian cartoon characteristics and animation through socio-cultural representation.
- To study cartoon design elements of Indian Identity in terms of aesthetics, ethnicity, tradition and socio cultural vintage of Indian ambience.

1.14 Theme of Thesis

Animation entertainment is a big propaganda for the children. In present situation animation & multimedia has important part in our daily life through the entertainment process. Animation film, series and advertisement are successful only for their visualization methods and in this visualization is good or acceptable for the concept design like character design, Background (BG) design and others. As these types of animatic cartoon characters has been very famous in the world and every country try to show their culture, ethics, moral values or traditional values etc. through this animatic cartoon characters. These types of characters are liked by children first and then other people also. This cartoon character design is very significant and important part for production house or studio.

In India also there are a lot of animation production studios and these production studios are day by day creating animation films, series etc. Television Rating Point (TRP) rates are going high also. But it has been seen that most of the cartoon characters' style and form are not having Indian flavor means there is no feeling of Indian ness. This type of Cartoon character design does not show our Indian activities, Culture myth and our main origins of Indian colures it is very important to show the Indian-ness having the different taste of India.

From design Cartoon character whole world kids will get the Indian flavor. The world will have a concept of Indian content, culture, style, aesthetic and ethnicity, myth, traditionally. Production houses or studio are going to be enriched with Indian financial condition which is also going to be benefited by the success of Indian animation production house or studios.

Not only the Indian production or studios but also the other production studios of different countries may get interest to work on Indian concept and style. New demands may come regarding Indian Culture, concept, style etc.

So in this regards, needs to develop our Indian cartoon character design and try to give some important Significant Unique elements which will establishing that, these are Indian cartoon characters. Elements should be developing by depending on aesthetic ethnicity of India.

This aesthetic ethnicity design includes elements like, eye, ear, head, cloth, face shape, body colour, gesture etc. These type of design elements are coming from our Indian-ness which are seriously unique parts of every people and through these ways we can develop and establish significant or symbolized type of Indian cartoon character design.

1.15 Flow of thesis work

Two stage pilot was conducted in initial study to get into the main experimentation which is presented in chapter 3. Based on the first pilot study at the very beginning, it has been found that students were more capable to understand the subject matter better in class where the same was accompanying by audio and video clippings rather than traditional method of only lecturing.

In second pilot study carried out on school going children and guardian of Kokrajhar, Assam, India, where relevant information was collected through basic types questionnaire. It was noticed that where children like animation films and series and cartoon character but there was an affinity towards foreign cartoon characters. Most of the children watch cartoons in TV for two to three hrs. and a common express that their communication skill gets developed by this as they were exposed to different world than that of they live.

On the other side, information may also have been collected from the students guardians that they expressed much worried about their children as they were getting more attracted towards foreign cartoon characters rather than Indian cartoon characters and thus they were copying foreign behaviour that was not suitable to their live style. Guardians recommended to establish Indian cartoon character and flourish our Indian ness. So that children can get social value and ethics.

In this regards, the main experimentation was taken up to see the possibility of the creating Indian feel cartoon character design with the use of aesthetic ethnicity content and culture presented in chapter 3.

The thesis is framed in four chapters as presented below.

CHAPTER 1

Introduction: Animation and Cartoon Character Design - Setting Goal of Better Communication

The chapter presents a brief review on the animation cartoon character in the industry and prevailed practices abroad and in India, the possibility of a strategy to study in the context of expressing Indian ethos through specifying character ideology as a contributing factor in effective communication.

CHAPTER 2

Perception Prevalence On Foreign Animation Among Indian Children

This chapter experiments children's liking of animated cartoon characters and views of their guardians that motivates looking into the need for designing cartoon character in a new way with specific reference to Indian viewers.

CHAPTER 3

Elements of Cartoon Characters Reference to Perception of Indian-Ness

The third chapter is focused on unique design elements for cartoon character. This study works on potential design elements and unique features for Indian cartoon character design. 209 volunteers or participants who participated in the main experiment were taken from National level (Kendriya Vidyalaya) Schools going children. This experiment was conducted in two phases like such as first part was based on existing cartoon characters and the base of the second part was developed design cartoon character. After the completion of experiment, through statistical analysis the result of the main experiment was justified.

CHAPTER 4

Discussions and Conclusion

This chapter sums up the content of the study and discusses experimental results with the statistical points highlights the literature reviews. This chapter describes the detailing of the unique elements used to develop cartoon character having Indianness. This chapter also gives an overview of the limitation and recommendation.



CHAPTER 2: PERCEPTION AND PREVALENCE OF FOREIGN ANIMATION AND INDIAN CHILDREN

Chapter Overview

This chapter experiments children's liking of animated cartoon characters and views of their guardians that motivates looking into the need for designing cartoon character in a new way with specific reference to Indian viewers.

PERCEPTION AND PREVALENCE OF FOREIGN ANIMATION AND INDIAN CHILDREN

2.0 Introduction and Background

Cartoon / Animation are equally attractive to all age groups - from eight to eighty. Animation has very pivotal propaganda for children in India; even guardians also like the cartoon and animation. It would not be wrong to state that today's children (worldwide around) tend mostly to grow up within an ambience of animation and cartoons. Indian children are also equally infatuated in animation and multimedia based series and movies. It has also been observed that, in Indian cartoon channels, foreign animation cartoon series and movie styles are preponderant. Animation series and movies are not only for entertainment, it could also provide scope for conveying life style, ethics, culture, heritage and tradition. Foreign cartoons showcase significantly on their culture and values.

A common concern frequently posed by parents of children across India is that Indian cartoon channels broadcast animated series and movies having foreign culture, heritage, content etc. which Indian children watch, and therefrom they adopt (and often mimic) those foreign styles, content, etc. Cartoon has been reportedly influencing the perception and behaviour of school going children (Jensen, 1998). According to the psychologists when children were shown something, they used to absorb it in their brain and started reproducing themselves. It is observed that cartoons have big impact on the children with age group between 05 - 10 years which influence their mind, values and behavior (Zakia, 2016). Baya (2014) said that from television programs children could easily retain graphics and multimedia information in their mind. It raises a prime concern viz. what if foreign cartoons were getting assimilated by children in India without relating to good or bad. Multimedia presentation technique has become a big support for the children to learn lessons, content as this mode of presentation is easy to follow with visual support (Saha *et al.* 2016). Sultana (2014) stated in this context that, children can memorize almost any type of image because of their cognitive ability. They do not only store these in mind, but also bring these images in real through their behaviours and languages.

According to Hassan *et al.* (2013), behavioural change of growing children is very much influenced by cartoons because they get attached with the characters of the cartoons and start following the hero of their favourite cartoons. Children are more interested in cartoons rather than playing physical games, and thus they gradually become less interested

in their daily physical activities. He also commented that, “Cartoon network started its transmission in 1992, and gained record breaking popularity. Since August 2002, it had been watched in more than 80 million homes in the United States of America and in 145 countries through the world”. It was also reported that male children were very much influenced by violence-oriented cartoons which put impact on their behavior (Ergun, 2012). From this report, it is clear that children are quite influenced by foreign cartoon presentations.

To understand the ground scenario regarding cartoon / animation movies and their influence on Indian children, and their parents as well, that was felt quintessential to perceive and purview as on date, a pilot experiment was considered necessary to conduct. Thus, this pilot study was planned, wherein a questionnaire based two-fold survey. (for kids / children and guardians,) was undertaken in Government sponsored, Govt. aided and reputed public schools in Kokrajhar, BTAD area of Assam. The responses to the questionnaires were collected and compiled from school-going children studying in 5th to 9th standard along with the concerned and common guardians. Objectives of this survey was primarily to know about the children's thoughts behavior and preference on cartoon / animation film, i.e. what they perceive about these cartoon / animation (Indian & Foreign) from Indian production houses / studios and what idea about Indian tradition, culture, aesthetics, ethnicity and value they receive from these movies / shows.

At the same point the information on same aspects was collected from the guardians to know about their children's preferences / interest of animation cartoon series / movies, and the type of behavioural change they observe in their children as effect or side – effect of the same.

2.1 Location of Study and Sampling

The location of the study was Kokrajhar town of BTAD area of Assam considering the emerging youth of Assam, especially Bodoland within Assam, since this area was convenient to cover for the researcher and education in these areas is in growing phase (in terms of growing number of schools and higher educational Institutions coming up). The schools chosen randomly were D. N Himatsingka High School, Bimala Prasad Chaliha Memorial Babyland School, Little Flower English Medium school,

2.2 Volunteers

Healthy (free from somatic, cardiovascular, neurological, psychological and audio-visual disorders / ailments), young children aged between 9 to 15 years (12.72 ± 3.13 yrs., Mean \pm SD) and matured adults with similar psychological characteristics and aged participated in the study. The survey was conducted in two consecutive phases viz. (i) between survey on students / children and (ii) survey on guardians with similar psychophysical fitness and aged between 35 – 42 years (38.71 ± 3.72 yrs., Mean \pm SD). Some of the guardians had practices like smoking, drinking, chewing tobacco and betel with areca nuts etc.

A total of 100 students volunteered willfully without any compulsion, obligation or bid of incentive. Chosen through purposive random sampling procedure using Slovin's formula [$n = \frac{N}{1+N.e^2}$]; where n = no. of sample, N = no. population and e = margin of error (between 0.01 to 0.05, the lower the margin, the higher the accuracy of result)], the required sample size was estimated to be 100 [$\frac{110}{1+110 \times 0.03 \times 0.03} = 100.091$], and selected sample size was 100 only. It had inclusion of 5th – 9th standard students, since among school children, they were supposed to have standard level of analytical ability to distinguish and justify their choice of characteristics. The reason for excluding students up to 4th standard was the level of analytical ability to distinguish and justify their choices; while 10th – 12th standard students were excluded primarily considering their academic pressure. The students belonged primarily to middle to upper-middle socio-economic realms having primary access to cartoon channels of Indian cable networks. The motive of this check was to ensure that the respondents (volunteers) should be able to differentiate between elements and features of existing and developed cartoon characters, and to some extent, to understand the design perspectives of developed cartoon characters in contrast with the existing ones.

In similar way, 52 guardians were chosen randomly from the 100 guardians of 100 children described above, who gave voluntary consent for participation in the study.

2.3 Experimental Paradigm

The pilot study was primarily based on summary through questionnaire. The questionnaire was prepared with standard methodology and then underwent Reliability analysis using Cronbach's alpha (α) $\alpha \geq 0.8$ was accepted for validity & reliability of the questionnaire.

2.3.1 Survey on School Going Children using simple Questionnaire

Considering the ages level of education and expected level of emotional maturity / intelligence accordingly a simple questionnaire administrated on the children:



Figure 13. Collecting data from school children

2.3.2 Survey on Guardians using simple Questionnaire

In a manner similar to that for children's survey, the questionnaire for administration on guardians (adults) was prepared with the following questions.



Figure 14. Data collected from guardians

PARTICIPANT INFORM CONSENT

Research Work: Perception & Preference for Foreign & Indian Animation Among Indian Children: A Pilot Experiment on School Children and Their Parents

Researcher's Name: Mr. Bhaskar Saha
Supervisor's name: Prof. Debkumar Chakrabarti

Name:
Guardian's Name (Relation):
School:
Standard / Class: **Age:**

DECLARATION BY THE RESEARCHER

I hereby declare that I have provided requisite information about the research participant; and confirmed that s/he/it understood the experimental details and his/her role therein.

Researcher's Name: Bhaskar Saha Signed: _____ **Date:** ____/____/2017

Please answer / choose the best fit choice for each answer. Confidentiality of your response is only assured. Please try to provide the unbiased response to your best.

Answer all the questions. Give Tick marks where necessary.

1. How long (from - to) do you watch cartoon?

- (i) 1 to 2 hrs (ii) 3 to 4 hrs.

2. Is it good to watch Cartoon / Animation movies or series daily?

- (i) Yes (ii) No

3. Which is your favourite cartoon TV series / Character?

- i) Chhota Bheem
ii) Shin Chan
iii) Doraemon
iv) None

4. Which one do you like from the following options:

- i) Watching cartoon/movie.
ii) Study.
iii) Playing outside the house / in the field.

5. Which cartoon TV series is Indian and made in India?

- i) Doraemon.
ii) Chhota Bheem.

6. Two cartoon movie characters are given below. Which one do you like from them?



(i) Roadside Romeo



(ii) Kung Fu Panda

7. Any cartoon Character admires you as idol?

- (i) Yes (ii) No

8. Do you get any message from your favourite cartoon?

- (i) Yes (ii) No

9. Do you recommend any change for your favourite Cartoon Character?

- (i) Yes (ii) No

..... *

Figure 15. Questionnaire for Student

PARTICIPANT INFORMED CONSENT

Project Title: Perception & Preference for Foreign & Indian Animation Among Indian Children: A Pilot Experiment on School Children and Their Parents
Researcher's Name: Mr Bhaskar Saha
Supervisor's name: Prof. Deb Kumar Chakrabarti

DECLARATION BY THE PARTICIPANT

I hereby declare that
 ❖ I have received detailed information about this research work.
 ❖ I understand the purpose of the research work and my involvement in it.
 ❖ I understand that I may withdraw from the research project at any stage.
 ❖ I understand that whatever information gained during the study may be published, I will not be identified and my personal results will remain confidential.
 Participant's are school students under the age of 15 yrs. And hence require parental consent to be involved in research. The consent form should allow those students to agree to their involvement and for a parent to give consent for assessments in this research.

Name:.....Signed:.....Date:...../...../2017
 Education:.....Age/Sex:.....Yr./.....
 Address:.....

DECLARATION BY THE RESEARCHER

I hereby declare that I have provided requisite information about the research participant; and confirmed that she/he understood the experimental details and his/her role therein.
 Researcher's Name: Bhaskar Saha Signed: _____ Date: ____/____/2017

Demographic Information

Number of children:
 Age of your children.
 Gender of children. Female / Male
 Do your children watch any cartoon animation series or movies? Yes / No

Please answer / choose the best fit choice for each answer. Confidentiality of your response is only assured. Please try to provide the unbiased response to your best.

- 1) Which style of animation cartoon series or movies your children like most?
 i) Indian Animation ii) Foreign Animation
- 2) How long (hours per day) do your children watch cartoon animated series and movies?
 i) 1 hr. ii) 2 hr. iii) 3 hr. iv) 4 hr.
- 3) Which animation cartoon series do your children like most?
 i) Pokemon ii) Chota Bheem iii) Motu Patlu iv) Doremon
- 4) Watching the above said, have you noticed any improvement in your children?
 i) 1 ii) 2 iii) 3 iv) 4
- 5) Does it affect his/her education or other daily activities? Give your point out of five?
 i) 1 ii) 2 iii) 3 iv) 4 v) 5
- 6) Do your children try / want to follow any character / style of the above said cartoon series or movies? (i) Yes (ii) No
- 7) Do you recommend any cartoon series or movies for the children? (i) Yes (ii) No
- 8) Which type of cartoon series or movies would you like to suggest for the children?
 i) Indian ii) Foreign
- 9) Is there any message in the present cartoon series or movies? (i) Yes (ii) No
- 10) Do you think that your children are getting the Indian flavour from these cartoon animation series or movies?

- 11) Do you notice any kind of behavioural change in your children?
 i) Positive attitude & style ii) Negative attitude
- 12) Do you want to have some changes in the Indian cartoon characters? Give your point out of five.

- 13) What do you think is needed to be included in the cartoon animation series or movies?
 Give your Suggestion.

Figure 16. Questionnaire for guardians

Both the questionnaire used multiple choice based questions coming six major concepts - (1) on basic information of them and their children, (2) how much interest their children had on animation series or movies, (3) was there any behavioural change in the activities of their children after watching animated movies or series, (4) what type of cartoon series or movies they suggested or recommended for their children, (5) did their children get Indian flavor in cartoon series shown in Indian channels; and (6) did the guardian want any change in cartoon series or movies watched by their children.

2.4 Observations of the Pilot Study

This paper found the reality of children and guardian of a less privileged population of Kokrajhar in Assam, India. This was to observe that opinions of children and guardians are matching or not. Indian kids use to choose and follow the style of foreign animation which influence their behavior whereas guardians want their children to follow cartoon having Indian flavor like character style, moral, ethics, culture, content etc.

2.4.1 Viewers' Choice – The Perception and Preference of School Children

All the participants answered to all the questions patiently and unbiasedly (Fig. 17). For Question 1, 72 responses for option (i) and 28 responses for option (ii) were registered. Question 2 had 85 responses for option (i) and 15 for option (ii). Question 3 had 31 responses for option (i), 19 for (ii), 47 for (iii) and 3 for (iv). In Question 4, 52 responses for option (i), 21 responses for option (ii) and 27 responses for option (iii) were registered. Question 5 had 45 responses for option (i) and 55 responses for option (ii). Question 6 had 37 responses for option (i) and 63 responses for option (ii) were registered. For Question 7, 8 and 9 had 73, 69, 57 responses for options (i), and 27, 31, 43 responses for option (ii) were registered.

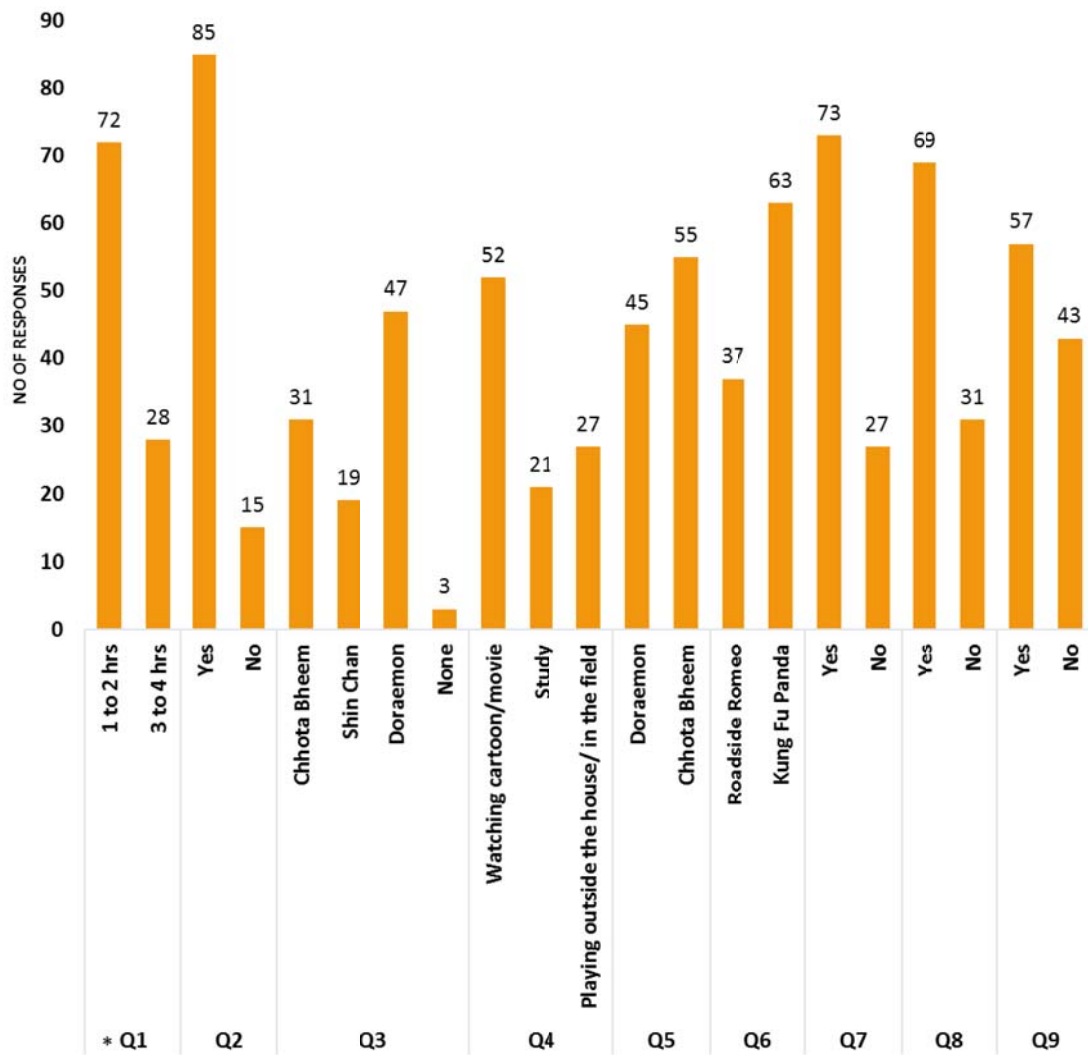


Fig. 17: Students' Response to Survey Questions on Perception and Preferences about Existing Cartoon Characters, * Questions, See Fig. 15.

2.4.2 Guardians' Choice – The Opinions and Recommendations of Parents of the School Children

All the participants answered to all the questions patiently and unbiasedly (Fig. 18). For Question 1, these was 18 responses for option (i) and 34 responses for option (ii) were registered, Question 2 had 33 responses for option (i), 8 responses for option (ii), 2 and 10 responses for option (iii) and (iv). In Question 3 had 6 responses for option (i), 10 responses for option (ii), 9 responses for option (iii) and, 35 responses for option (iv). Similarly, for Question 4, 11 responses for option (ii),

19 responses for option (iii) and 32 responses for option (iv). Question 5 had 2 responses for option (iii), 43 responses for option (iv), 7 responses for option (v). For Question 6, 43 responses for option (i), 9 responses for option (ii) were registered. Question 7 had 33 responses for option (i), 19 responses for option (ii) were registered. As well Question 8 had 17 responses for option (i), 35 responses for option (ii). Question 9 had 43 responses for option (i), 9 responses for option (ii). For Question 11, 47 responses for option (i), 5 responses for (ii) were registered.

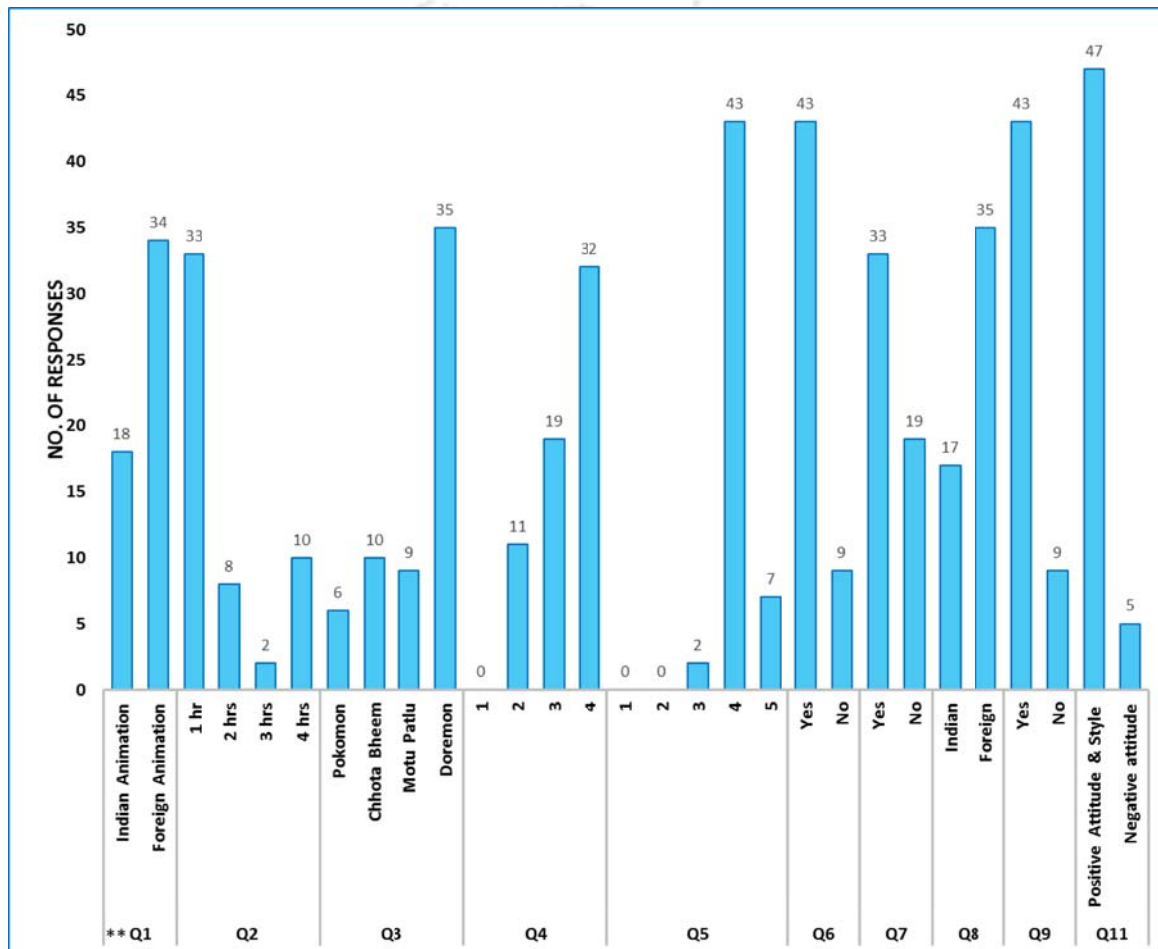


Fig. 18: Guardians' Opinions on Recommendations about Existing Cartoon Characters,

** Questions, See Fig. 16.

2.5 Comprehensive Discourse and Inference

The survey resolved with some precise observations like, there was no doubt that both the children and guardians admitted the influence of cartoon and animation series / movies in the daily life of their children. This survey probably for the first time in India brought about

the opinions of the guardians regarding impact (be it positive or negative) of existing cartoon and animation series / movies. It was observed that the guardians and children wanted the cartoon series or movies in different ways – while guardians expected a subtle yet firm Indian touch environment, character and background of the cartoon shows; children on the other hand, appeared to be happy and contented with whatever they watched in cartoon series or movies. This might be possible because they were not in the age to differentiate the really good or bad. It was also revealed that for Indian children, there was quite a strong impact of existing foreign cartoon characters, and series as a whole, compared to the prevailing Indian cartoon characters.

The survey on the guardians confirmed a definite need to wonder and ponder further into the impact of Indian character stylization to represent Indian tradition, culture, morale, ethics, value, etc. with contextual relevance; which could be brought to Indian children through character and background design representing India in its truest essence.

This could be the most important aspect of cartoon character design for and in India – motivating the researcher towards pursuing a broader research work, leading to the present thesis.

CHAPTER 3: ELEMENTS OF CARTOON CHARACTER REFERENCE TO PERCEPTION OF INDIAN-NESS

Chapter Overview

The third chapter is focused on unique design elements for cartoon character. This study works on potential design elements and unique features for Indian participants who participated in the main experiment were taken from National Level School-going children. This experiment was conducted in two phases; first part was based on existing cartoon characters and based on observation the second part was developing design cartoon character leading to Indian identity.

ELEMENTS OF CARTOON CHARACTER REFERENCE TO PERCEPTION OF INDIAN-NESS

3.0 Introduction

Various communication relevant features are identified from the reality and used in creating specific cartoon characters. Cartoon characteristics often represent a scope to expand abstract imagination of the viewers. The message encoded in cartoon and animation vide various mediums, like sketching, painting, sculptures and other art forms are decoded by the viewers and the message either gets accepted or rejected / ignored. When these are accepted, people mimic / follow that in their life or when it does not go along with the expectation of viewers, people ignore the message. When there is group in communicating this intended message (encoding) and expected understanding (decoding), unexpected or wrong things take place. The role of design in this context is to look into proper demonstration / representation technique after identifying the communicative design elements used for communication.

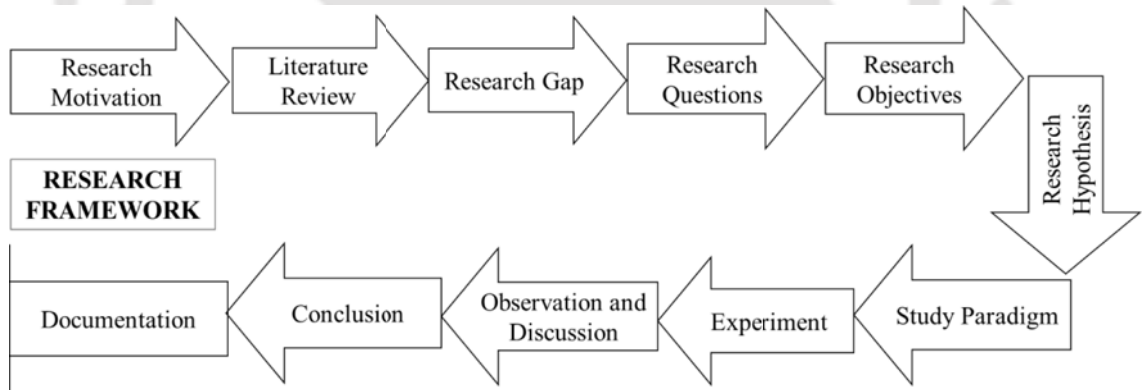


Fig. 19: Research Framework

3.1 Aspects of Cartoon Character Design: Interaction and Discussion with Design Learner and Experts

Design students of Central Institute of Technology Kokrajhar (representing local as well as other states of India) were asked in a group to name prevalent cartoon characters they feel most popular. To identify characteristic Indian flavour of traditional, culture, aesthetics and ethnicity in cartoon character, they were engaged discussion into group and come up with suggestions. In a group manner, students were asked to express their feelings on this. From

the discussion it was emerged from the discussion that specific Indian cultural aspects may be revealed and from their interaction, six culturally rich states have been identified that could be tried out as an experimental approach towards identifying the characteristic design elements.

There are numerous kinds of animation characters, for example, heroes, Villains, saints, charming characters, and anxious character, among others. This part look after the perception of design learning about what they feel and tries to develop some ideas in this regard. Students and experts were asked in groups to identify prevalent cartoon character they feel most popular. Some such popular foreign characters are discussed below in brief:



Fig. 20: Powerpuff Girls have ultra-super powers and fight against the evil forces, source: www.kidscreen.com. Image used for non-commercial academic reference only.

Cartoon Network debuted the Powerpuff Girls in "world Premeire Toons" (1995) and, they Fig. 20, are accepted as super legends. The evil forces and crime are fought by the Powerpuff Girls with the help of their ultra-super powers. These are designed as a forces of laser vision, super quality, capacity to fly, ice breath and fire breath. Blossom leads the Powerpuff Girls. Bubbles is responsive and Buttercup is the strongest fighter among Powerpuff Girls. Those character elements are very unique and the texture is very attractive (Tikkanen, 2019).

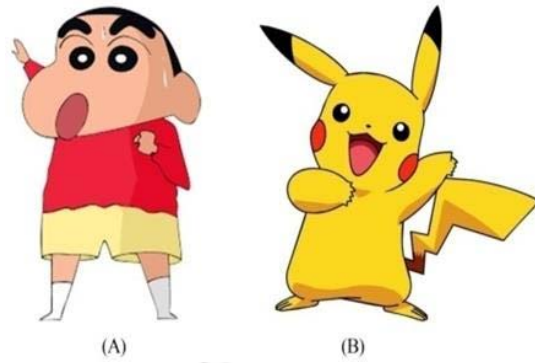


Fig. 21: [A] Crayon-Shin Chan is a unique types of caroon retrieved from www.imgbin.com and [B] Pokemon is an unique monster cartoon retrieved from <https://in.pinterest.com>, Image used for non-commercial academic purpose academic references.

Fig 21 [B], Crayon-Shin Chan and Fig 21 [A], Pokemon are unique type of cartoon characters like Pokemon acts as little Pocket Monsters who is instructed by its trainer. On the other hand, Shin-chan is a Japanese manga series written and illustrated by Yoshito Usui. Shin-chan, the little kindergarten boy has a very unique voice. These two unique characters are very popular in the children's world as well as among adults (<https://en.wikipedia.org>).



Fig. 22: Betty Boop cute female cartoon character with style gesture retrieved from <https://i.pinimg.com>

Max Fleischer produced the cute, seductive cartoon character "Betty Boop", animated short films in 1930s which was directed by Dave. Betty Boop has gigantic eyes, long eyelashes, which she bats often, and an unmistakable shrill voice, given by different on-screen characters, prominently Mae Questel. In American public, Betty Boop cartoons,

viz. Fig 22, were very famous among the best films of the series were Dizzy Dishes (1930) (Tikkanen, 2015).

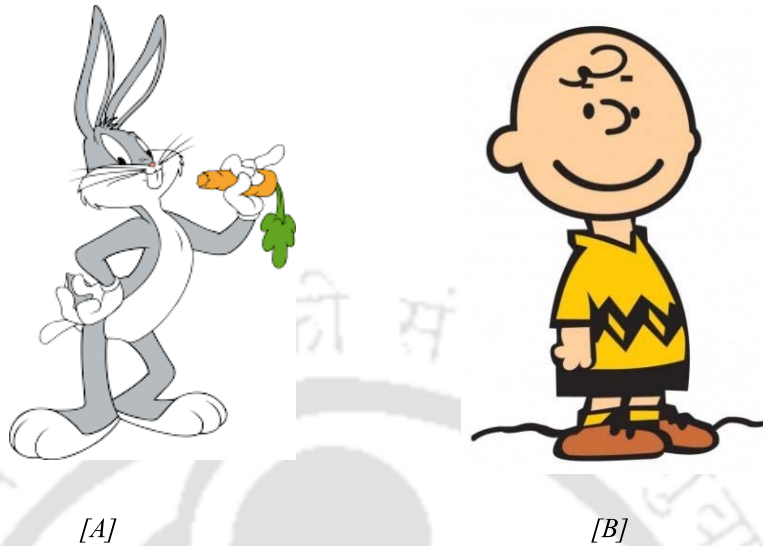


Fig. 23: [A] Bugs Bunny is famous rabbit cartoon character design retrieved from <https://en.wikipedia.org>, [B] Charlie Brown is school kid who is friendly nut humiliated, retrieved from <https://logowik.com>

Bugs Bunny was popularized by Warner Brothers and continued as one of the world's most popular cartoon characters. Bugs Bunny was sketched unintentionally by animator **Ben** (“Bugs”) Hardaway. It was a casual sketch of a proposed rabbit character, tagged as “Bugs’ Bunny” by an associate employee, as in Fig. 23 [A], Model sheet and personality for the character was created by Robert McKimson and Freleng respectively. Developed version of the character came into view in Warner cartoons as early as 1938. Mickey Mouse and Bugs Bunny have always been parallel as the most famous cartoon character of all-time (Blumberg,2015).

In Peanuts American comic strip character, Charlie Brown is one of the main characters. Charles M. Schulz created the character Charlie Brown and in 1950 this series was first run in Charles Schulz’ highly famous newspaper. was called as Chuck by Peppermint Patty and Charles by Marcie. Charlie Brown, as in Fig. 23 [B], was a hesitant, friendly, effectively humiliated primary school kid. Charlie Brown and the Peanuts gang are of human character and built-in Charlie Brown’s personality as beagle, Snoopy, and a little yellow bird, Woodstock. This character is highly successful and long running series (Pallardy, 2016).



[A]



[B]

Fig. 24: [A] Daffy Duck is a anthropomorphic black duck retrieved from <https://boomerangchannel.fandom.com> [B] Dennis the Menace is a naughty but harmless boy, retrieved from <https://in.pinterest.com>

Warner Bros produced the animated cartoon character, Daffy Duck, as shown in Fig. 24 [A], which has been styled as anthropomorphic black duck. This cartoon character has been seen in Looney Tunes and Merrie Melodies. In the Looney Tunes / Merrie Melodies cartoons it was third-most frequent character and in the golden age, it starred in 130 shorts. "Screwball" character was first introduced as Daffy Duck character that rose in the late 1930s to supplant customary everyman characters who were increasingly well known before in the decade, for example, Mickey Mouse and Popeye (Kuiper, 2017).

Dennis the Menace is one of the American comic strip character, shown Fig. 24 [B]. This is a five-and-a-half-year-old boy who faces trouble frequently because of his curiosity. Dennis Mitchell has messy blond hair with a cowlick in the back. Dennis Mitchell, nicknamed Dennis the Menace is a rebellious and naughty but harmless boy. Nick Castle directed this cartoon film which was written and produced by John Hughes (Tikkanen, 2015).



[A]



[B]

Fig. 25: [A] Donald Duck is famous and interesting cartoon retrieved from <https://economictimes.indiatimes.com>[B] Mickey Mouse is the most celebrated cartoon in animation, retrieved from <https://www.digitalspy.com>

Walt Disney second most popular cartoon character is Donald Duck, as in Fig. 25 [A], an ill-tempered squawking cartoon duck. It gained worldwide popularity in the field of animated film animated films, newspaper comic strips, comic books, and television. In 1934 Donald Duck was first introduced in a supporting role in *The Wise Little Hen*. Donald, anthropomorphic white duck with a yellow-orange beak, legs, and feet and regularly wears a mariner shirt and top with a tie. The character is popular for his understandable speech and his playful and moody personality. In TV Guide's list, popular Disney characters Donald along with his friend Mickey Mouse are marked as famous cartoons among 50 greatest cartoon characters of all time in 2002. Donald Duck comes into view in many times in comparison to other Disney characters and is the most published comic book character in the world (Tikkanen, 2015).

Mickey Mouse, the funniest animal character of Walt Disney's animated kid's shows and it appears as the most celebrated animation star in the World. This character is used as the mascot of The Walt Disney Company. Mickey Mouse, as shown in Fig. 25 [B], wears red shorts, large yellow shoes, and white glove and one of the world's largely familiar characters. In 1950s The Mickey Mouse Club was one of the well-known television shows for children in United States. In the history of merchandise, the signature black cap with mouse ears show's stars was extensively disbursed. In 1932 Disney was awarded with the Academy of Motion Picture Arts and Sciences for creating the cartoon character Mickey Mouse (Cunningham, 2018) .

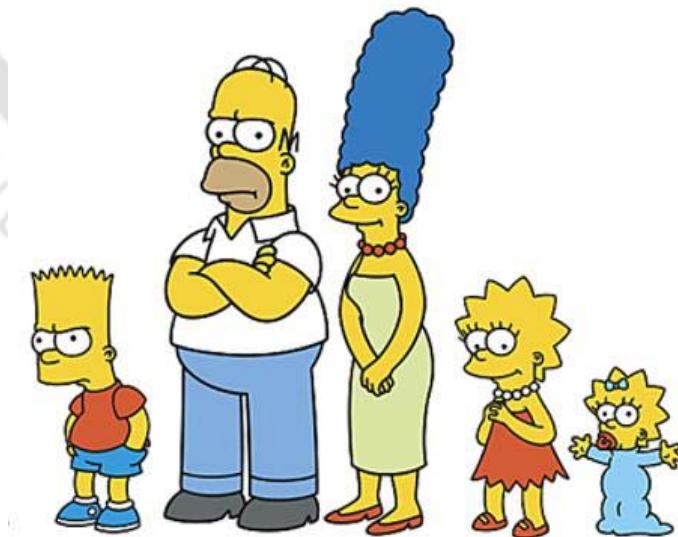


Fig. 26: The Simpsons is the longest running series in US history, retrieved from www.firstversions.com

The Simpsons (Fig. 26) the animated television series which ran for a longest period of time in US history is now shown worldwide in many languages for the audiences. Cartoonist Matt Groening created the Simpsons which started in 1987 on the *Tracey Ullman Show*. The Simpson family Characterize the satirical representation of working-class life. The Simpsons family has Bart, Marge, Santa's Little Helper (dog), Maggie, Homer, Lisa, and Snowball II (cat). The Simpson family won many awards which later on influenced other animated production (Gregory, 2019).

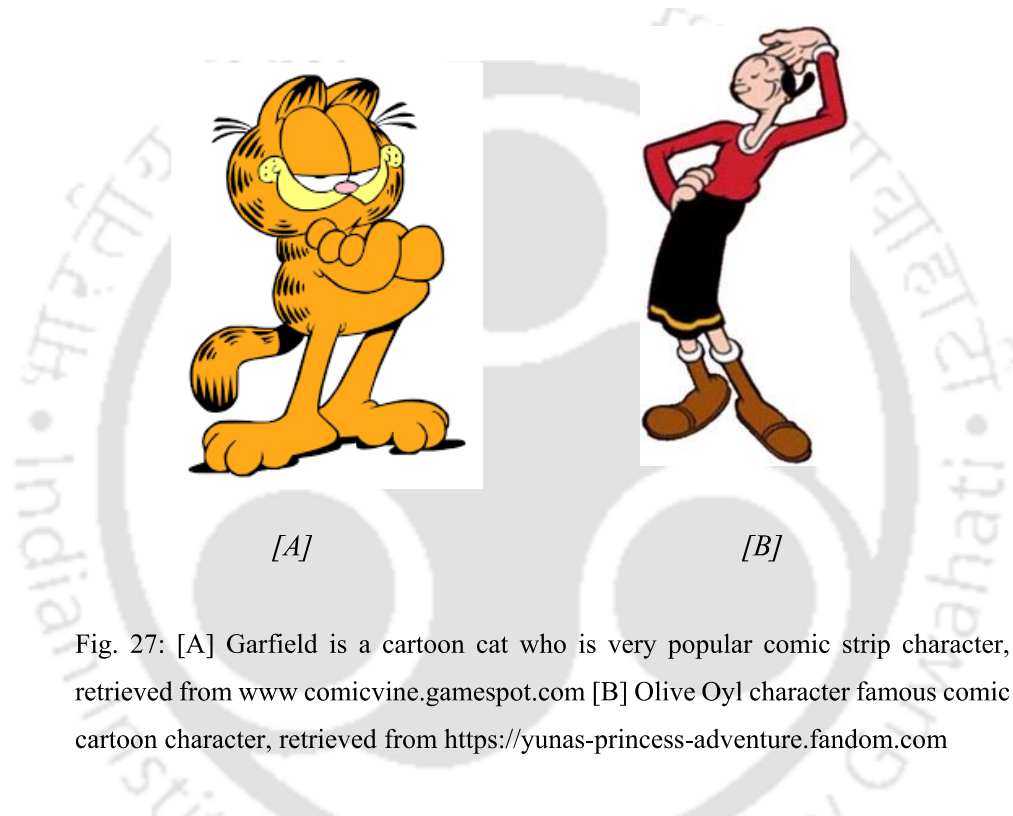


Fig. 27: [A] Garfield is a cartoon cat who is very popular comic strip character, retrieved from www.comicvine.gamespot.com [B] Olive Oyl character famous comic cartoon character, retrieved from <https://yunas-princess-adventure.fandom.com>

Jim Davis created an American comic strip named Garfield, as in Fig. 27 [A], which was published locally in 1976 as Jon. Here a cat is named as Garfield and its human owner's name is Jon Arbuckle. There is also a dog called Odie. It held the Guinness World Record for getting published simultaneously worldwide as comics strip, roughly in 2,580 newspapers and journals (Kuiper, 2008).

In 1919 E.C.Segar created a comic cartoon character, Olive Oyl, bide Fig.27 [B], for his comic strip Thimble Theatre. Popeye, the sailor character. The strip was afterwards renamed Popeye after the sailor character that turned into the most famous individual from the cast; in any case, Olive Oyl was a principle character for a long time before Popeye's 1929 appearance.



[A]



[B]

Fig. 28: [A] Tom and Jerry are widespread popular cartoon character, retrieved from <https://i.pining.com> [B] Doraemon is the robotic cat style based Japanese manga series, retrieved from www.giantbomb.com

William Hanna and Joseph Barbera created an American animated series of comedy short films, Tom and Jerry in 1940. Tom is a cat and Jerry is a mouse, as shown in Fig. 28 [A]. They are always engaged in a rivalry between themselves. Tom and Jerry became so popular animated short film of that time (Kuiper.2018).

Fujiko F. Fujio has written and Illustrated Doraemon, a Japanese manga series. It came into view in 1970. In this series Doreamon, viz. Fig. 28 [B], is a robotic cat who always stands to help its owner, a boy named Nobita Nobi. Doraemon, the famous manga series achieved various awards like Japan Cartoonists Association Award for brilliance in 1973, the first Shogakukan Manga for children's manga in 1982, the first Osamu Tezuka Culture Award in 1997. In March 2008, Doraemon was appointed as the nation's (Japan) first "anime ambassador" by Japan's Foreign Ministry (Sparks,2018).



[A]



[B]

Fig. 29: [A] Mr. Bean is the popular cartoon character among children and adults, retrieved from <https://tvtonight.com.au> [B] Ben Ten character famous among the children, retrieved from www.comicvine.gamespot.com

Mr. Bean, the animated series is acclaimed among children as well as adult. The character lives with aged woman and a grumpy cat and the stories rotate round these characters. Mr. Bean, viz. Fig. 29 [A], entertains everybody through his funny activities. This animated series is full of comedy (Deans, 2001).

Ben Ten, shown in Fig. 29 [B], has Omnitrix, a magic watch and his age is ten years. With the help of this watch he can be changed into ten various alien forms. The main theme of the stories is around Ben tries to save planet earth from alien attack (Wolfe,2013).

Some of the popular Indian characters are discussed below in brief (Namdev, 2018):



Fig. 30. Motu Patlu are two friends which is based on Indian cartoon, retrieved from telanganatoday.com

Motu Patlu, viz. Fig. 30, is a friendship oriented popular comic strip and in the hot pot magazine it gets featured. For children, Moto Patlu is one of the best sources of entertainment. Motu is foody, he likes samosa and other oily foods very much but his friend Patlu is thin. Both of them live in Furfuri Nagar and try to settle up sudden problems. Whenever Motu faces troubles, Patlu acts as his rescuer.

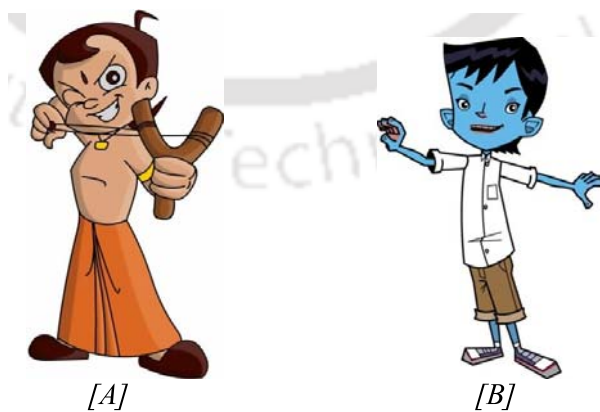


Fig. 31: [A] Chota Bheem is the Indian cartoon character retrieved from www.animaster.com [B] Kris (Roll number 21) cartoon character design based on Lord Krishna, retrieved from www.mediainfoline.com

Chota Bheem, viz. Fig. 31 [A], is one of the most entraining hindi cartoon for the children. Here the main character is Bheem, a nine years old little boy who is very brave and intelligent. He lives in a imaginary village named Dholakpur and keep the villages safe from all the coming dangers. In the story he has friends named Raju, Kaliya and Chutki who are also very famous among the children. Indian sweet dish laddoo has been relished by many kids as Bheem love it's so much.

In Kris (Roll number 21), bide Fig. 31 [B], it has been tried to make stories about Lord Krishna and his uncle Kansa in modern style. Remembering the contemporary approach, modifications have been done on the names and the characters. Here, the reincarnation of Lord Krishna is named as Kris who is a school going boy and very intelligent. He interferences in the plans made by his school principle Kanishk who wants to dominate the whole Mathura as well as the World. Children love this cartoon character because of his playful nature. The Roll No 21 achieved three awards in the Cartoon Network Super Toons Award 2013.



Fig. 32: [A] Little Krishna cartoon character based on Indian mythology concept, retrieved from www.iskcontruth.com [B] Akbar Birbal cartoon based on historical concept and popular animated series in India, retrieved from <http://newsphonereview.xyz/akbar-birbal-cartoon-images/>

Little Krishna, shown Fig. 32 [A], was an exciting animated cartoon character based on the study work by Iskcon, Bangalore and it was aired on Nickelodeon in May, 2009. It highlighted the early life of the Lord Krishna and his childhood adventures. This cartoon character was very popular among children as well as their parents.

The show Akbar and Birbal animated cartoon based on historical character (Fig. 32 [B]), King Akbar and minister Birbal. In Akbar's court, Birbal was the most intelligent person. Akbar and Birbal characters are popular in Indian history. Children like to watch this show as Birbal is able to handle the problematic situation with his Intelligent.



Fig. 33: The Adventures of Tenali Raman is very famous cartoon worldwide, retrieved from www.webmallindia.co

The Adventures of Tenali Raman, Fig. 33, an Indian animated television show which is running very successfully worldwide. It was premiered on 14 June 2003 and comes in cartoon network in India on every week. This character is based on Indian folklore and produced by Toonz Animation Studios. Tenali Raman was a courtier in the kingdom of king Krishnadevaraya. Children like the adventure of Tenali Rama as these are educative full of amusement.



Fig. 34: Chor Police is a good cartoon series among the Indian children retrieved from <http://www.greengold.tv/chorr-police.php>

Chor Police is very famous among children. In this cartoon series Anthony is a good thief, known as Robin hood Slumdog of Mumbai, he steals things from the rich persons and give it to the poor. Here, Muscular Sardar inspector Lovely chases Anthony but he successful escapes at the end of the episode. Chorr Police, as shown in Fig. 34, is an Indian animation comedy show, broadcasted on Disney XD India.

Besides the above foreign cartoon characters, there are many more foreign and India cartoon characters which are giving positive impact on the viewers that fulfill the demands of the audiences in various times.

3.2 Study Design

The study was divided into two phases – phase 1 was executed to understand the design learners view / opinion and phase 2 covered identification a development characteristic of design elements reflecting Indian-ness, which was shown to school children to name viewers’ opinion / choice. The study design is depicted in Fig. 35.

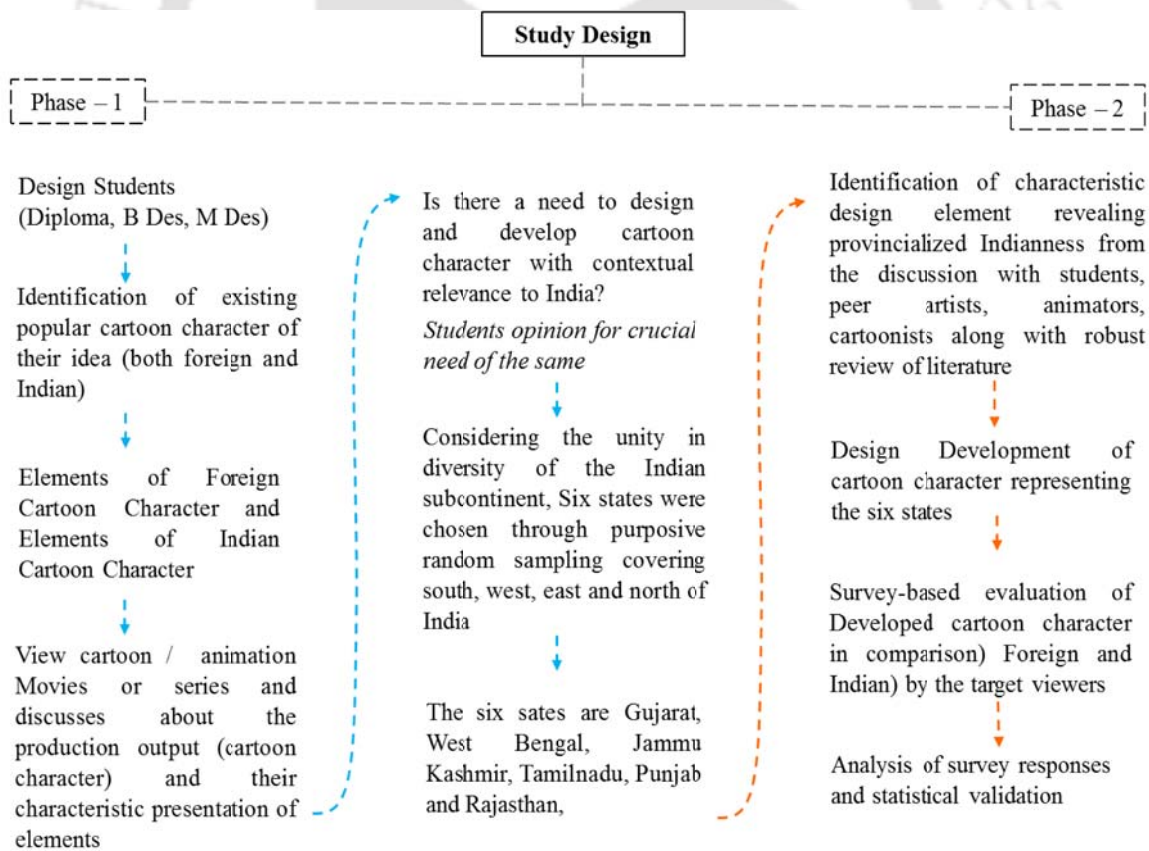


Fig. 35: Study Design

3.2.1 Phase I: Understanding Views and Opinions of Design Learners and Experts on Revealing Indian-ness in Cartoon Characters

There had been prolonged interactive discussions to explore and identify the crucial aspects / elements of any character, be it a cartoon, animation or a living being.

Location. The phase 1 was carried out in different locations for different aspects. The interaction / discussion with design students (Diploma, B Des, M Des levels) following identification of existing cartoon characters (both foreign and Indian) took place in Central Institute of Technology Kokrajhar campus. Similar interaction / discussion with design experts (designers, artists, animators, cartoonists etc.) took place in Department of Design, IIT Guwahati; IDC School of Design, IIT Mumbai; Govt. Art & craft College, Agartala; Govt. Art College, Kolkata; DQ Webel Academy, Kolkata; SVFX Animation, Kolkata; Wacky Toons, Kolkata and Data Quest Entertainment, Hyderabad. Along with these, robust review of literature was done in CIT Kokrajhar using online search and consulting Central library of the institute; National library Kolkata etc.

Participants. Healthy (free from somatic, cardiovascular, neurological, psychological and audio-visual disorders / ailments), young design students aged between 18 to 24 years (21.83 ± 3.741 yrs., $M \pm SD$) participated in the study. The design experts with similar health criteria and some having smoking / drinking habits aged between 35 to 50 years (43.19 ± 8.238 yrs., $M \pm SD$).

Paradigm. This part of experiment attempted to understand the designers' (both learners / students and peers / experts in various fields related to design) perspectives like purview, perception and preference regarding existing cartoon characters (both foreign and Indian) and their merits/demerit in terms of presentation, characteristics and message conveyed through them.

3.2.2 Phase II: Identification and Development of Characteristic Design Elements Reflecting Indian-ness – A. Design Methodology

From the outcomes of the previously done study, it was perceived that parents' and guardians expect rational influence of Indian cartoon characters on their children, because the present scenario brings about telecasting foreign cartoon characters even along with Indian stories. Importance of Indianness in Indian cartoon character is well-persevered in today's scenario. Due to the impactful influence, children tend to forget the Indian ethics, aesthetic and ethnicity have acute difficulty in identifying Indian traits and identities. To

have a clearer picture about what could be brought about to an Indian cartoon character to serve the flavour of ethnicity, aesthetic, culture, tradition. Discussions/Interaction with the students and experts. The students were chosen from the Design programs as they pertained adequate knowledge about aesthetics, ethnicity, design features w.r.t multimedia and animation and concept of drawing.

After vigorous brain-storming in this matter, several interesting facts came up into picture which appeared very interesting yet pivotal to present a character with its aesthetic and ethnic essence. The eye of a character is considered as one of such best elements that a character can possibly have. Tremendous amount of emotion can be held up, just focusing on the eyes and its forms. Indian culture has seen a handsome lot of works on this element. Indian painters have worked with various aesthetics and form of the eyes in their paintings. Indian Mythological Gods and Goddesses have prominent eyes to show strong emotions. Indian dance forms also have use of eyes as a prominent aspect to communicate. All these forms of eyes could be taken into account while looking for an Indian cartoon character as these forms induce Indian flavour.

Based on the rigourous conversations with the Design students, six different states were chosen, to come up with the cartoon characters and these states were chosen on the basis of richness of culture and heritage, the effect of population on those states and convenience of people to instantly recognize a character or a trait belonging to those Indian states. The chosen states were Kashmir, Punjab, Tamil Nadu, West Bengal, Gujarat and Rajasthan. The characteristic features of these states are elaborated here under.



Fig. 36: Drawn cartoon character design

3.2.2.1 Gujarat (Gujarati)

The people of Gujarat have medium sized eyes which are mostly dark in colour and have broad nose (TNN, 2014), sometimes depressed at the root. The face structure is somewhat upper face Long (TNN, 2014), broad head and their skin has quite an amount of melanin (Lal et al. 2002; Risley and Crooke, 1915). The average stature of the people of Gujarat is short and sometimes medium. The hair is dark and plentiful with an occasional tendency to curl. The attires are quite variant for the region. Men generally wear kediyu / angarakhu, a short, embellished coat cladding the body's upper portion chronos or cotton drawers worn underneath the kediyu pehran / kafani, a kind of shirt Dhoti or waistcloth phento, a typical embellished turban made out of thickly layered cloth. Women generally prefer to wear chaniya, a richly colored and embellished petticoat Choli, a richly adorned blouse odhani / churni, shown Fig. 36 and Fig. 39, a lightweight, transparent and decorated head cloth to add the final glamorous touch. The ornaments that are often worn by women are pachchikam, tribal jewellerys, which has also returned as a new age fashion statement. body- low to medium stature (www.gujaratexpert.com).

3.2.2.2 West Bengal (Bengali)

The state of West Bengal may be characterized by following features as shown in Fig 37 and Fig 40. People of West Bengal mostly have large-orbit dark eyes, broad noses and are short to medium stature (Risley *et al.* 1915). Their face structure is somewhat broad to medium with round appearance. They have quite dark skin and wavy black hair (Sarmiento C *et al.*2014). Males of the region prefer to wear panjabi and dhoti. Females like to wear costumes like saree, blouses or tops, bengale, kaan, tikli and choker. The most significant things are Red Sindoor which is used by the married women on their forehead (Kamboj, 2018).



Fig. 37: Define the unique character elements – characterisation under progress

3.2.2.3 Jammu & Kashmir (Kashmiri)

The people of state of Jammu & Kashmir, shown Fig. 41, are characterized by prominent / narrow & long noses with sharp facial features and predominant long with narrow head. The people of Kashmiri have dark eyes, fair skin with slim and average built. They have long hair and Body- tall statured (Hahnewald M, 2011). Men generally wear Pheran and is quite popular among men. Women also prefer to wear Pheran and is the most common outfit among women. It comprises 2 robes placed at the top of with each other. It is worn by females in Zari embroidery. It is wrapped by a cloth known as Lungi (Qazi, 2005).

3.2.2.4 Tamil Nadu (Tamilian)

The people of Tamil Nadu may be characterized by dark coloured eyes and are of medium size. The noses are proportionally broad in size, shown Fig. 38 and Fig. 42. The stature is quite medium and the face structure is long and. The skin colour is dark brown, hair is similarly dark, sometimes curly and plentiful (Shri, 2017). Men tend to wear Dhoti, Shirt and Lungi whereas, women generally wear Skirt, Sudidhar, Half saree, and Saree (<https://indiathedestiny.com>). Traditional Tamil Nadu jewellery shows Indian craftsmanship at its best. Madurai, Thanjavur, Ramanathapuram and Coimbatore produce an innumerable variety of ornaments in gold of a high degree of brilliance and workmanship jimikki, ettu kallu besari, kempu attigai, divine Lakshmi and varikkai haram, kilikasu haram, antique valayal, varikkai valayal, mutthi valayal, nagas vanki, antique mothiram, ottiyanam are few prominent jewels of Tamil Nadu. Neckless, chain, payal, bangles maang-tika and earring, flower garlands, known as Gajras, Vivhuti with sandal paste is the vital for men and use their forehead, kumkum use by women on their hands, feet and forehead (<http://www.holidify.com>)

3.2.2.5 Punjab (Punjabi)

People of Punjab have big and bright eyes with prominent noses, long foreheads and tall body statured. They are generally fair skinned and strong built and tall (Sharma et al. 1997). Men generally wear Phulkari, Kurta - pyjama, turban, dhoti, pagri jutti. Women like to wear patiala salwar, punjabi ghagra, churidar Kurta, colourful dupattas, kamaz (a type of girls Shirt), Salwar a type of pant. (Kumar J, 2018). There are a variety of jewellery options. Men wear jewelled aigrette worn in front of the turban, Kutbila dar – an oval pendant worn over the forehead, Kalgi – Plume in jewelled setting, Mukat or Mutakh – a head dress worn by Hindus at weddings, Turah-Imarwarid – tassels of pearls worn on the turban. The turban

is a relatively short piece of cloth, about three feet (one meter) in length, and is wrapped loosely around the head. Punjabi Juttis were originally made out of pure leather with exquisite embroidery and embellishment. Women generally wear Siphul, chaunk or choti phul – a round boss worn on the hair over the forehead, it is cut or indented so as to resemble a gold flower like chrysanthemum Mauli – a long chain made of rows of pearls separated by jewelled studs, about 8 inches long hanging from the head on one side. Sir Mang – a pendant is worn on the head by Hindus. (Fig. 43)

3.2.2.6 Rajasthan (Rajsthani)

People of Rajasthan have dark coloured eyes with prominent eyebrows. They have narrow and long / straight (leptorrhine) nose and face structure is predominant longhead shown in Fig. 44. They also possess predominant longhead. They do not have a fair complexion. They have plentiful of hair on face and body. They have a tall stature (Malhotra KC et al. 2019). Traditionally dresses for men- pagri (turban), angrakha, dhoti/pajama, Women- Ghaghara & Choli, Odhni. Odhni worn by Rajsthani women over their head. Women ornaments designs are mostly related to natural elements like jhumkas or kaanbali or surliya (earrings), bangles or bangadi, long and short beautiful neckpieces, large anklets, rings, nose rings or nathani / nosepins, etc. Men wear-earrings or studs and crystal beaded or semi-precious stone neckpieces neckpieces. and silver hansli or big round bracelet (Binayak, 2019).



Fig. 38: Define and experiment of the unique character elements – concept development

3.2.2.7 Development of Characteristic Design element for Indian Cartoon Character

The entire design development process is represented hereunder for every sates schematically for clear understanding of the process shown Fig. 39 to Fig. 44)

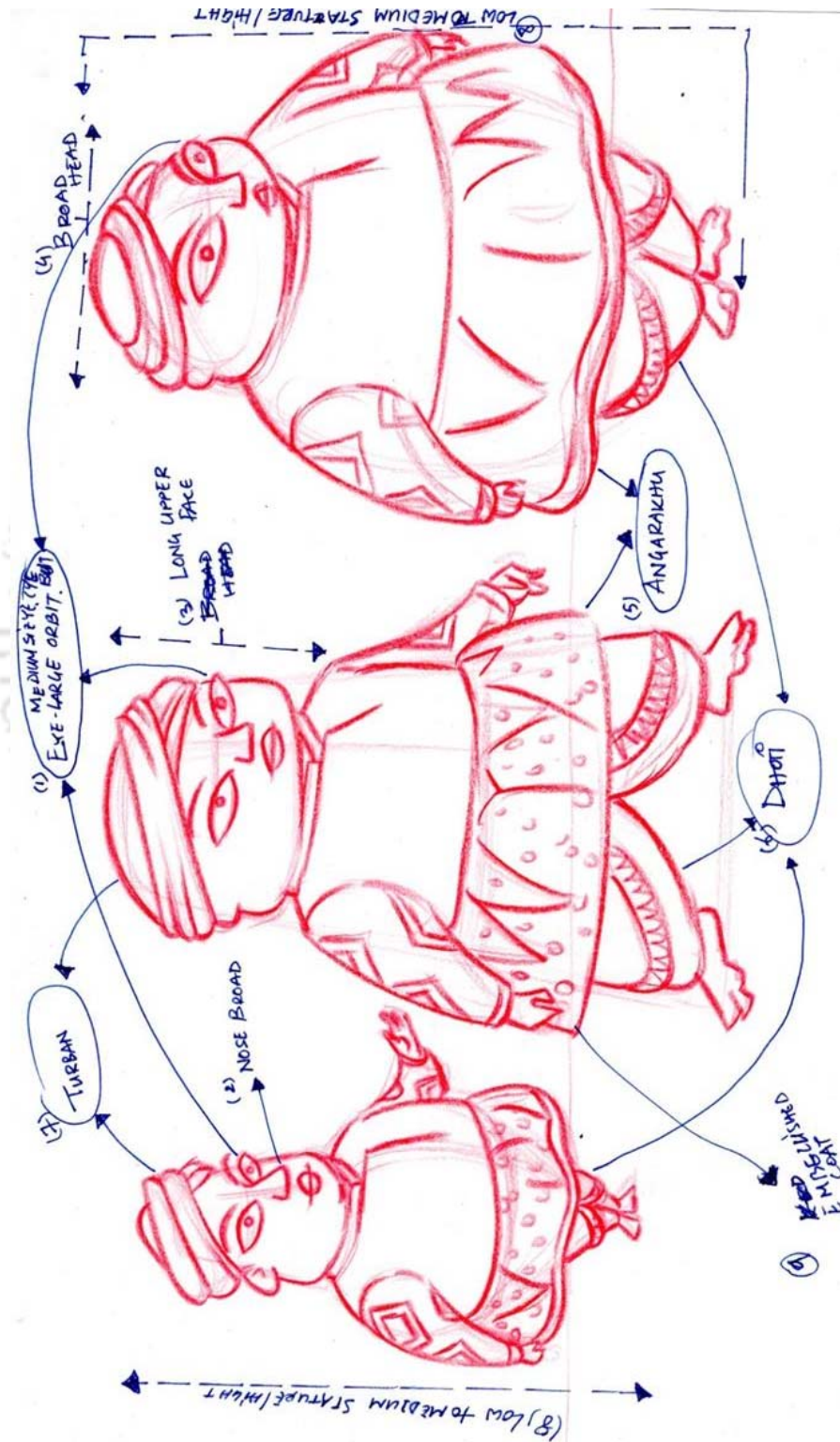


Fig. 39: Enhancement of cartoon character element based on evaluation of Gujarati characteristic

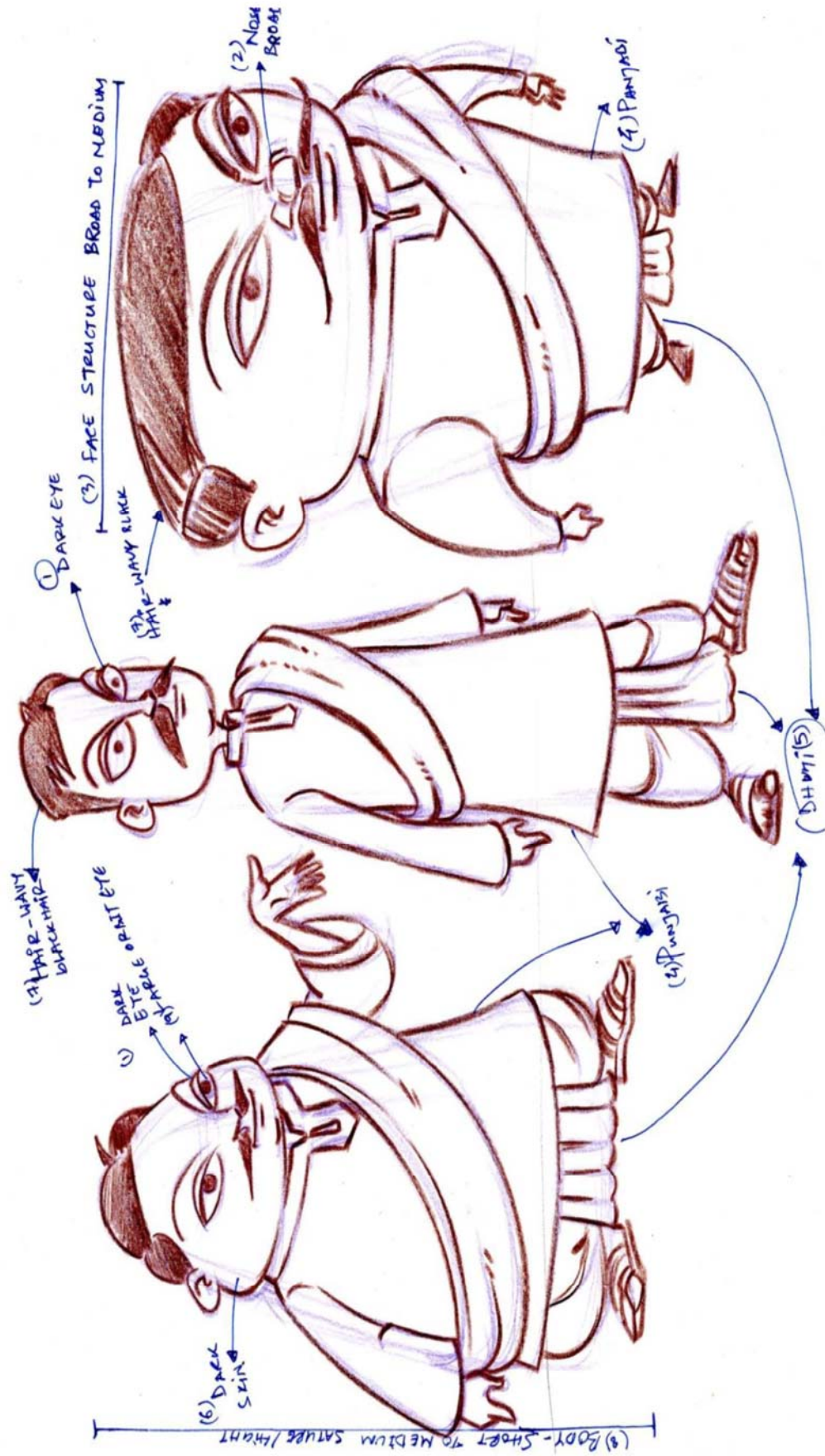


Fig. 40: Enhancement of cartoon character element based on evaluation of Bengali characteristic

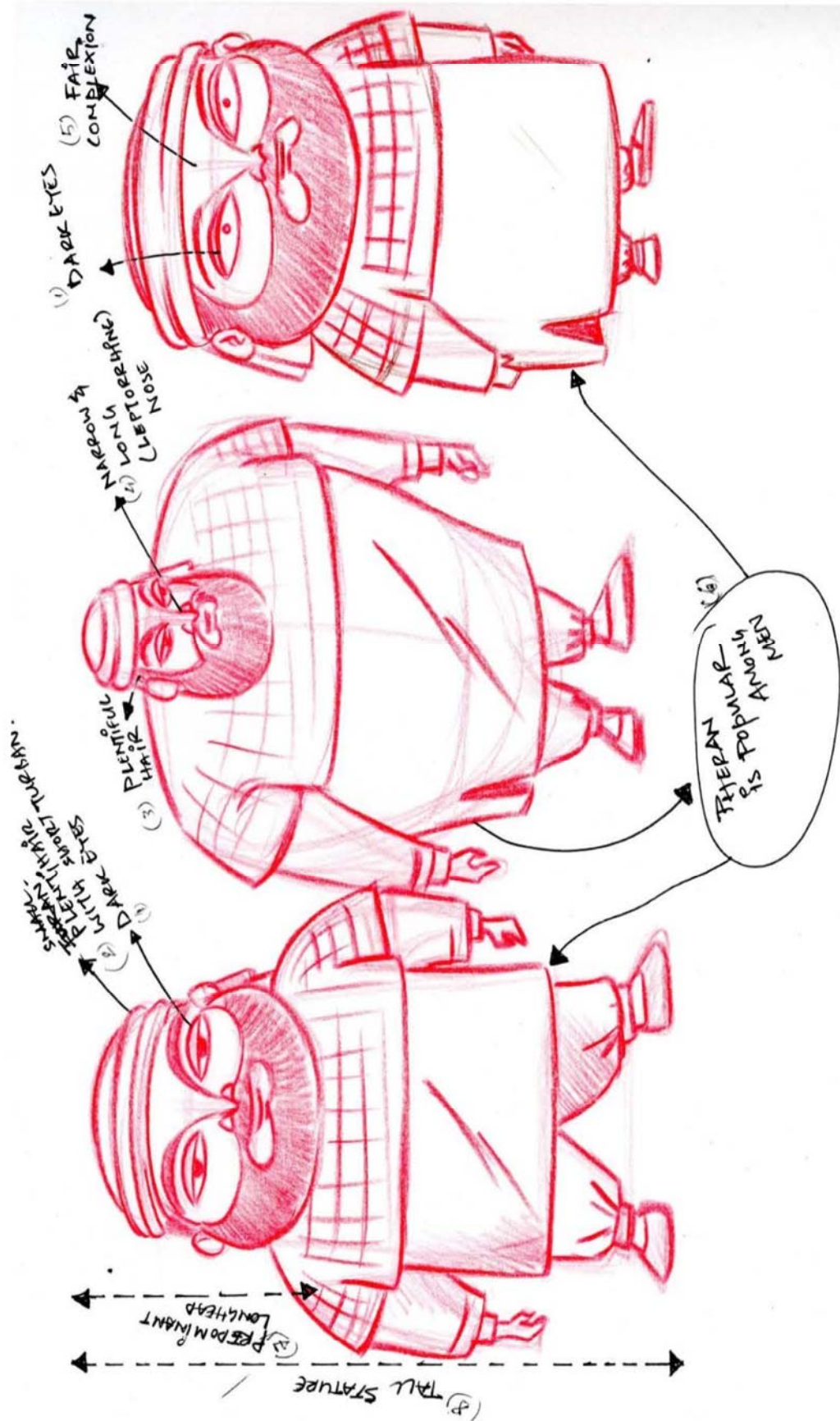


Fig. 41: Enhancement of cartoon character element based on evaluation of Kashmiri characteristic

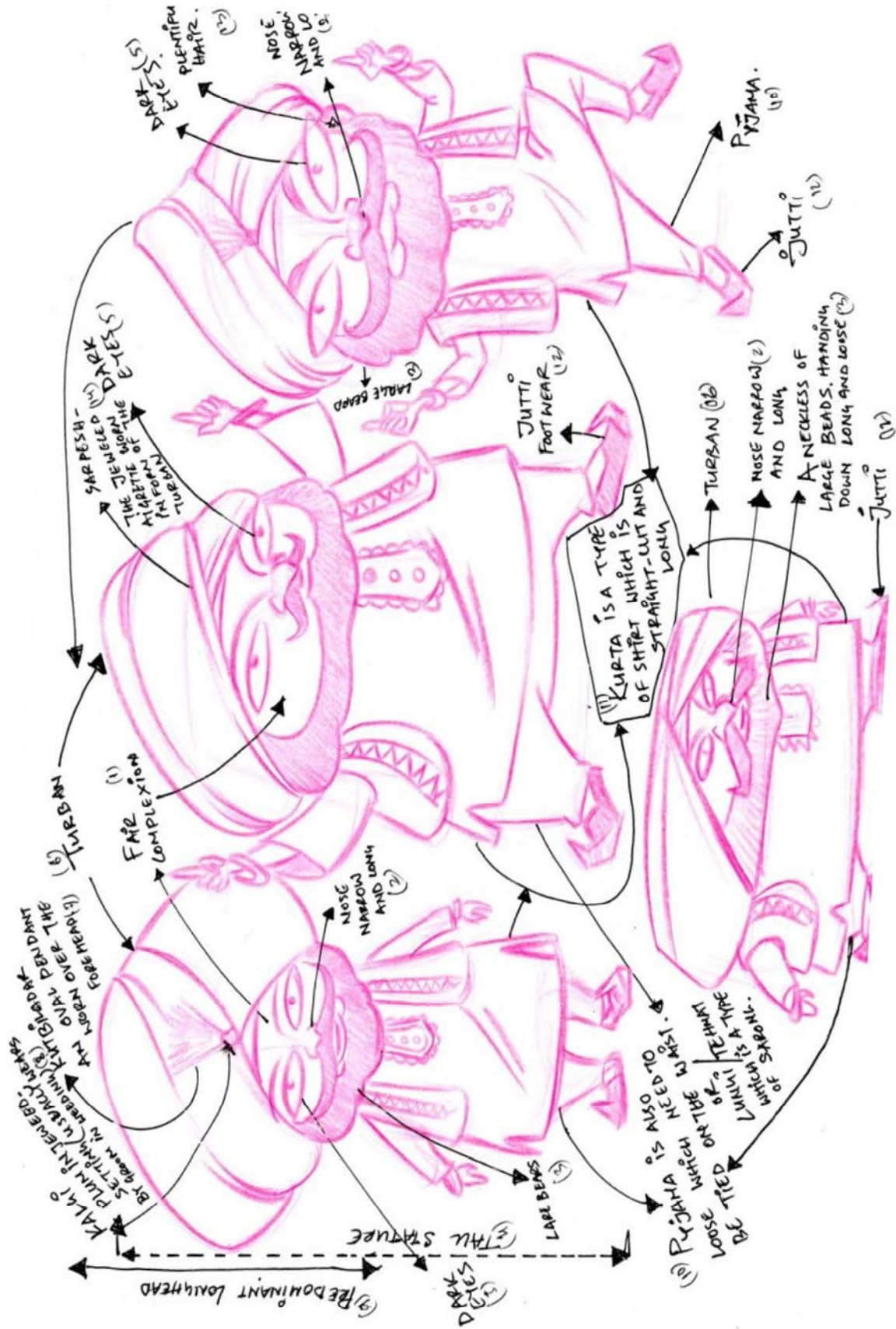


Fig. 43: Enhancement of cartoon character element based on evaluation of Punjabi characteristic

3.2.2.8 Design Process

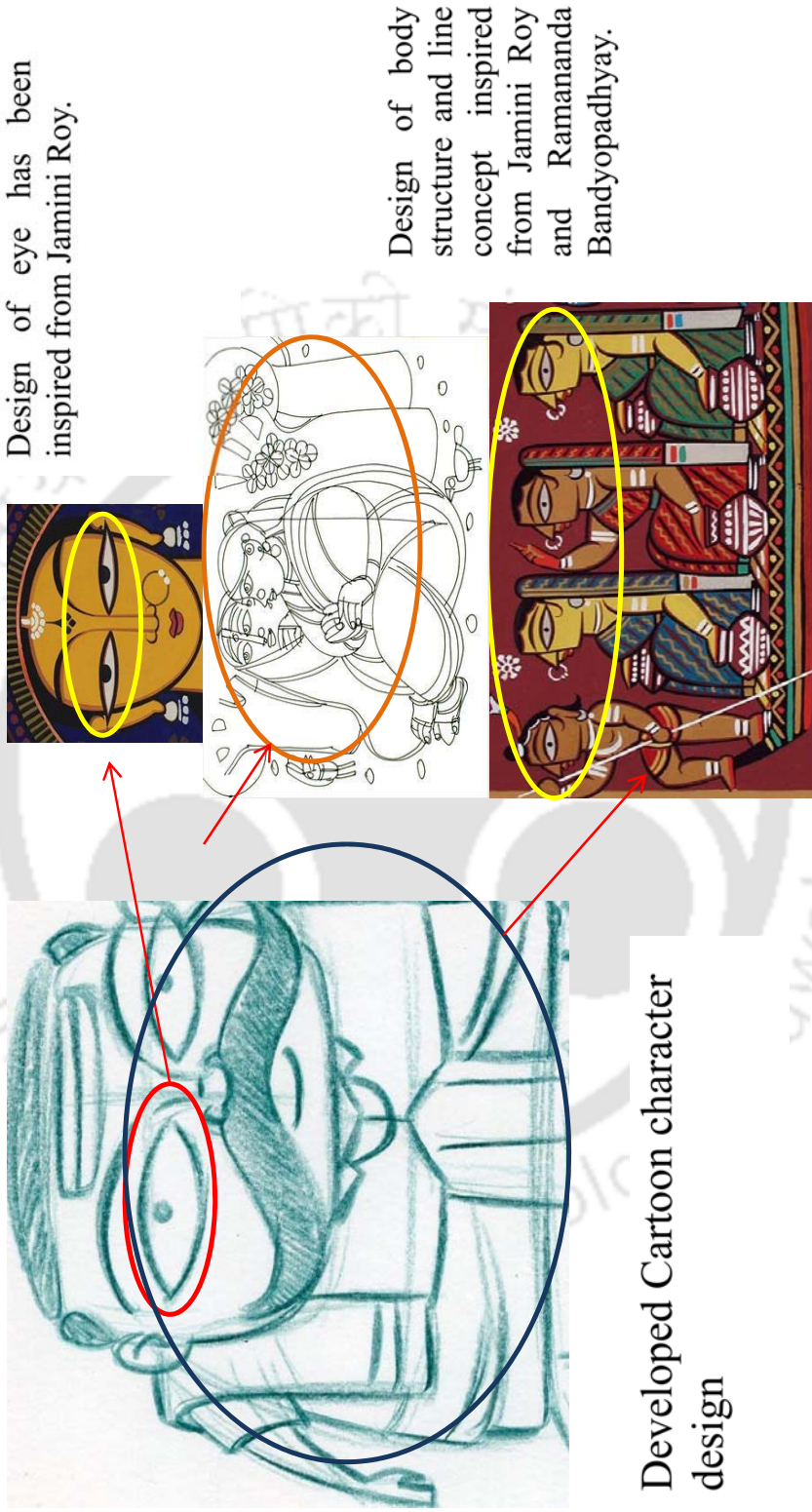


Fig. 45: Expresses the implementation of characteristic design elements to design the cartoon character.



Fig. 46: Respondents participated in main experiment

The research aimed identifying the elements responsible for communicative expression of Indianness through cartoon characters representing India in a socio-culturally provincialized discourse. The research used an exploratory-cum-explanatory (qualitative) approach to compare the existing and designed developed cartoon character.

3.2.2.9 Observation

With the aim of identifying the elements responsible for communicative expression of Indianness through cartoon characters representing India in a socio-culturally provincialized discourse, the study used standard design process to come up with characteristic design elements to express core Indianness complying its aesthetics and ethnicity. The result was delineated in phases similar to the study design like (I) developing cartoon characters of various states of India viz. Gujarat, West Bengal, Jammu Kashmir, Rajasthan, Punjab, and Tamil Nadu; followed by (II) their subjective ratings through a questionnaire constructed using standard procedure, the below are presented as summary outcome.

The purpose of the present research work, as described in its aim, was executed through development of cartoon characters for six states of India as described hereunder. With the help of unique features or elements, final prototypes of cartoon character design representing 6 states was developed.

Gujarati (Gujarat). Fig.47 showed the unique features like long upper face, broad head, turban with thickly layered cloth, large orbit eye, fair complexion, very broad nose, Phento, kafani and low to medium stature (<https://www.utsavpedia.com/attires/kediyu-kafni-pajama/>).

Gujarat is located on the western coastline of India, is very rich in social culture. The Gujarati outfit enhances its tradition with colour and design in such a beautiful way that everybody gets attracted to it and it is well known that, this attire is one of the best outfits of India. The aesthetic outfit covers the flavour of each and every part of Gujarat showing the prosperity and magnificence of its culture and custom which makes it unique. Women dress of Gujarati includes odhani, chaniya, choli and wears bangles in hand, also pachehikam around the neck. The Gujarati cartoon character comes under low to medium structure proportion.

Bengali (West Bengal). The cartoon character representing Bengali people was designed using unique elements or features of West Bengal. Fig.48, the unique features of West Bengal. The women of Bengal wear saree which is very traditional. The eyes have large orbit eye with dark skin tone body. The forehead is ornamented with tikli, kaan in the ears, bangle in the hand and choker necklace around their neck. The male figure has broad to medium head with wavy black hair and board nose. The men wear dhoti in the waist part and Panjabi in the upper part of the body. The cartoon of Bengal belongs to short to medium structure.

Kashmiri (Jammu & Kashmir). Kashmiri cartoon character was designed using unique elements of Kashmiri people as shown in Fig.49. The unique elements have been pointed out like dark eye, fair complexion, heavy decorated chains & pendants, predominant long head, narrow a long nose, pheran, tall statured. Beautifully weaved and embroidered attire of Jammu and Kashmir is very gorgeous. The designs in the dresses are unique as it shows the luxurious lifestyle of Kashmiri people. Kashmiri attire is world famous for its unique-ness in design. Generally Kashmiri men and women like turban and Pheran type of dress very much which is used in winter. The Kashmiri women prefer to wear a bunch of earrings and they prefer silver jewelry. They decorate themselves with neckpieces, bracelets and heavily jeweled chains.

Tamilian (Tamil Nadu). Fig. 49 depicts the Tamilian cartoon character built with the unique features pin-pointed earlier like kumkum, dark eye, earrings, dark skin, necklaces, bangle, saree, long / medium head, vibhuti, dark hari, angavastra, cotton shirt, lungi, short or below medium etc.

The popular most Tamilian attire of female is saree. It is worn in houses as well as work and other place. Saree reflects the traditional richness of Tamil Nadu. Tamil men prefer to wear lungi which comes mostly in white colour cotton fabric. It is worn on the waist part which reaches the ankle length of men. Sometimes it is worn by folding also. Tamil men wear the purely cotton shirt which is called angavastra. Angavastram is the unique section of Tamil dressing and it was used as upper attire though it is use over the

shirt. In Tamil nadu the customary dressing of people gets completed with gold. Both men and women prefer gold. Men like to wear chains in their neck, rings etc. and women like to wear chains, payals, bangles. Men put Vibhuti (the sacred powder) while ladies put Kum-Kum on their forehead shown in Fig. 50.

Punjabi (Punjab). The cartoon character representing Punjabis was designed with refer to the unique elements identified for Punjab as shown in Fig.51, that include predominant longhead, pagri (turban), dark eye, narrow and long, fair complexion, tall statured, kurta, pyjama etc. The Punjabi traditional attire is unique and very stylish. Patiala salwar kameez is famous Punjabi attire. There are many more famous attires of Punjab like kurtas etc. The Turban is traditional element of Punjabi people at these core of their culture. The turban gives a sacred feeling. The traditional attire of Punjabi men is kurta and pyjama. Ornamentation includes chunk / choti phul, chunni, bangles in the women's dress up.

Rajasthani (Rajasthan). Fig.52, show the unique features of Rajasthani female & male Cartoon Character like plentiful hair, dark eye, jhumka (earring), fair complexion, necklaces, bangles, choli, odhni & ghaghara, predominant longhead, narrow and long nose, pagri (turban) etc. as pointed out earlier.

The Rajasthani men dress up in a very classical way. The different style of dress makes it unique. The most important and traditional part of male attire is turban which differ from region to region. The Jodhpuri Safa and Jaipuriya Pagris being two most popular patterns of pagtis. The angrakha is the upper part of the attire which protects the body. The angrakha commonly looks like a frock which comes up to the waist length. The popular form of angrakha is kamari angrakha. Dhoti or pyjama is also worn by men. Women of Rajasthan mostly wear a narrow waist long skirt which looks like an umbrella at the base. This skirt is worn in the waist part and on the upper part of the body they wear a top. The skirt-top attire is known as Ghaghara. Ghaghara is seen in various energetic colours. Women wear dupattas printed with mothras and lehariya print. Jewelry of jaipur has worldwide popularity. Women wear ornaments need of gold or silver. The most unique element of their dressing is bangle. They wear lots of bangles in their hands. They also prefer to wear necklace around their neck and earrings called jhumkas in ears.

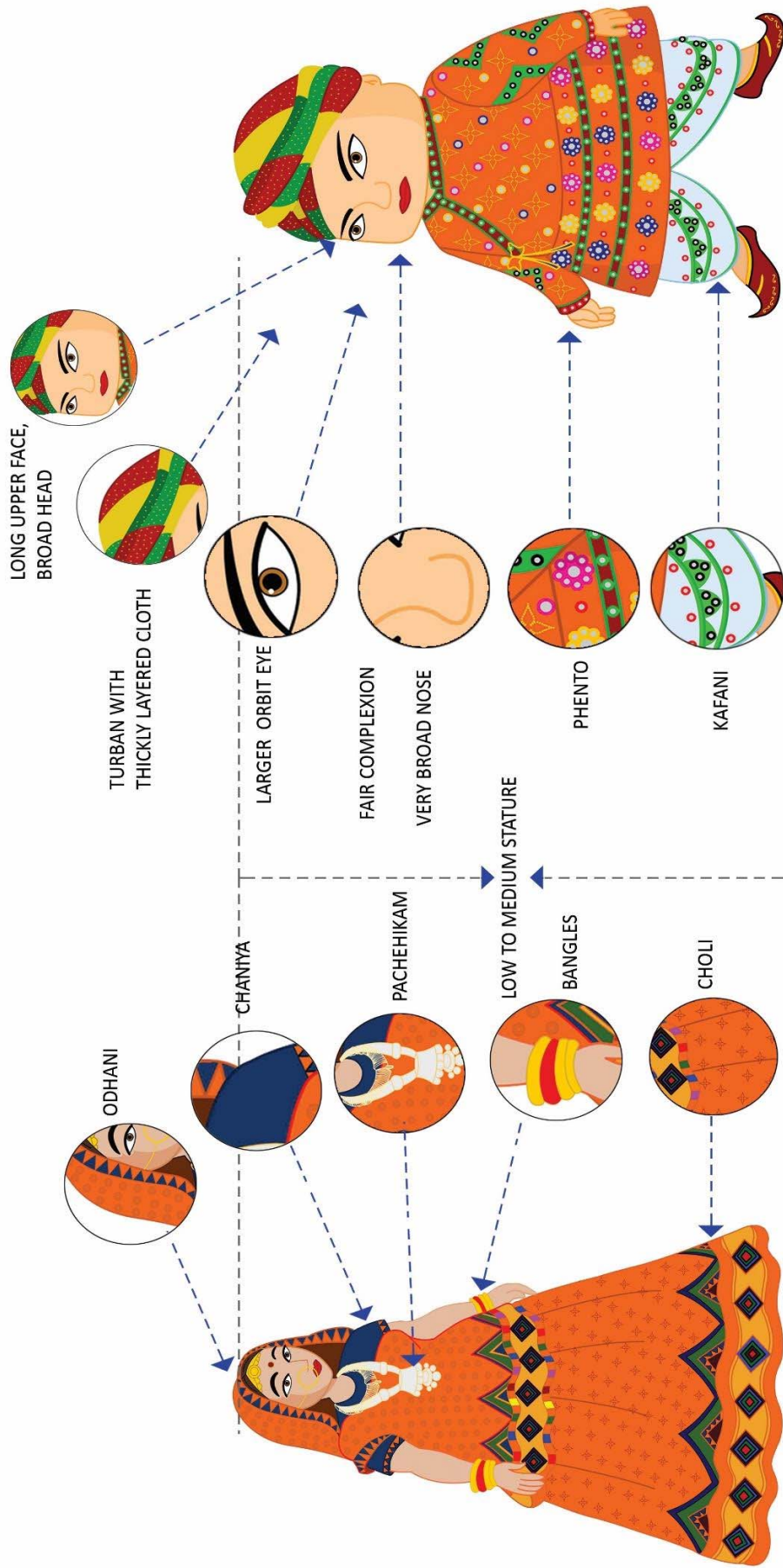


Fig. 47: Development of cartoon character represents Gujaratis.

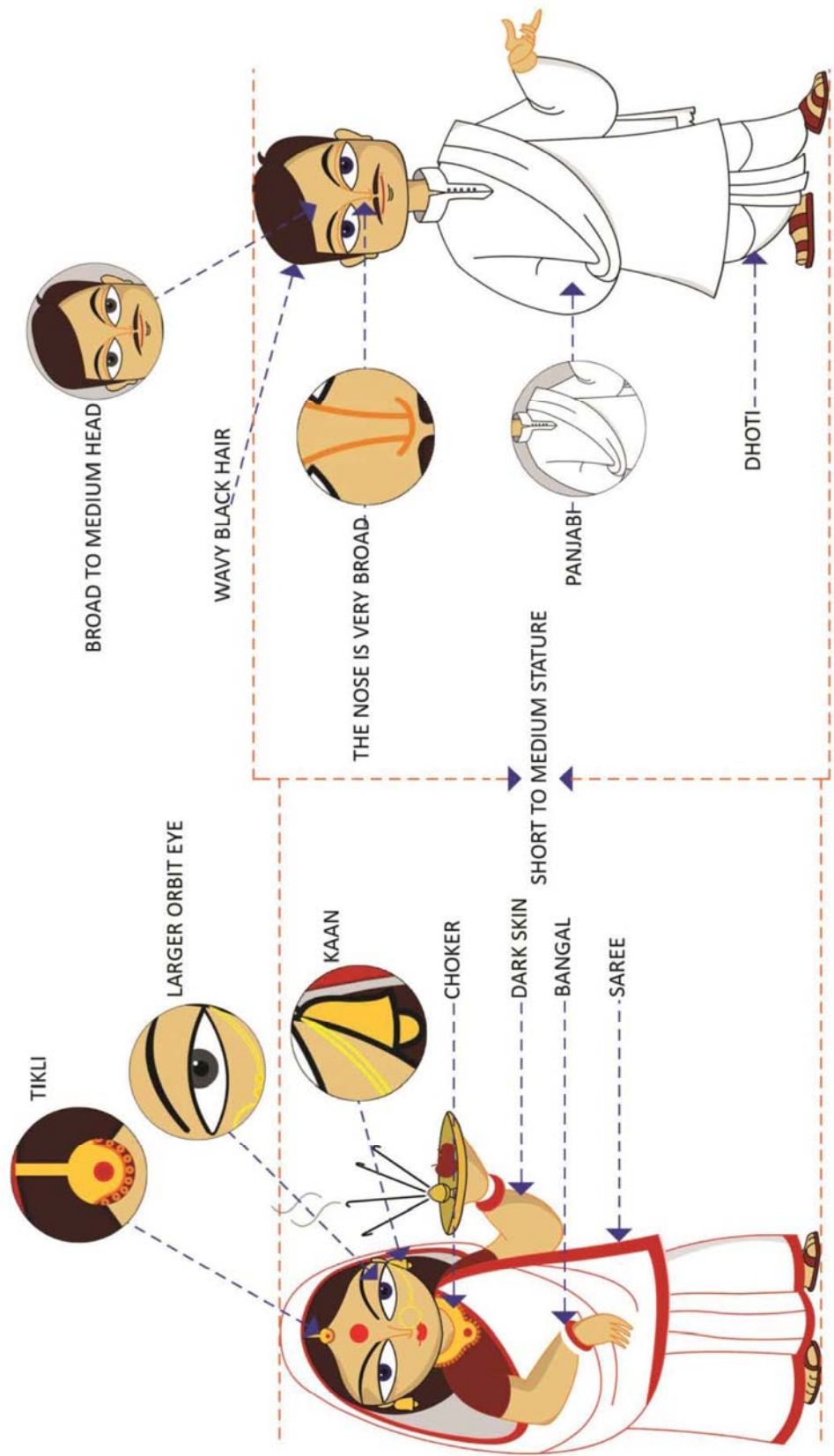


Fig. 48: Development of cartoon character represents West Bengal

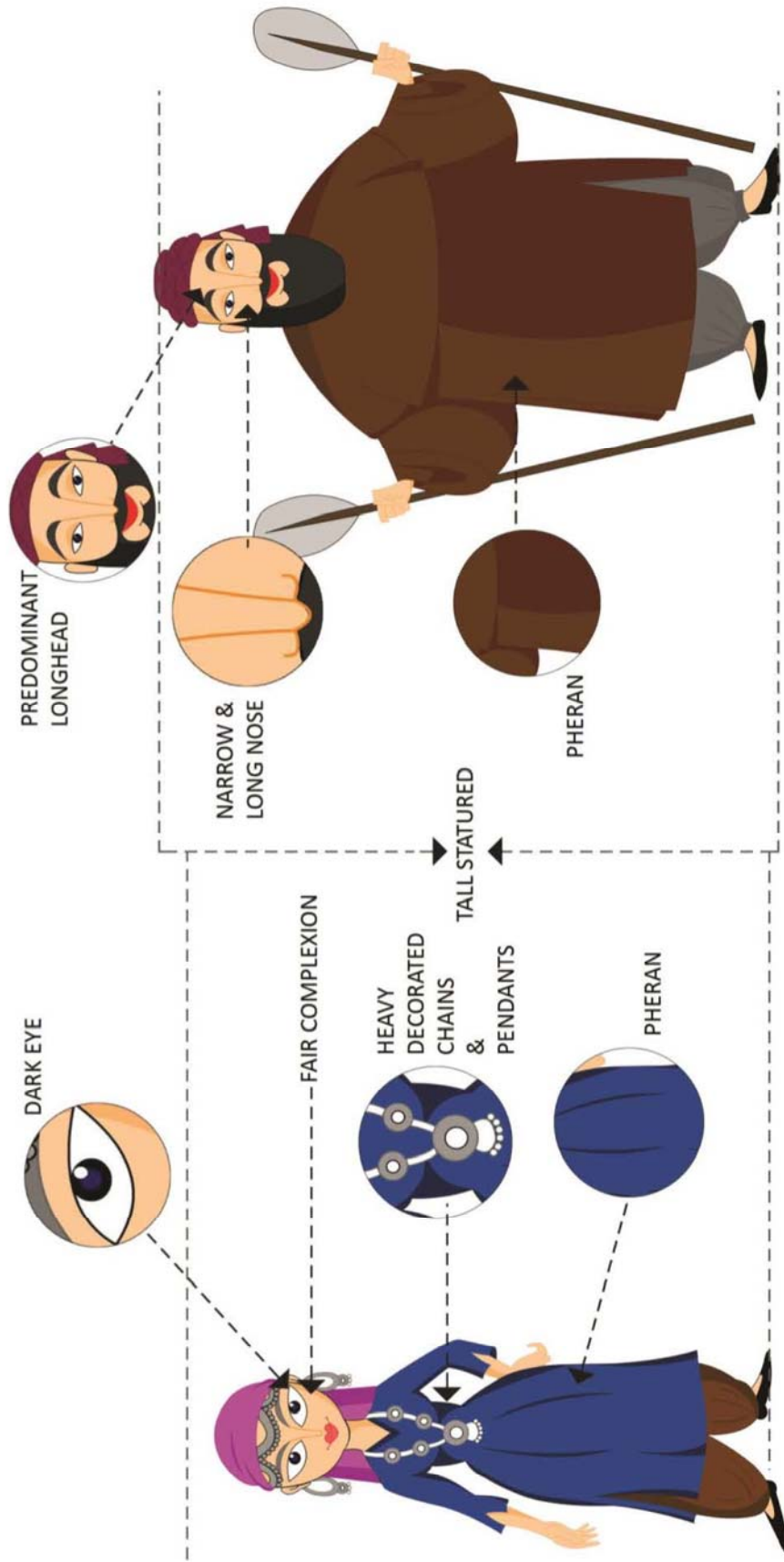


Fig. 49: Development of cartoon character represents Jammu Kashmir

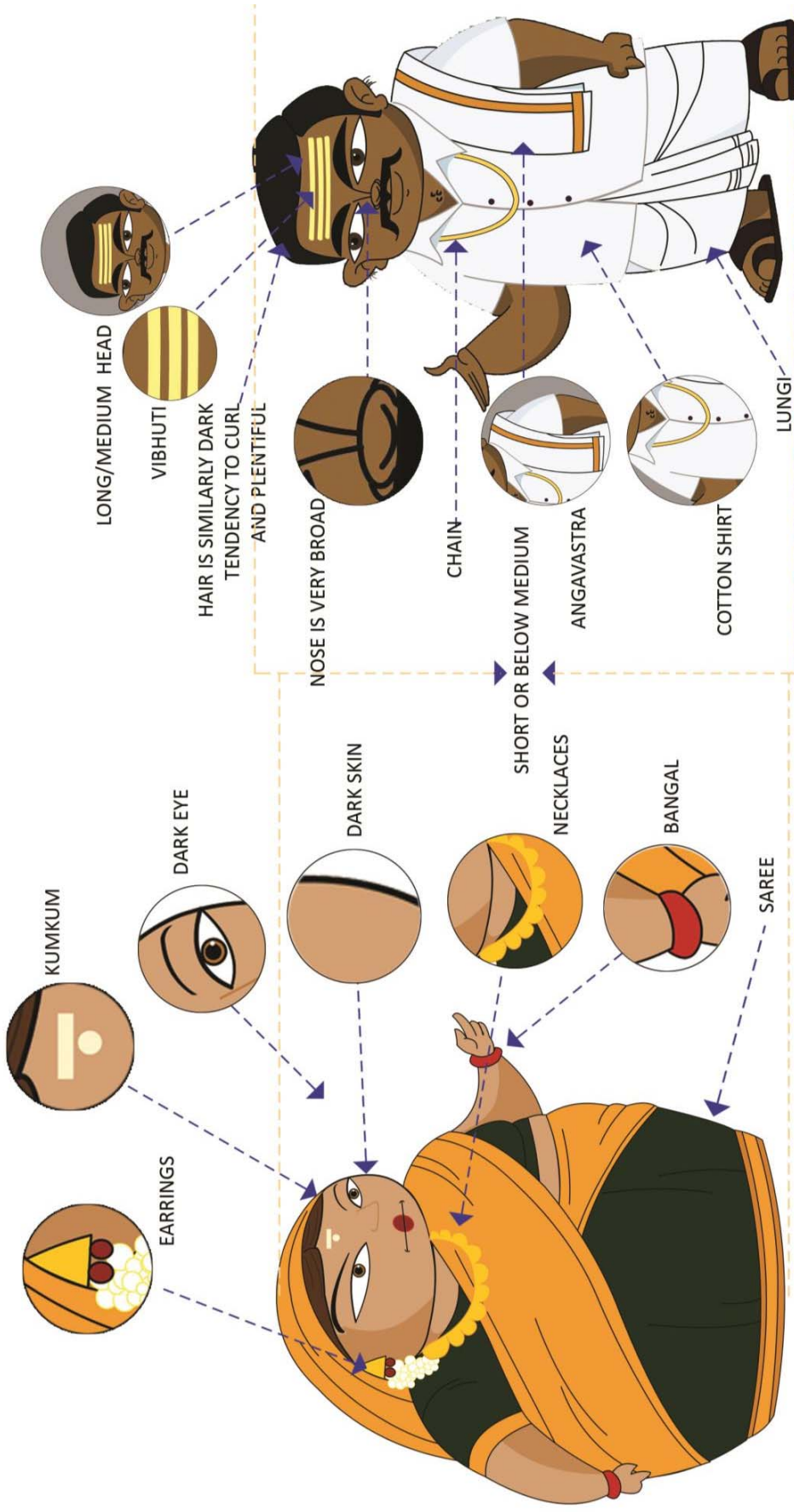


Fig. 50: Development of cartoon character represents Tamil Nadu

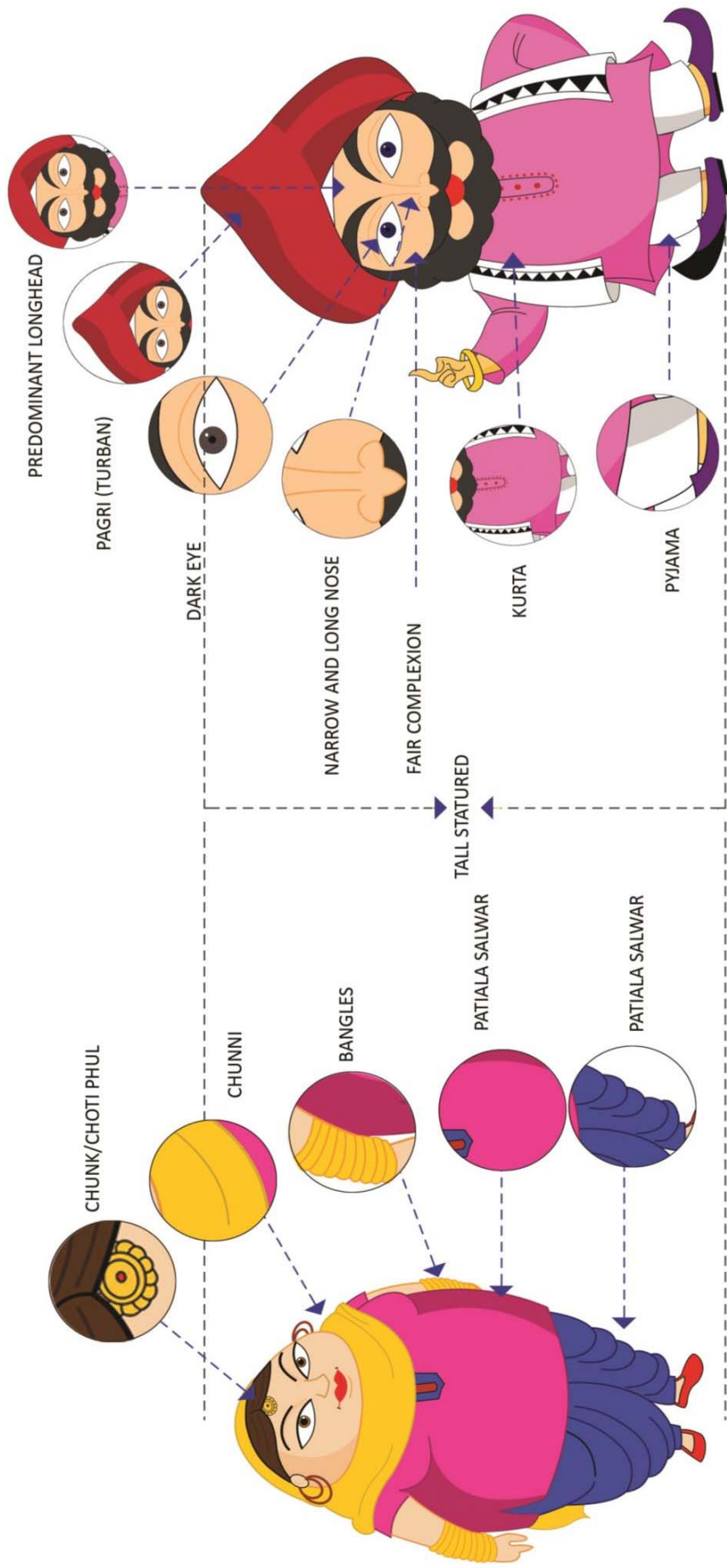


Fig. 51: Development of cartoon character represents Punjab

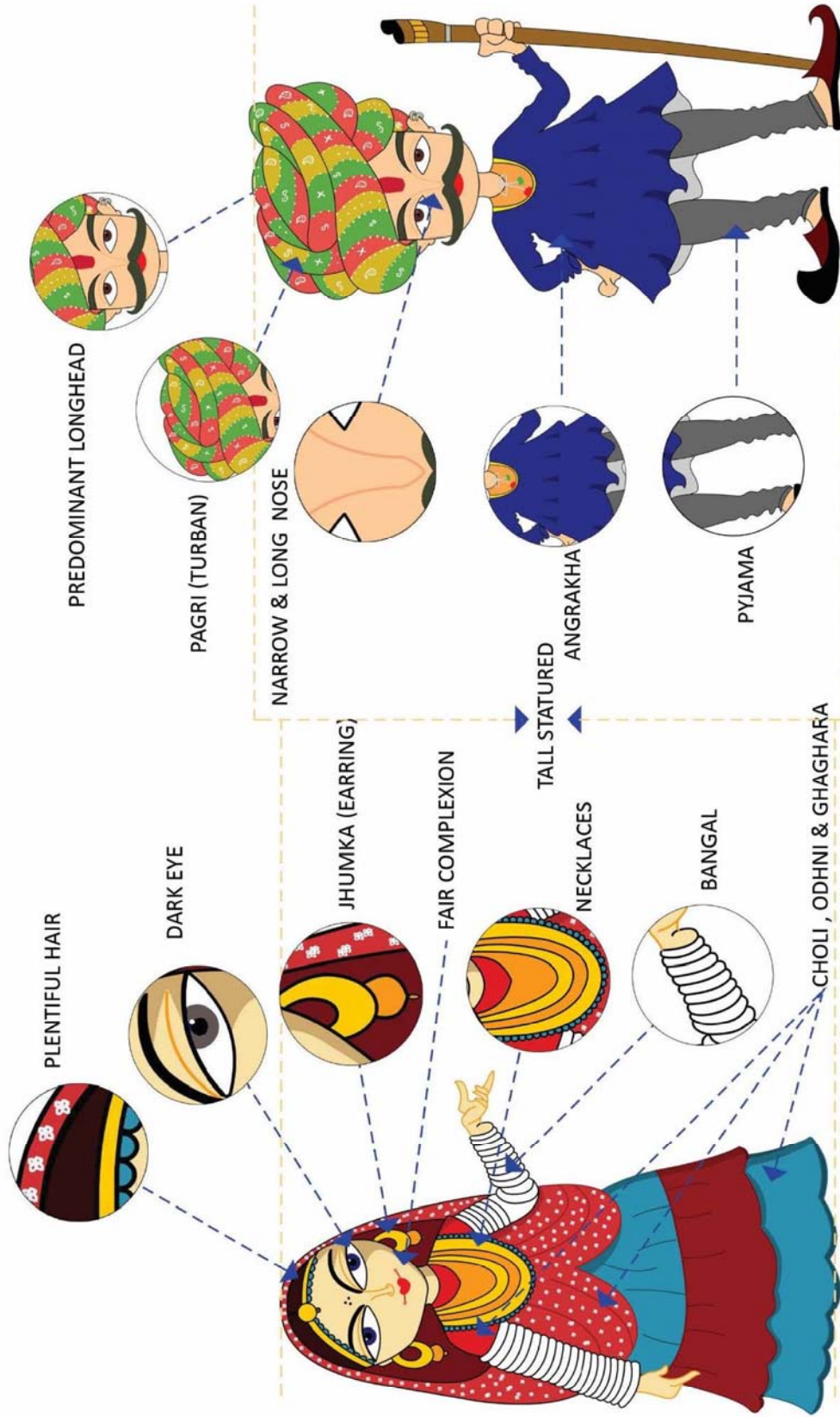


Fig. 52: Development of cartoon character represents Rajasthan

3.2.3 Phase II: Identification and Development of Characteristic Design Elements Reflecting Indian-ness – B. Viewers’ Opinion

The designed and developed cartoon characters having essence of Indian socio-cultural tradition and ethos with characteristic uniqueness elements were presented before the young students to obtain their feedback on the same in comparison to the existing cartoon characters (both Indian and foreign), placed before them separately.

3.2.3.1 Location of Study

The North-eastern part of India was chosen as the location of the study considering the emerging youth of Assam, Tripura and Northern part of West Bengal sharing boundaries of Assam: since these areas were convenient to covered for the researcher and education in these areas are in growing phase (in terms of growing number of schools and higher educational Institutions coming up). The detailed information of schools chosen and number of student volunteered in the study was tabulated in Table 5.

Table 5. Details of schools across City/ Town, Dist. of Assam, Tripura and West Bengal from where students were selected from available ones for the study.

Sate	City/ Town (Distt)	School	Number of students available *	Number of students Volunteered
Assam	Kokrajhar	Kendriya Vidyalaya Kokrajhar	19	16
		BPCM Babyland EM High School	32	27
		D N Himatsingka High School	22	18
	Bongaigaon	Kendriya Vidyalaya Bongaigaon	13	11
	Goalpara	Kendriya Vidyalaya Goalpara	12	09
Tripura	Agartala	Kendriya Vidyalaya ONGC	40	34
		Kendriya Vidyalaya Kunjaban	45	42
West Bengal	Aliporduar	Kendriya Vidyalaya	38	34
	Coochbhehar	Kendriya Vidyalaya Coochbehar	20	18
Grand total count of students =			241	209
* Available at the time survey administration.				

3.2.3.2 Volunteers

Healthy (free from somatic, cardiovascular, neurological, psychological and audio-visual disorders / ailments), young students aged between 17 to 22 years (18.23 ± 2.983 yrs., $M \pm SD$) participated in the study. The survey was conducted in two consecutive phases for (i) existing cartoon character in India (ii) cartoon character designed and developed by the researcher for the present study.

3.2.3.3 Sampling

A total of 209 students volunteered willfully without any compulsion, obligation or bid of incentive. Chosen through purposive random sampling procedure using Slovin's formula [$n = N/(1+N.e^2)$; where n = no. of sample, N = no. population and e = margin of error (between 0.01 to 0.05, the lower the margin, the higher the accuracy of result)], the required sample size was estimated to be 198 [$241/(1+241 \times 0.03 \times 0.03) = 197.5409$], while selected sample size was 209. It had inclusion of 12th standard students only, since among school children, they were supposed to have highest level of analytical ability to distinguish and criticize elemental characteristics of various cartoon characters and justify their choice of characteristics. The students belonged primarily to middle to upper-middle socio-economic realms having primary access to cartoon channels of Indian cable networks. The motif of this check was to ensure that the respondents (volunteers) should be able to differentiate between elements and features of existing and developed cartoon characters, and to some extent, to understand the design perspectives of developed cartoon characters in contrast with the existing ones.

3.2.3.4 Paradigm

The students (target viewers of cartoon / animation movies and series) were surveyed using a standard questionnaire (Fig. 61) to assess the impact of existing cartoon character and developed cartoon character on their perception and preference of watching the same and have their feedback on the message and Indian-ness in the developed cartoon character. To avoid researcher's bias and unintentional situation bias, the same questionnaire was administered for both existing and developed cartoon characters. This assured the respondents to analyses and comprehend the characters of existing cartoon character and developed cartoon character with similar evaluations criteria. The questionnaire was administered in the school classroom in a clam and quite ambience, so as to enable them to

respond to the survey questions patiently with maximum level of accuracy. This ensured proper understanding of the questions in the questionnaire and submitting the responses attentively.

QUESTIONNAIRE	
<p style="text-align: center;">Identify the characteristic that describes the Cartoon characters best in your opinion</p> <p>1) To describe these cartoon characters to your friend which particular element(s) would you must say about the cartoon character?</p> <p>(a) Eye is the primary element to describe the cartoon character. (b) Most important element include eye, nose, costume, stature & face. (c) External feature are not so relevant. (d) Combined expression of characters prevail over a single characteristic.</p> <p>2) Which particular design element describes the given cartoon characters best w.r.t. Indian-ness?</p> <p>(a) The cartoon character is an apt blend of aesthetics and ethnicity/traditional look / appearance. (b) The designed character is combination of features that are interdependent of expression. (c) Character design represents Indian-ness in terms of attires like eye, nose, costume, stature & face. (d) The fabricated / proposed design reflects Indian-ness in virtually all aspects.</p> <p>3) Which element(s) in your opinion describe(s) Indian-ness the best?</p> <p>(a) Only eyes communicate Indian-ness. (b) Indian ness is represented best by a combination of elements rather than a single element. (c) It is a set of external features in addition to the elements that express the aesthetic ethnicity [to be Indian in all terms]. (d) Costume, look up etc. also should be considered very important to represent Indian-ness.</p> <p>4) Considering the cartoon characters designed exemplifying the Indian culture, which cultural feature(s) strongly illustrate(s) the Indian-ness according to you?</p> <p>(a) Character wearing traditional Indian clothes. (b) Elements demonstrating particular socio-economic strata of culture of India. (c) Characters in Indian traditional cloths showcase an emotional demeanor of Indian-ness. (d) The province-specific attire of cartoon characters attest to establish Indian provincial flavor.</p> <p>5) Which of the other factors mentioned below is important for expressing Indian-ness in design of these cartoon characters?</p> <p>(a) Communicating Indian culture and heritage through the animation / cartoon stories. (b) The concept of the cartoon character design with aesthetics of Indian-ness as its chief flavour is to highlight the Indian lifestyle in terms of socio-economic and educational parameters. (c) Indian-ness would be indistinguishable with a single element / characteristic rather than a group of elements comprising eye, nose, skin colour, costumes etc. (d) Indian-ness is a combination of elements and characters on a geo-spatial cum temporal platform with the essence of aesthetic ethnicity.</p> <p style="text-align: right;">= 09 # 0 = 10 =</p>	<p style="text-align: center;">PARTICIPANT INFORMED CONSENT</p> <p>Project Title: Expressing "Indian-ness" Elements of cartoon Characters as a Reference. Researcher's Name: Mr Bhaskar Saha Supervisor's name: Prof. Debbumar Chakrabarti</p> <p style="text-align: center;">DECLARATION BY THE PARTICIPANT</p> <p>I hereby declare that</p> <ul style="list-style-type: none"> ❖ I have received detailed information about this research work. ❖ I understand the purpose of the research work and my involvement in it. ❖ I understand that I may withdraw from the research project at any stage. ❖ I understand that whatever information gained during the study may be published, I will not be identified and my personal results will remain confidential. <p><i>Participants are design students which is under the age of 25 yrs. require parental consent to be involved in research. The consent from should allow for those design students to agree to their involvement and for a parent to give consent.</i></p> <p>Name: _____ Signed _____ Date: ___/___/2018 Education: _____ Age/Sex: _____ yr. / _____ Address: _____</p> <p style="text-align: center;">DECLARATION BY THE RESEARCHER</p> <p>I hereby declare that I have provided requisite information about the research participant, and confirmed that she/he understood the experimental details and his/her role therein.</p> <p>Researcher's Name: <u>Bhaskar Saha</u> Signed: _____ Date: ___/___/2018</p> <p style="text-align: center;">CARTOON CHARACTERISTICS QUESTIONNAIRE</p> <p>Kindly identify the most prominent elements [as visualized by you] representing Indian-ness of the cartoon character; presentation to you through the plate of cartoon characters, based on following to understandings:</p> <p><input type="checkbox"/> INDIAN-NESS is related to India or Reflection or feeling of 'being an Indian'.</p> <p><input type="checkbox"/> ABSTRACT FORM uses a visual expression of shape, form, color and line to create a composition or structure which may exist with a degree of independence that does not attempt to represent an accurate depiction of a visual reality but instead use shapes, colours, forms and gestural marks to achieve its effect.</p> <p><input type="checkbox"/> CHARACTER ELEMENTS of fiction/story is generally used to augment pleasure of understanding and subsequent enjoyment of reading anything. Awareness about elements of character, setting, plot, theme, point of view, style, and tone encourages the identification of characteristics, appearances and at the very detailed level, the specific elements of any character (cartoon/ abstract/ motion etc.) of any storyline. In nutshell, familiarity with elemental criteria poses better understanding and critical analysis of a story, including the aesthetic ethnicity [Indian-ness for the present research] of the character in the story.</p>

Fig. 53: Main experiment questionnaire

3.2.3.5 Statistical Analysis

Collection of primary data was executed using the questionnaire prepared for survey on comparative analysis of existing & developed cartoon character in terms of the criteria like perception & preference. Collected data were statistically analyzed using Statistical Package for Social Sciences (SPSS for windows, v.22.0.0) to explore any significant difference in the criteria viz. perception and preference (acceptance) of elemental or characteristics of existing & developed cartoon characters. For every analysis, statistical significance was set at the level of $P \leq 0.05$.

Test of Normality. All the data generated as described above were subjected to Kolmogorov-Smirnov (KS) Test of Normality to examine whether they could form a normal distribution (i.e. whether the data were distributed normally). None of the raw dataset passed the KS test of normality (KS being $P < 0.01$ or $P < 0.001$). Therefore, the data further underwent non parametric analyses only.

Reliability of questionnaires. All the questions of the questionnaire regarding preference and perception of characteristic design elements for existing as well as designed developed cartoon character in this research were constructed using the standard procedure and their administration reliability was examined by subjecting them through Cronbach's Alpha (α) for their reliability, construct validity and internal consistency of the scales. The questionnaire was adopted only when Cronbach's α achieved ≥ 0.8 ($\alpha \geq 0.8$) and the inter-item covariance matched across the corresponding levels. After validation of the reliability of the questionnaire, they were scored in terms of the number of responses and the generated data then underwent Friedman Chi-Squared Test (χ^2_F) for Independence of Association.

Friedman's Chi-Squared (χ^2_F) Test for Independence of Association. The questions in the questionnaire were framed to assess the impact of the perception and preference of (a) existing and (b) designed & developed cartoon characters on psycho-behavioural revelation of the students (children of 12th standard). They were subjected to Friedman's Chi-Squared (χ^2_F) test for Independence of Association between existing and designed & developed cartoon characters with the criteria, to explore whether the perception and preference were independent of elemental characteristics existing and designed & developed cartoon characters; because a significant association between criteria and would reflect bias of the respondent while registering their responses to the questions in the questionnaires.

Correlation between perception/preference of respondents developed cartoon characters' elements. To explore whether and how characteristic design elements of existing and designed & developed cartoon characters' affects perception and preference of the children (students the main viewers of cartoon and animation), as revealed through their subjective responses, to the administered questionnaire towards the criteria, the subjective response were analyzed using Spearman's Rank Correlation Coefficient (r). Perception, preferences and both were evaluated using r for the set of questionnaires on impact of existing cartoon characters and developed cartoon characters. Further, the Coefficient of Determination (CoD, expressed as r^2) was also calculated to examine that, to what extent the variables share their variance i.e., what percentages of choice could be explained by the causing factors like existing and designed developed cartoon characters.

3.2.3.6 Observations: Responses of Viewers to Survey Questions

These data collected through administration of survey questionnaire consisting of 5 questions with 4 options for each. These all the questions address aspects on existing Indian / Foreign cartoon characters and developed cartoon character in India. The survey was conducted on 209 students. The data generated have been presented in Table 6.

Table.6, Response to Survey Questions on Perception and Preferences about Existing vs Developed Cartoon Characters

Existing Cartoon Character in India						Developed Cartoon Character in India					
Question \ Options	01	02	03	04	05	Question \ Options	01	02	03	04	05
a	16	56	11	62	52	a	58	84	15	103	46
b	156	39	47	49	80	b	125	21	41	35	72
c	12	95	56	54	50	c	8	79	48	45	60
d	25	19	95	44	22	d	18	25	105	26	31
Total	209	209	209	209	209	Total	209	209	209	209	209

All the participants answered to all the questions patiently and unbiasedly.

Existing cartoon character. For Question 1, these was 16 responses for option a, 156 responses for option b, 12 responses for option c and 25 responses for option d. Similarly, for Question 2, the students registered 56 responses for option a, 39 responses for option b, 95 responses for option c and 19 responses for option d. For Question 3, there were 11 responses for option a, 47 responses for option b, 56 responses for option c, and 95 responses for option d. For Question 4, 62, 49 54

and 44 responses were recorded for option a, b, c and d respectively. Similarly, in Question 5, option a, b, c and d, had 52, 80, 50 and 22 responses respectively.

Developed cartoon character. For question 1, there was 58 responses for option a, 125 responses for option b, 8 responses for option c and 18 responses for option d, similarly for question 2, the students registered 84 responses for option a, 21 responses for option b, 79 responses for option c, 25 responses for option d. For question 3, 15 responses for option a, 41 responses for option b, 48 responses for option c, and 105 responses for option d. For question 4, 103, 35, 45, 26, responses were recorded for option a, b, c and d respectively. Similarly option a, b, c, d, had 46, 72, 60 and 31 responses respectively.

Fig. 54, below represents the survey result in a cumulative pictorial frame. This intends to elaborate the comparative perception and preferences of the students (viewers) for existing cartoon character and developed cartoon character. In this connection, a percentage comparison chart of perception and preferences for existing cartoon character and developed cartoon character has also been depicted in Fig. 55.

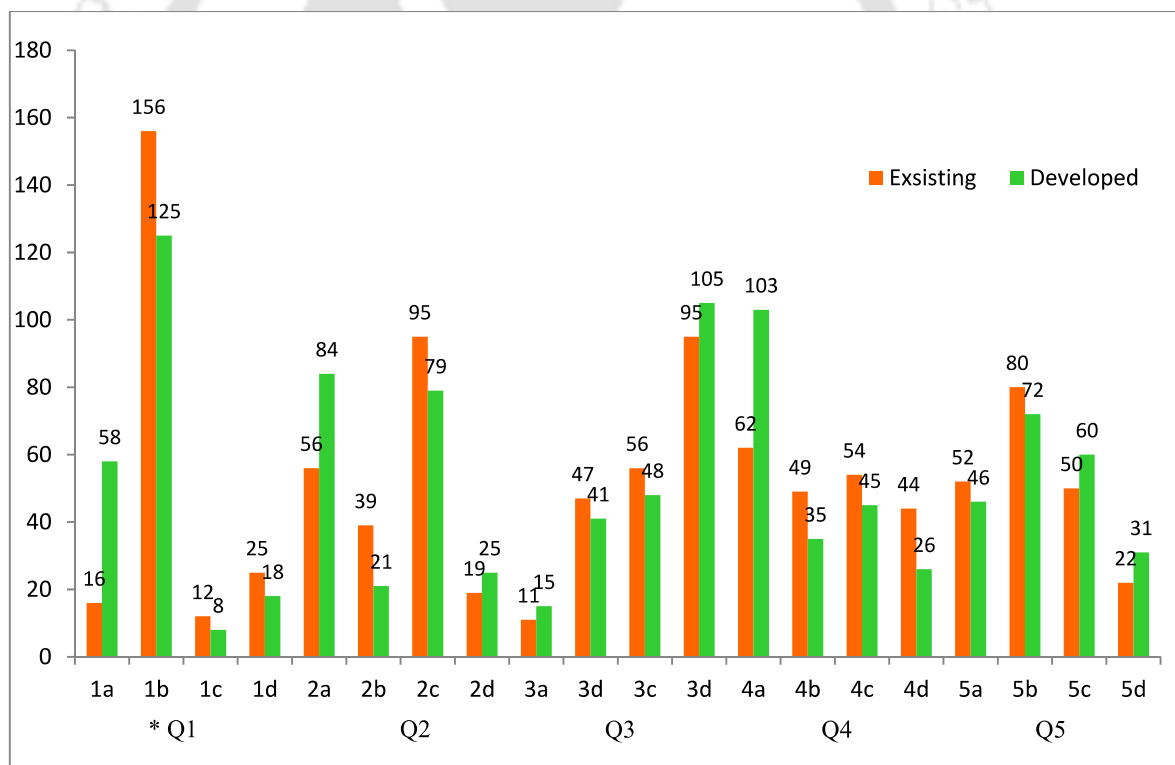


Fig. 54: responses to the survey questions (Q1 to Q5 with option a, b, c and d for each) on perception and preferences about existing vs developed cartoon characters, * Questions see, Fig, 53.

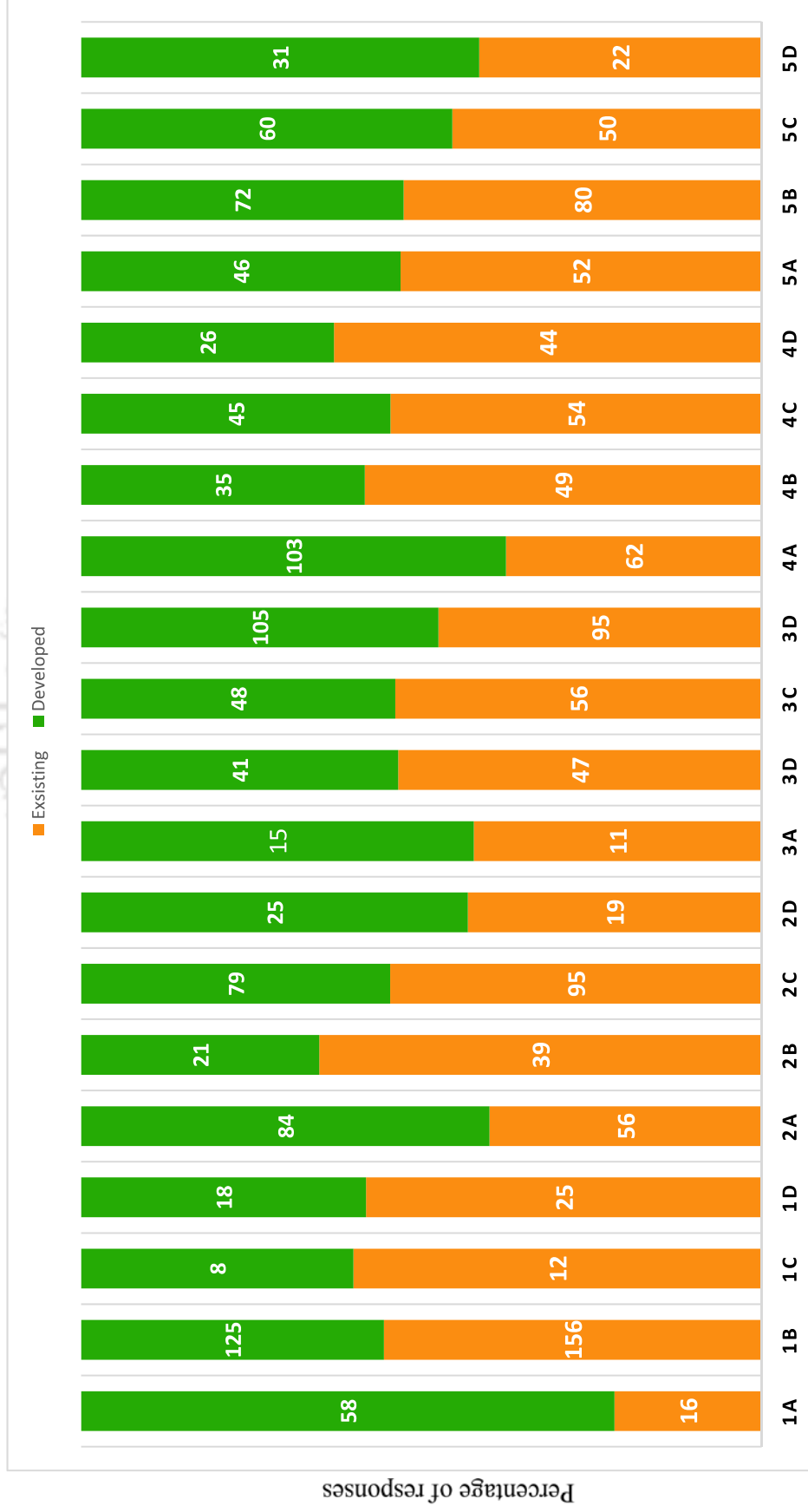


Fig. 55: Cumulative percentage comparison of responses of viewers for existing and developed cartoon characters

3.2.3.7 Statistical Analyses:

Reliability Analysis. The observations are discussed below in order of analysis.

Existing Cartoon Character. The questionnaire, before administering to the respondents, was analyzed for validity and test-retest reliability using Cronbach's Alpha (α) in SPSS v.22.0 for Windows. Evaluation of the questionnaire administered revealed excellent internal consistency, thereby ensuring reliability of the questions to be asked through the questionnaire ($\alpha = 0.986$, α based on standardized items = 0.979 for 20 questions). This was further confirmed by inter-item correlation and covariance matrices, which showed periodicity and regularity among the rows and columns. The variances and covariance of the scores were found to be within normal range with excellent α .

Developed Cartoon Character. The questionnaire, before administering to the respondents, was analyzed for construct validity and test-retest reliability using Cronbach's Alpha (α) in SPSS V.22.0 for Windows. Evaluation of the questions and the questionnaire revealed excellent internal consistency thereby ensuring reliability of the questions to be asked through the questionnaire ($\alpha = 0.989$, and α based on standardized items = 0.987 for 20 questions). This was further confirmed by inter-item correlation and covariance matrices, which showed periodicity and regularity among the rows and columns. The variances and covariance of the scores were found to be within normal range with excellent α .

Friedman's Chi Squared (χ^2_F) Analysis of Variance. Choices made by Higher secondary (10+2) Student respondents did not show any significant association (χ^2_F): 8224.3, NS) of the questions in a questionnaire with the selection of the forms by consumers as per their preference. ANOVA with Friedman's Chi-Square (χ^2_F) for between people and between items showed no significant association [χ^2_F (between people and between items:) 195.410; NS] with significant variation within people with a residual component of non-additivity [χ^2_F (within people and residual non-additivity:) 249.438; P < 0.001]. However, Kendall's Coefficient of Concordance represented moderate agreement between preference of the forms rated by individual respondents based on the question in the questionnaire (W = 0.121).

Choices made by Higher secondary (10+2) Student respondents did not show any significant association (χ^2_F : 8859.6, NS) of the questions in the questionnaire with the selection of the forms by consumers as per their preference. ANOVA with Friedman's Chi-Square (χ^2_F) for between people and between items showed no significant association [χ^2_F (between people

and between items:) 214.968; NS] with significant variation within people with residual component of non-additivity [χ^2_F (within people and residual non-additivity:)129.573; $P < 0.001$]. However, Kendall's Coefficient of Concordance represented moderate agreement between preference of the forms rated by individual respondents based on the question in the questionnaire ($W = 0.126$).

Analysis of independence of association using Friedman's Chi Squared (χ^2_F) Test with Repeated Measures. Table 7. reflected significance of difference (at $p \leq 0.05$) for between group analysis of Q1 to Q5 of the questioners administered for existing (Table 7. A) and developed (Table 7. B) cartoon character for all responses taken cumulatively and subjected to Friedman's Chi- Squared analysis (FCSA) with repeated measures. Significant difference was registered at $p < 0.001$ for Q1 vs Q3, Q2 vs Q3, Q3 vs Q4 and Q3 vs Q5, while for other pairs of questions there was no significance difference Similarly, Table 3.2.B revealed significance of difference at $p < 0.01$ for Q1 vs Q5, Q2 vs Q4, Q5; at $p < 0.001$ for Q1 vs Q3, Q2 vs Q3, Q3 vs Q4 and Q3 vs Q5 significance difference for all other pairs of Qs.

Table 7. Friedman's Chi-Square (χ^2_F) for Independence of association

[A] Existing Cartoon Character						[B] Developed Cartoon Character					
Question	Q1	Q2	Q3	Q4	Q5	Question	Q1	Q2	Q3	Q4	Q5
Options						Options					
Q1	--	NS	***	NS	NS	Q1	--	NS	***	NS	**
Q2		--	***	NS	NS	Q2		--	***	NS	NS
Q3			--	***	***	Q3			--	***	***
Q4				--	NS	Q4				--	**
Q5					--	Q5					--

Significances expressed by* , where ** and *** denotes significant difference by $p \leq 0.01$ and $p \leq 0.001$ respectively, NS. denote No significant difference ($p \geq 0.05$)

(χ^2_F) analysis for Independence of association revealed no significant association, thus making the Questions of the questionnaire free from experimenters bias for survey questionnaire and other forms of associations which may be unintentional, but being present would have compromised the purpose of the experiment.

Correction Analysis using Spearman's rank Correlation Coefficient along with Coefficient of Determination. Subjective responses to questions No. 01 - 05 on the perception preference using Spearman's Rank Correlation Coefficient (r) revealed no significant correlation (neither direct nor inverse) between perception/ preferences of respondents and characteristic design elements of Developed Cartoon Character ($r = + 0.02$; $p = 0.647$; NS) and Existing Cartoon Character ($r = - 0.02$; $p = 0.527$; NS).

Calculation of Coefficient of Determination (CoD; r^2) showed variable trend of shared variance, there by indicating that variable levels (through not significant) of percentage of choices could be explained by the causing factors viz. Developed Cartoon Character ($r^2=0.0025$) and Existing Cartoon Character ($r^2=0.0005$).



CHAPTER 4: DISCUSSION AND CONCLUSION: IDENTIFYING UNIQUE ELEMENTS FOR INDIAN CARTOON CHARACTER

Chapter Overview

This chapter sums up the content of the study and discusses experimental results detailing the unique elements identified and used to develop cartoon characters having Indian essence.

4.0 Discussion: Identifying unique elements for Indian Cartoon Character

The study was based on an assumption that visual presentation improves the communication. A preliminary enquiry conducted at the very beginning of this thesis work on a classroom teaching-learning ambience also expresses that information communication is better perceived when more than single information window is used, e.g., in classroom situation lessons were better understood when the same lecture lesson was supported with relevant audio-visual material/ multimedia presentation.

Cartoon animation is a medium of infotainments where many aspects of expression are possible to express that can't be presented through direct presentation, either it be by real life appearance, drawing, sculpture, photographic or filming is met up. It is a common fact that children are fond of cartoon-animation; probably this medium provides them a closer revelation to their playful appetites. For the study, children population was chosen from an upcoming town in a rural setting in Northeast region where Television viewing is the major source of experiencing cartoon-animation films, rather than taking those from urban metropolises where other medium of entertainment and other facilities are available in plenty. This study tried to feel the perception of a population which is relatively closer to the basic value of life and maintained for long as family tradition, in very recently where they are experiencing other influences relevant to ethnic value.

About usefulness of infotainment, it was mentioned by parents that they concern about the content and context of available cartoon animation in ready market, as most of them are of foreign origin and Indian makes were also opined to be influenced by foreign character representation and children tend to copy those characters, and thus there was an unwanted behavior shift. This prompted to look into Indian characters to express an overall Indian-feel with value and ethics; what can be preferred for Indian children's development. What are the ways to express Indian ethics apart from literature and performing arts, not only for Indian children, it should also be well accepted by foreigners? Cartoon animation may be used as a presentation of culture and its retention, expression and sharing with others.

The basic objective of this study was to see feasibility of an approach to develop Indian identity in cartoon character with the help of unique elements identified from various domains of Indian culture and traditional ethnicity. It has been observed that among children foreign cartoon characters are more popular than the Indian cartoon characters,

and why it happens and how an attractive Indian feature can be conceived come to fore. Foreign cartoon characters which are normally culturally linked with the popular faith and belief of the place of origin, are flourishing worldwide irrespective of viewers' cultural background and our children are attracted too; is it due to the varieties available; if Indian characters with varied context can add preference value to Indian as well as foreign viewers. India made animation films are taking a shape in market recently, and to support this effort the present study was undertaken to understand and find out the common identifiable Indian uniqueness features through traditions, culture and aesthetic ethnicity which would highlight the unique design elements to develop cartoon characters.

It was assumed that when these Indian elements take shape of Indian characteristics and presented in animated or multimedia programs might help growing children to understand Indian-flavour. These unique elements will bring various styles of cartoon characters, which will spread the flavor of Indian-ness nationally and internationally.

In sixteenth century, Raphael and Leonardo da Vinci firstly displayed cartoon in the museums drawing worldwide attention. Cartoons can be considered as political cartoon posters and cartoon films. Social messages are provided by political cartoon through sketches or Illustration or comic strip. 'Comic strips' are said as 'strip cartoon' also and it is famous in the United Kingdom. Mostly cartoon comes in view through animated movies and short films. Most of the time animated Presentation, movies, and series are referred as cartoon, used to give lesson and entertainment to the children.

It is observed that ancient art and painting are mostly carried out in the Paleolithic caves through painting sculpture and their affectionate or expressive unique creative senses. In India also a lot of design elements and principle through the Illustration, sculpture and painting etc. can be seen. For example, Ajanta and Ellora show the creative ability of the Indian painters. It is known that Indian painting work is very appreciative and impressive worldwide. In the creative art history Indian artists have given many creative design forms with the help of style and composition thinking. Patachitra is one of these. Abanindra Nath Thakur, Nandalal Bose, Jamini Roy, Ramkinkar Baij, Ramananda Bandyopadhyay are the popular names of Indian art. Their works have given a new way to think. Through the gradual evolution, painting and sculpture have entered in life of common people. Different forms of drawing, even in household objects are also developing every day. Painting has evolved a lot since the cave painting to the modern style of painting. Paintings of previous times show the lifestyle of the people of that time. Would it have the similar presentation

and be accepted in today's context? With the advent of technology, multimedia is now in fore front of communication; and in this it concerns the uniqueness of the presentation with specific context and while it goes to global audience, it requires maintaining identity related to the message it speaks about.

Gradually advancement of painting has opened various new ways and techniques to entertain people. Comics are one of them. Through comic's expression and emotions can be brought in front of the audience. Comics are often get popularised by the stories of super heroes. Simultaneously this development of creative world has been resulted into computer based animation techniques. In this journey of progress, short animated films etc. are made with the help of various design element and principles. Side by side various animation software is getting updated. The entertainment world is producing different animated products like films and series.

It is noticed that the designated purpose of making an animated character can only be served when the character is get idealized. Through the idealization of a cartoon character, the presentation of animation becomes fruitful. In broader sense, animated characters are brought in front of the audience to give them entertainment as well as positive emotions. These cartoons play an important role in character building of children because they try to copy their favorite cartoon character. If the cartoon expresses positivity children also can have positive thinking. Cartoon animation is spreading all over the world giving positive impact. This entertainment product is also influencing children as well as adults. Key to the success of cartoon animation is character design. A story stands on the cartoon character as it attracts the attention of the viewers. Design concept of cartoon character plays a vital role in animation films and series. Many animated films and series got worldwide popularity mostly because of the character design concept like Tom & Jerry, Ducktales, jungle Book, Despicable Me, Ice Age, Kung Fu Panda etc.

Cartoon character design is getting used not only in films but also in different fields like e-learning process, medical field, understanding of science projects etc. as well as abstract imagination of deep feeling of emotion. Animation made on cartoon character has been accepted globally and for this global market is rising high day by day even in India also the same thing is happening. Indian cartoon characters are coming in view but these characters are not getting able to present the Indian flavour the way many people feel needed but do not actually know what it would be; somewhere in these animated works Indian content is missing.

The experiment was carried out on the school going students and their guardians in the Kokrajhar district, Assam within schools like Government run and elite type of schools. Kokrajhar was selected as the place of experiment because it is a rural area of Assam, which is developing gradually to urban map. One of the basic focus of this enquiry was to know what type of cartoon children used to watch in TV, and what were their favorite cartoon characters. Opinion was also collected from their guardians about their children's choices of cartoons, whether they liked Indian or foreign cartoon films shown in TV channels. At the same time guardians were also asked about their own choices of cartoons and what type of cartoons they wanted their children to view. According to the school going children based data, most of the children liked foreign type of cartoons e.g. Doremon, Shinchon, Ban 10 etc. On the other hand, from the guardian based data it was known that their children were attracted to foreign cartoons and very much influenced with it but guardians wanted to give their children Indian culture and for that they hoped for cartoons having Indian flavour.

From the existing literature and the current experiment, it was clear that Indian children as well as the stylisation of India made cartoons were also influenced with the foreign cartoons characterisation. Indian is rich in culture, tradition, so here the question comes that why not Indian characterisation could be given importance. Now it is needed to highlight the Indian tradition, culture, aesthetic, ethnicity through the cartoon and for that design elements are required to be identified from these and be used appropriately to address worldwide audience.

The aim of research was to find out the design elements related to communicative appearance of Indian-ness by cartoon characters and animation reflecting India in a socio culturally provincialized communication.

Medium of expression may be various visual experiences and children even adults also are attracted. Indian people wanted their kids to get attracted towards Indian ethics and values; thus there is a need to look into visual expression if the cartoon animation in tune to various expressions of Indian-ness can be experienced in various fields. Identity is time, location and cultural specific identity; unique practices of art & artifacts, dress, food culture and living style may be contributing factors to this identity. Students those who were learning communication design specific to animation and multimedia of varied levels expressed Indian-ness identity can also be expressed through dress code covering regular

as well as festive attire. Six different states were identified from different locations in India as it was assumed that they are representing diversion of Indian population. Cultural specific identity has been thus found in this study which is presented in Chapter 3.

According to many researchers, it can be commonly said that a movie gets its success through its character design and context background. As we know that India is full of diversities and these in combination gives an India beautiful look worldwide. India is made up with 29 states and all these states are having their respective stylization variations. India is a land of unity with harmonizing diversity in cultures; it was difficult to present the stylization of a single identity. A group of unique identity may be used to represent the Indian feeling. To find out exemplary evidences, design students who were taken in confidence to assist in this effort, searched from various available reference sources i.e., publications of varied nature, museums, internet, journals, books, etc. and conducted a compilation excises to find out the most representative population groups having uniqueness with different elements like dress, face structure, body gesture, eyes, costumes, rituals and festival practices etc., and these elements were detailed out.

As a unanimous decision taken in a meeting with design both diploma and degree students of CIT Kokrajhar, Assam, six states were chosen where distinctive cultural prevalence were present and can be taken to study for identifying Indian-ness elements to develop cartoon character design. For example, four states of North and West namely Jammu Kashmir, Punjab, Rajasthan and Gujarat, and one each from West Bengal representing East and Tamil Nadu representing South. Detailing of unique elements, the most expressive elements introducing these six states were studied, marked and tried to come up with if they can be used as design elements for unique expression.

A set of common parameters were taken for consideration, e.g., dress variations in material, texture, colour and wearing style; body decorative specifications- i.e., wearing accessories (Fig. 56 [A], peacock feather as symbolic representation of Lord Krishna identity) and paintings; body gesture- part and as a whole (Fig. 56 [B]); skin colour; specific identity elements like mustache-beard style; head gear; and any specific body part identity like nose, eye etc.

Elements from six states were taken in to consideration and the understanding is presented in six sets of character identity of respective populations in Chapter 3. It is assumed that if these identity elements are presented while making any cartoon character

for a story mentioning similar population would be easy to communicate the context. If these are easy to understand by the target group, e.g., the school going children, a two-phase opinion survey was carried out with two different sets of cartoon characters, A) cartoon characters from the existing animation films produced in India and B) the developed cartoon character designed during the present study. The questionnaire was distributed in national link based schools like Kendriya Vidyalaya because these schools have students from different parts of India. 209 students from different national schools participated in the survey. It was noticed that there was a positive acceptance of newly identified elements that can be used to present Indian-ness features.



Fig 56: [A] Peacock feather symbolizing Lord Krishna and [B] Representation of Indian body gestures, (Images Source Google online image search)

4.1 Experts' Opinion and Further Possibility

Experts' feedback opinions were also taken if the approach was appropriate; group of contemporary artists and faculty members in Government College of Art and Craft, Agartala; Rabindra Bharati University, Kolkata; design faculty members from Department of Design, Indian Institute of Technology Guwahati namely Dr M Majhi (specialisation in animation), Dr A Shrivastava (specialisation in graphic and cartoon design), Dr S Karmakar, Dr U Salve and Prof. D Chakrabarti (specialisation in Ergonomics and Human

Factors); Indian animation film makers and designers like Mr. Sutirtha Bhattacharya (specialization in pre-production and 2D animation), Mr. Sourav Nandi (specialization in 2D animation and painting), Mr Sujit Das (specialization in 3D Animation Techniques), and Specialty met with Vaibhav Kumaresh (who is a famous animation designer in India) shown Fig. 57. A general observation from these meetings, it can be said that the approach was appreciated specifically on the concept thinking and design elements identification.



Fig. 57: Meet and discussion with reputed Indian animation designer and Institute faculties.

Mr. Paul was consulted in person (Fig, 58) inviting him to the studio at Department of Multimedia Communication and Design, Central Institute of Technology Kokrajhar Assam. He is an eminent personality in Hollywood and animation world, who has worked in various reputed projects which got three Oscar awards. This thesis work was discussed with him particularly on the viewpoints of International perspective, he got interested in it and gave positive feedback like this type of work is needed to understand the specific identity of Indian people. According to him this approach would be helpful in providing a guideline of Indian cartoon character design.

General opinion from these feedback meetings expressed that the elements identified from six population groups can simulate a specific group identity and similar other group specificity can also be developed. When it comes to a common Indian identity if a single uniform group identities distinguished here can be made or there should be

different identities. A common character using some identity elements may create an event specific cartoon but it would be good to have variations to express varied group specification.

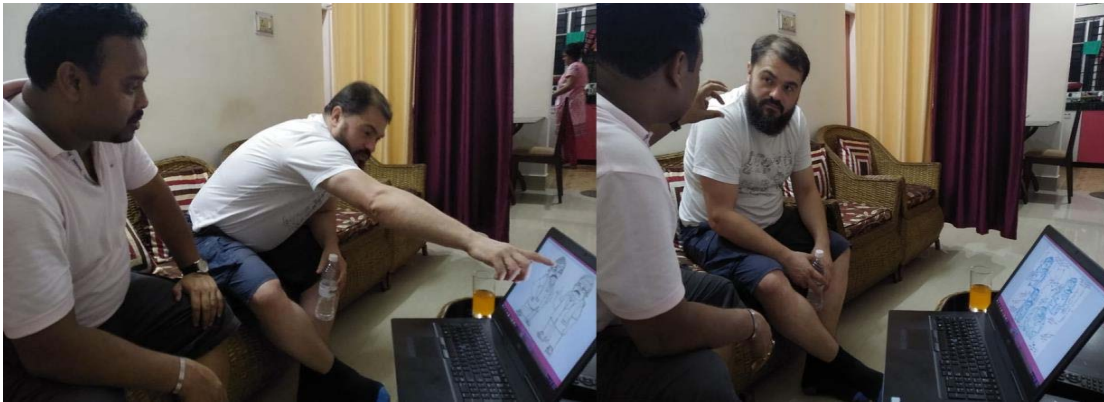


Fig. 58: Meet and discussion with eminent personality in Hollywood and animation world.

One concern specifically came in fore while discussing that if Indian emotion and cultural sentiments like *Rasa*, *Bhava*, *Barna*, *Gandha* etc. can be attached to it. The nine emotions, known as *Navarasa* classified as *Shringara* (love/beauty), *Hasya* (laughter), *Karuna* (sorrow), *Raudra* (anger), *Veera* (heroism/courage), *Bhayanaka* (terror/fear), *Bibhatsya* (disgust), *Adbutha* (surprise/wonder), and *Shantha* (peace or tranquility) which are expressed through body gesture and facial expressions; can these be integrated while developing the cartoon characters; if the similar approach can be taken for telling a story and for its abstract use to depict spiritual imaging. Among the facial expression the most expressive is the eye, Fig. 59. Can eye be included as Indian cartoon elements along with the above elements and how it can be used.

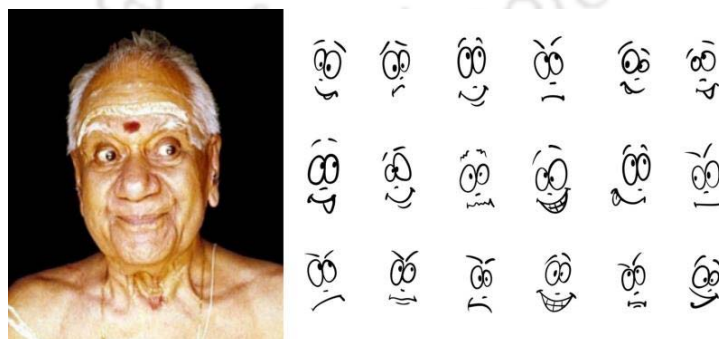


Fig.59: Eye is extensively used as the most expressive (navarasa) identity (Images - source Google online)

The below exercise have been carried out to see the possibility through eye as it has been an identity for varied emotional expressions as an outcome possibility of the experts' feedback meetings.

4.1.1 Importance of Eyes in Indian Cartoon Character:

Famous artists like Jamini Roy, Ramananda Badhupadhy may be considered pioneer in this and their painting works are now giving an image of Indian feeling. Their work has prominent identity elements presenting Indian-ness like Jamini Roy's works reflected broad eyes, bold lines on the figures, uniqueness in attire, stylization of the characters, variation of the colours, Ramananda's painting showed broad eyes, variation of lines, shapes, form, colour, harmony etc., More over Nandalal Basu, Abanindra Nath Tagore as well as other eminent artists contributed their work in the field of Indian content design. Their work can be taken as inspiration to create a concept of cartoon character having Indian stylization.

Scrutiny of ancient art, pictures, paintings, sculpture, murals etc. worldwide did not reveal any characteristics of eyes as feature of the objects. However, some Japanese and Indian artists produced artworks, which somehow gave some importance to the 'eyes' therein. For example, the paintings of Jamini Roy, Ramananda Bandopadhaya, Nandalal Basu etc. consigned cardinal importance to the eyes with respect to the gross paintings as a whole. The eyes thus got preference over the figure in India during 40 years through the paintings, sculptures etc. of Jamini Roy, Ramananda Bandopadhaya etc. This was the root of motivation in the present research work considering exploration of Indian feel through elemental characterizing. This work was also motivated from the characterise abstract features of Jaganath trilords (Fig.60) who also have some importance of their eyes as per the Hindu mythologies.



Fig. 60: Traditional Durga idol with wide eye and Jaganath trilords eye in abstract form
(Images - source Google online)

In present day eye is regards as one of the unique element which is implemented in contemporary style. Till today contemporary artists and designers effort their concept in various form and style using this element. It has been seen in Delhi airport (Fig.61) how artist have put and preserved Indian flavour, form and Identity in their creative art techniques.

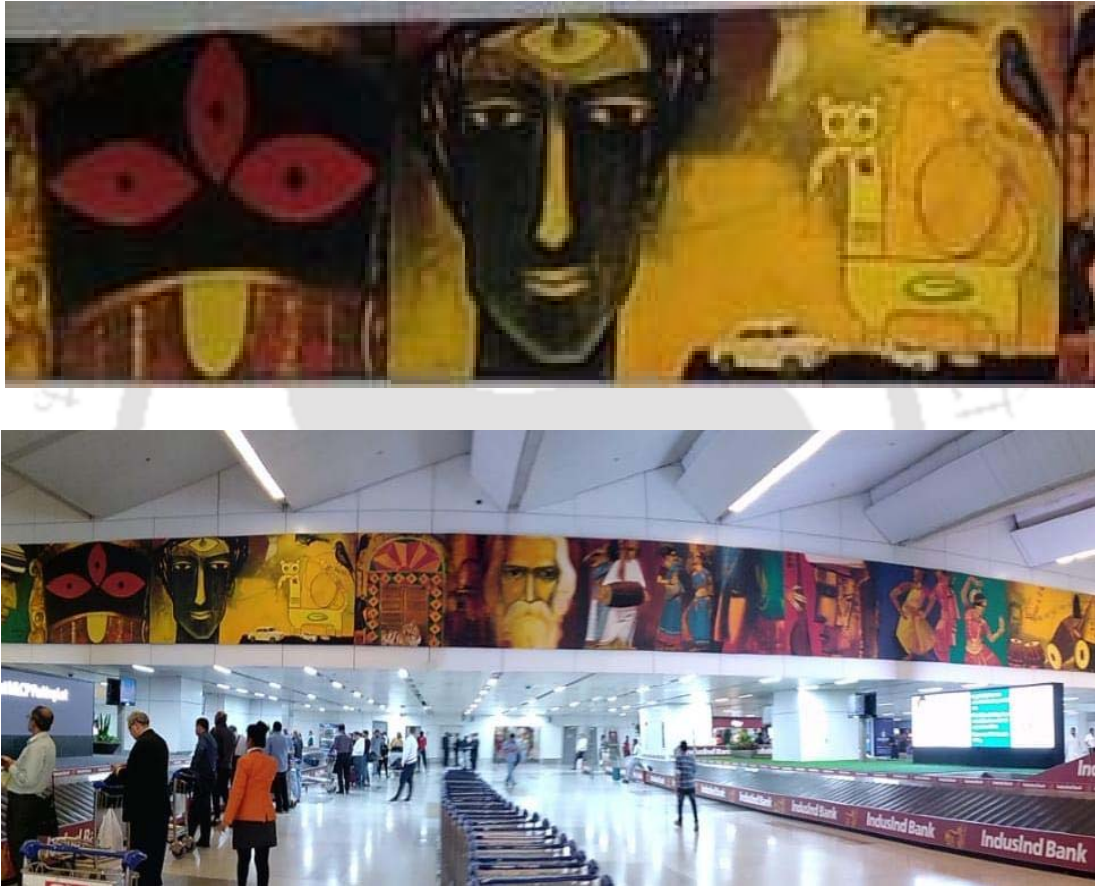


Fig. 61: In Delhi Airport shot figures as contemporary expression in use expressing Indian form of identity)

With this understanding, a cartoon character was created which signifies tradition, culture, aesthetic etc. After the making of this cartoon character a survey was conducted to get the idea about the justification of this developed character. Contemporary usage of identity elements, specifying Indian feel was also observed and noticed a style in tune to earlier artists' work.

4.1.2 Exercises Towards Stylizing Usage of Eye as an Element of Cartoon

The below mentioned exercises were taken up while discussing with experts about the possibility of using variations of expression from existing Indian images and there after drawing abstract expansion to express various mood shown in Fig. 62.

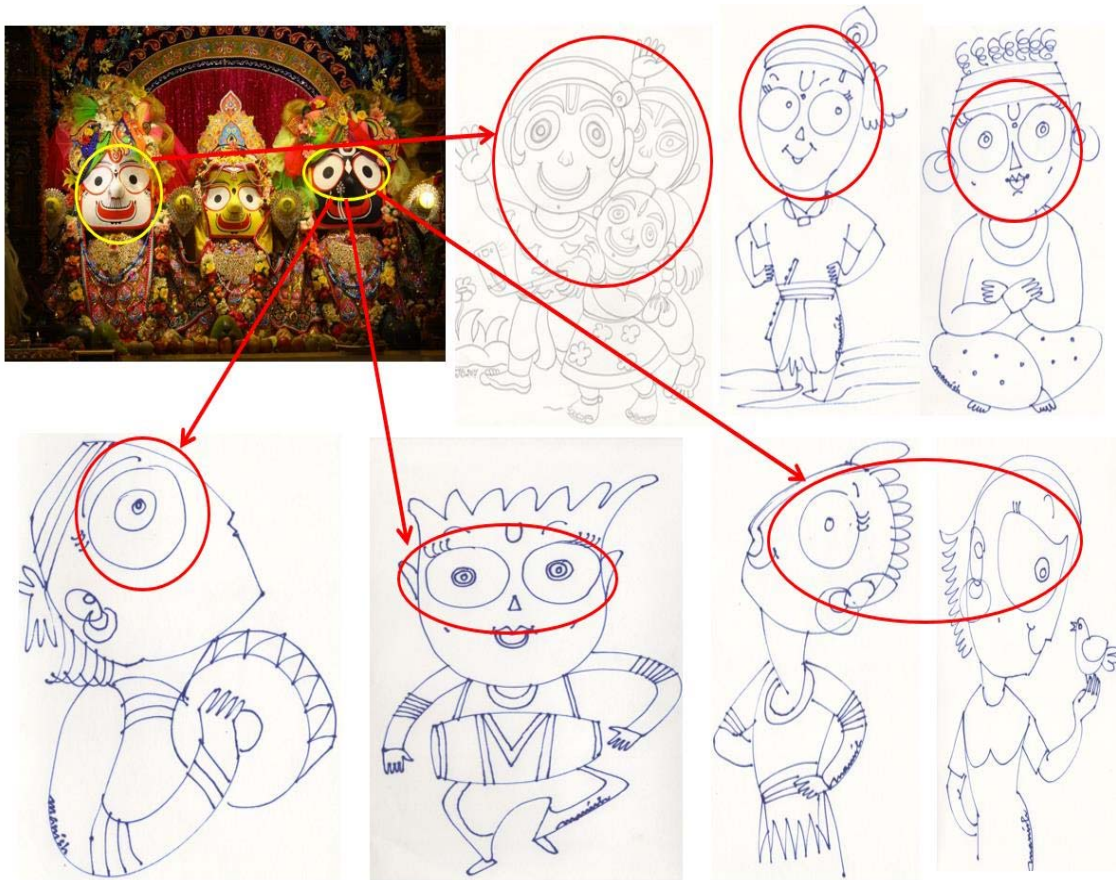


Fig. 62: Cartoon character design concepts in abstract in the eyes as well as whole gestures of Jagannath Trilord focus elements and face structures from the output of the discussion with designers.

Hindu mythology also reflects body stylization through innovative style of idol, idols of lord Krishna is one of them. The standing style, body gesture, attires concept and mostly the eyes have communication appeals like love, peace, power etc.

At the same time power idols of Hindu mythology like Durga, Kali etc. shows the affection of motherhood and the power of maintaining the balance in nature through the

eyes. This types of eyes are semi realistic, Fig. 60 - 63, and it can be regarded as abstract form also.

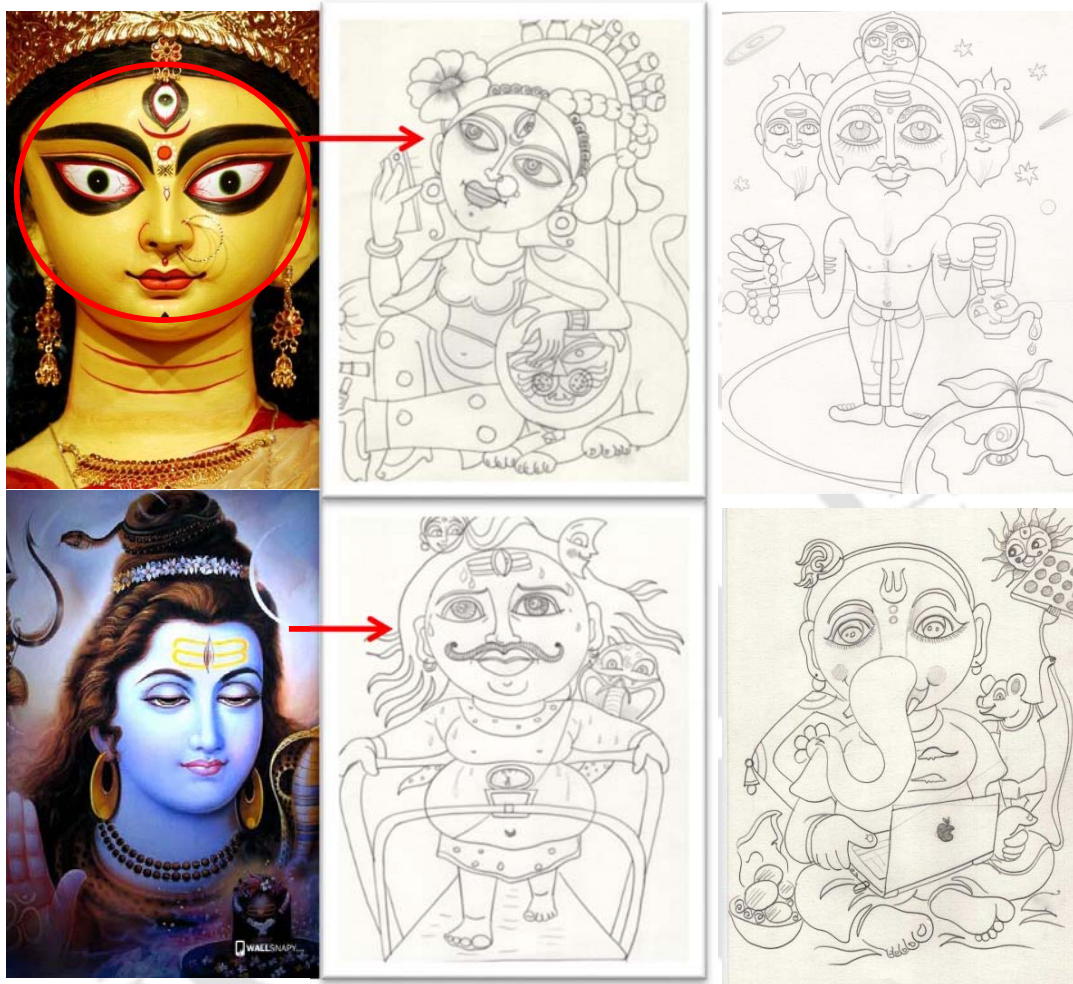


Fig. 63: A few cartoon Character design, given here, are created in the concept of Indian mythology and that needs to be studied if such representations create fantasy and entertainment to the children.

How much it helps to pass on value, and accordingly finding methods and identifying character-specifying elements and creating ambience for the context is easy to transmit Indian feel to our children. The proposed study would try to look into this issue. During this research it has been discussed with some of the contemporary artists and character designers whether any work can be done with the help of eyes in semi realistic and abstract form. The output of the discussions/interaction with the said designers is given below in form of illustrative sketches.

As an overall discussion outcome it can be said that the eye is one of the most communicating elements of a cartoon characteristic. It is said in Hindu mythology that an idol gets life when the eye is input in that. This present research reflects that along with the other elements of characteristic mentioned in Chapter 3, eye place a vital role in making a characteristic full of life.

The above was crosschecked with group of people with varied interest about the approach of identifying design elements and presenting in cartoon figure to present Indian feeling and its usefulness of the findings presenting in conferences, Fig.64.



Fig. 64: Findings are presented to a group of intellectuals of varied interest for confirmation of the approach taken

Two distinctive approaches were discussed if such emotional expression can be associated with other elements as studied would give the desired effect of (1) for children infotainment purpose and (2) with its abstract imaging for intellectual and spiritual expressions of a theme. For narrating a story, specifically for children it may be caricature and for other serious context may be abstract variations be used. Through group meetings it is commonly expressed that elements were identified in this study and it requires a full presentation by applying the same in animation filming for its effectiveness evaluation.

The research approach of this thesis was associated with easiness of storytelling through cartoon character putting interest in kids or children. Recognition of cartoon character elements through the assessment of these unique elements, influenced by socio-cultural and economic perspectives of Indianness. It engages the recognition as well as the

development of the existing basic cartoon characters socio cultural and specific expression of human body components with specific reference to eye the most expressive element.

4.2 Salient Features of The Study

From the above findings it was evident that if we want to express Indian identity of human elements for designing cartoon character it can be through:

- Dress and culture aesthetic decoration of specific context within Indian provinces and specific population groups provide unique identifiable elements that can be used as design specifications.
- Posture and style of body movement and structure (gesture posture) in artistic form can be used.
- Body components / parts can be used with characteristic distinctness.
- The research underwent hereinabove holds some uniqueness, which makes the study different from existing ones. Some of such uniqueness is briefed hereunder with special reference to the novelty of the piece of work.
- Significant points found from this research can be as discussed below:

The present research was elucidated the origin followed by progressive development of cartoon character--thus making a map of history of cartoon and understanding of the political cartoon's revolution, importance and uses.

It explains the various steps needed to create a cartoon. Here the background story (underlying story) plays an important role additive to influence the design of the cartoon character.

The uniqueness of this research lies in the aspect that, till date, there has been Existing Cartoon Character with foreign characteristic reflecting lesser extent of Indianness in the Indian Cartoon Characters; whereas, this work appears to be first-of-its-kind one that has emphasized on *Indianness* in the Indian Cartoon Characters, entailing the aesthetic ethnicity-which was one of the majors concerns of guardians of school going children also.

The present study perhaps for the first time showcased the fact that, to add value to expression/demonstration/ exhibition of story boards/ story telling through

cartoon animation having characters of Indian origin with Indian aesthetics and ethnicity representation the flavour of Indian social, cultural and economic per views, identification and expression is a must.

4.3 Novelty of The Study

The research approach including its outcome can be claimed novel in three ways while answering if a series of Indian identity cartoon character is developed and used in appropriate to infotainment using modern techniques which will be beneficial in today's context:

- i) An approach of cartoon character identification for storyboard/story telling through cartoon animation is initiated.
- ii) Identification of cartoon character element through reviewing socio-cultural and emotional perspectives of Indianness was tried out.
- iii) This research was probably the exceptional piece of work that involved identification of cardinal cartoon character elements prior to using them in animation filming.

4.4 Recommendations

The present research work has come up with some detailed finding, as discussed before. It would be pertinent to comment that followings these recommendations would help the cartoon animation researcher to work out with more effective story telling / story boarding with relevant inputs.

1. Identification of Characters

Identification of a character is closely related to proper knowing indulgent of its root (origins) that defines the ethnic aspect of the character. A character based on a particular origin would carry elements within its form that designates the character authenticity from a particular origin. Thorough research into understanding of character defining elements and the background of the character origin is essential to bring out the satisfactory elegance and contextual elicits. While story and plot pivotal to character development; the involvement of a character with the audience is complete when the viewers can relate to the character rather than merely viewing it.

2. Characteristic Elements – Identification of Native Features (Aesthetic and Ethnicity)

Design elements are crucial and semantically relevant for character formation that aid to the building thereby rendering comprehensiveness of the character. A character is comprehensive only when its aesthetics are in place and the look and feel good criteria is matched. The roots and origin of a character is defined by the ethnicity of a character or the characteristics and traits that a character displays in coordination with different situations. Aesthetics and ethnicity are interlinked as well as interconnected in the field of character development and one can be derived and understood by the other.

3. Matching Character with Socio-Economic Cultural Background.

A character well versed in all the characteristic elements serve a lot more than its designated purpose as it becomes the representation of a particular context. A properly built character can catch up the impressions of the audience that can be instant and at the same time long lasting.

4. Production Relevance.

Emphasis on these criteria during pre-production and production would help to render more efficient post production to generate provincialized characters; more relevant to regional local story telling/story boarding.

4.5 Conclusion

The thesis looks into the acceptance of cartoon and animation as a medium of infotainment by Indian viewers – both children as well as their guardians and feasibility of developing Indian cartoon character elements; it can add value in communicating the spirit of Indian ethos even for making caricature presentation as well as abstract ideation for intellectual spirituality.

In this thesis it has been focused on the creation of cartoon characters having the Indian backdrop and to find out the unique elements prevalent in India. With the help of these unique elements the created cartoon characters having the flavor of Indian-ness would present an overview of Indian culture, tradition aesthetic and ethnicity signifying the Indian of style body physical expression with aesthetic attire.

This thesis concentrates on designing responses reflecting a constructive view on entrenching ‘Indian-ness’ in Indian animation. There is a need of identification and characterization of a design element that implies a symbol or style to give us the basic touch

of being Indian. It could thus be easy for the viewers to identify the cartoon character as an Indian one. This thesis shows that sustainability of Indian values can be preserved through the development of such elements. The newly designed cartoon characteristic of this thesis can be used in production and these design-developed characters can express Indianness worldwide.

4.6 Limitations

Any research work, perhaps cannot be free from limitations despite stringent effort to make everything up to the desired mark; thus the limitations that would have been good to overcome could not happen with unavoidable constraints, those are:

First, the study was grossly heterogeneous in nature due to unavailability of sufficient number of student volunteers from each school and from a single ethnicity.

Second, the study also posed on Indianness with respect to Indian viewers who were predominating students. The study could include larger sample size considering various age and ethnic population groups.

4.7 Future Scope

This research methodology adopted here in can help others to work on many other areas relevant to this field of creation of animation cartoon. This characterization can be implemented in production pipeline through the research methodology in new aspects. Uniqueness characteristics are very highly recommended in this Indian research work through the fine art or visual art and fashion design etc. also. Animation cartoon industries as well as researchers can use this detailing of the elementary identification of cartoon to make their work more aesthetically interesting and influencing.

With the help of this elementary characteristic a new way of research methodology regarding Indian culture tradition aesthetic can be introduced which would be easily communicable for viewers with significant perfection.

Moreover, studies should be extended on the concept of cartoon character design as to raise new ideas and knowledge useful in the field of marketing and production houses for the excellence of the stylization of the cartoon characters. Expanding the literature amount it would be able to establish the design concepts used to bring the flavour of Indianness and increase the knowledge of Indian identification.

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Appendices

Appendix – A

Examples: Rough Sketches During Experiment

Appendix – B

Clean up Sketches of Character Design

Appendix – C

Few Sketches with Colour Character Design

Appendix – D

Final Output

Appendix – E

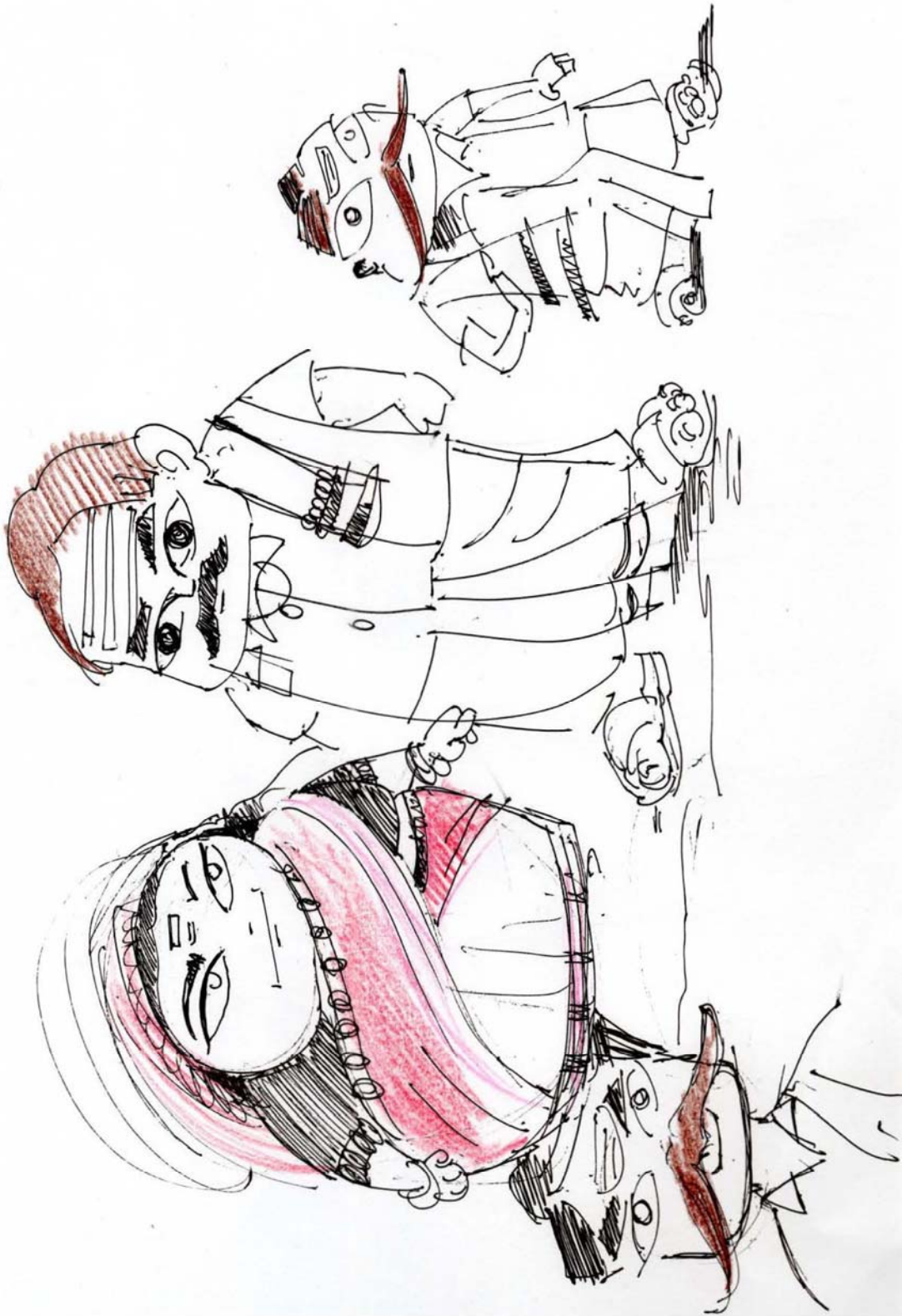
Publications



Appendix – A
Examples: Concept Sketches During Experiment



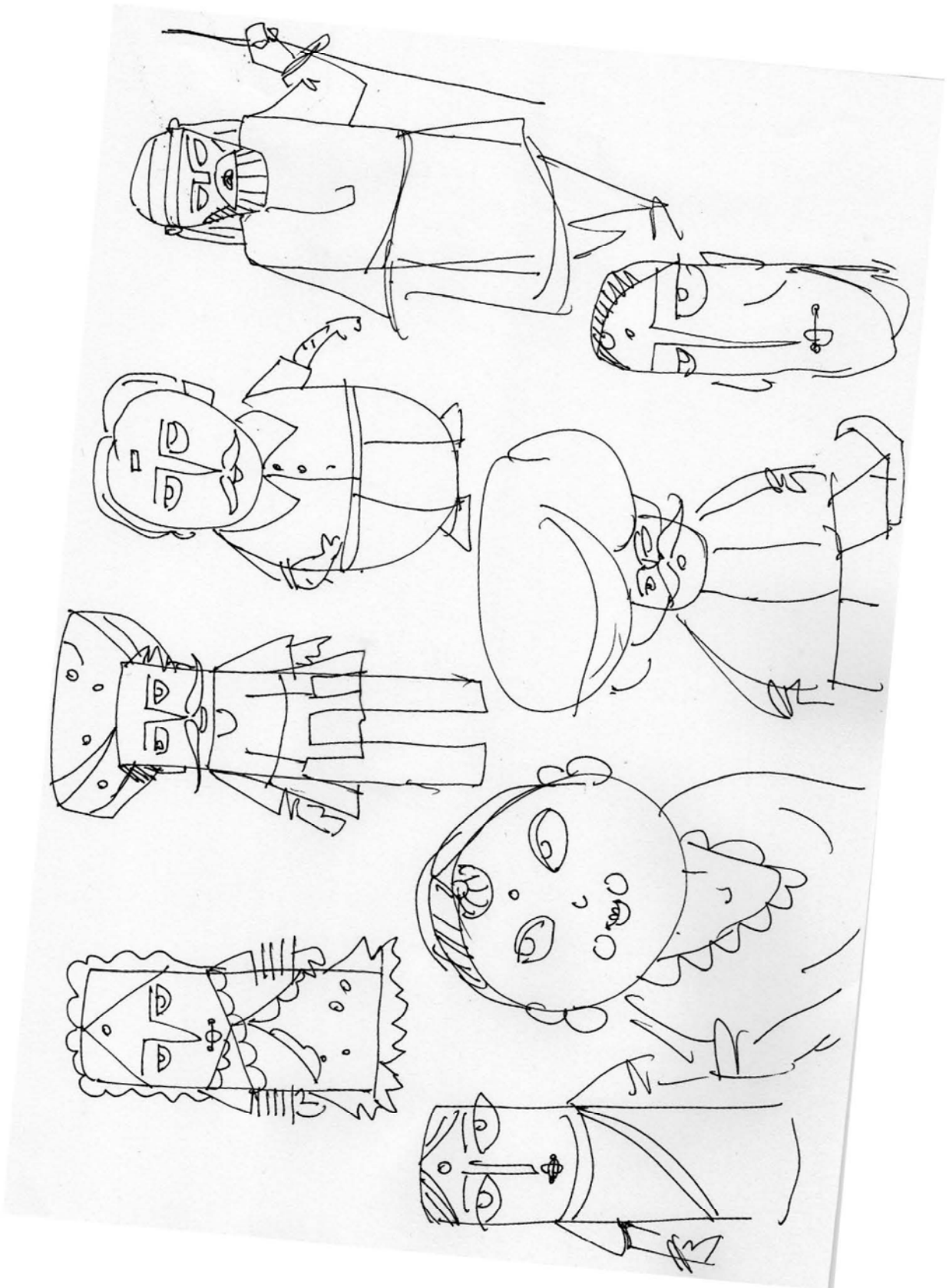
Appendix – A
Examples: Concept Sketches During Experiment



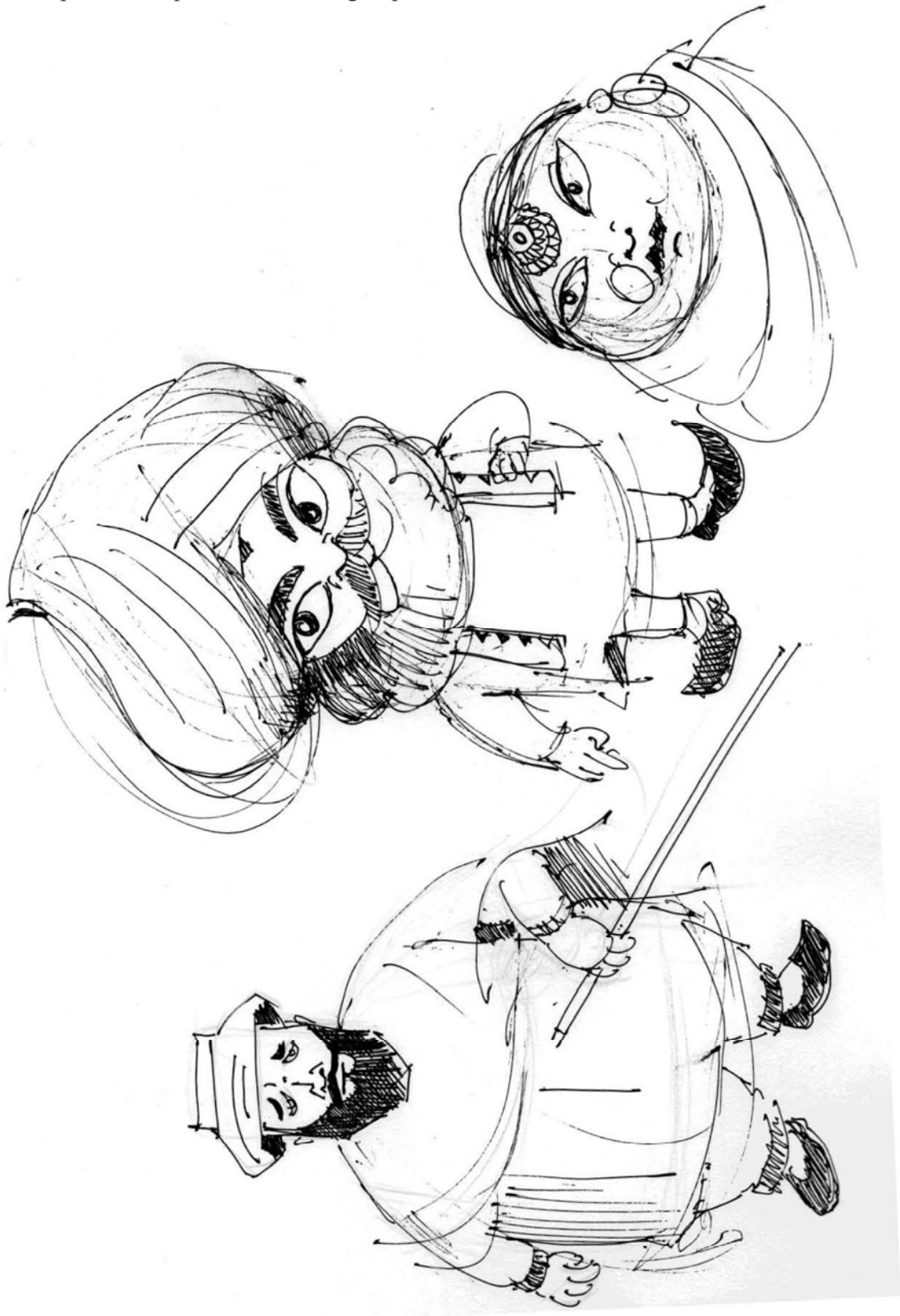
Appendix – A
Examples: Concept Sketches During Experiment



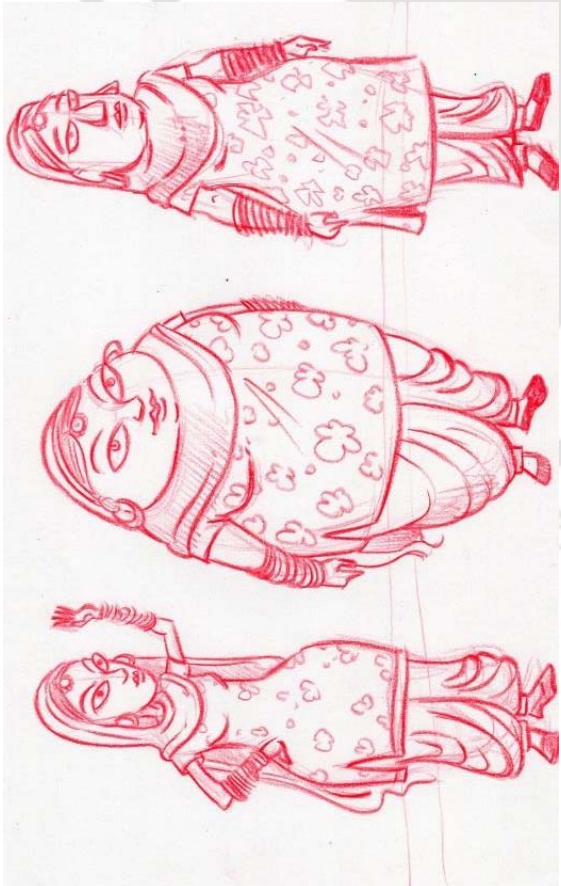
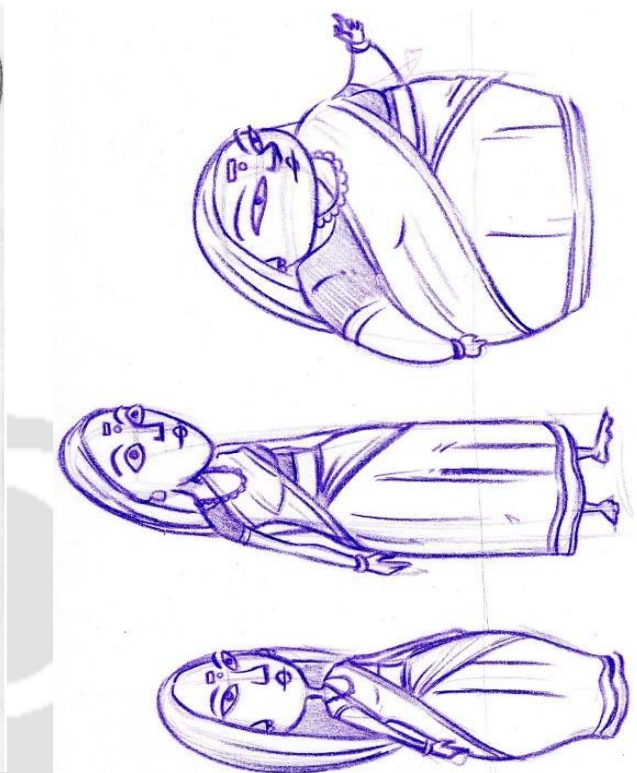
Appendix – A
Examples: Concept Sketches During Experiment



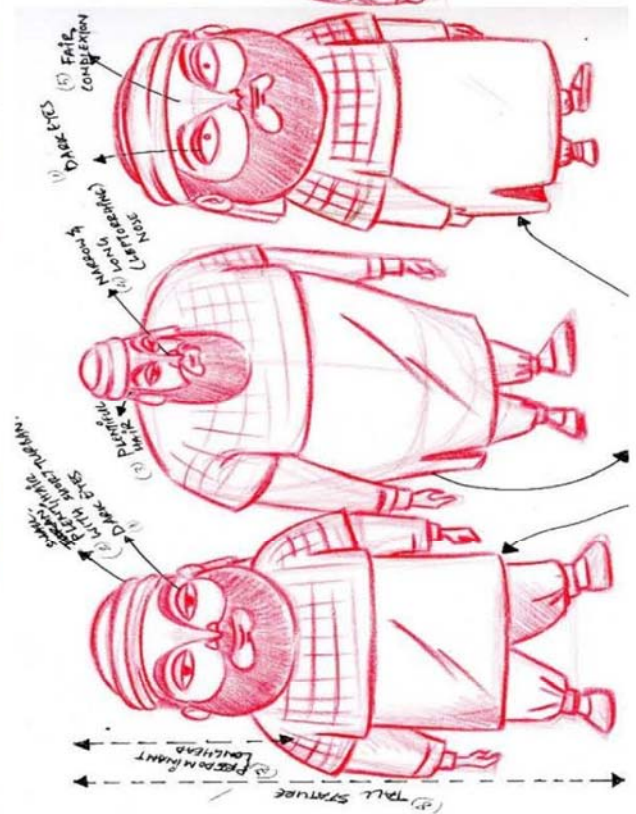
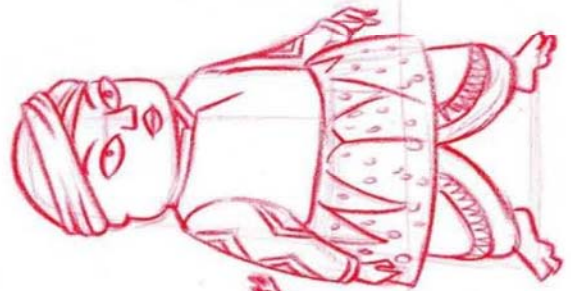
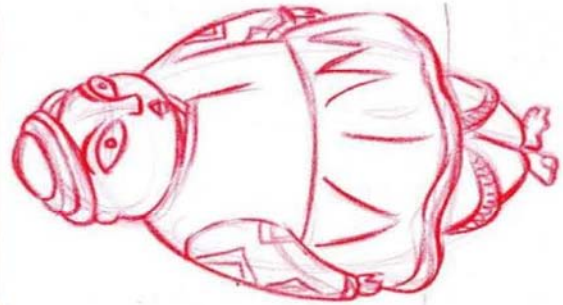
Appendix – A
Examples: Concept Sketches During Experiment



Appendix – B
Clean up Sketches of Character Design



Appendix – B
Clean up Sketches of Character Design



Appendix – C
Few Sketches with Colour Exploration on Character Design



Appendix – D
Final Output

Gujarat



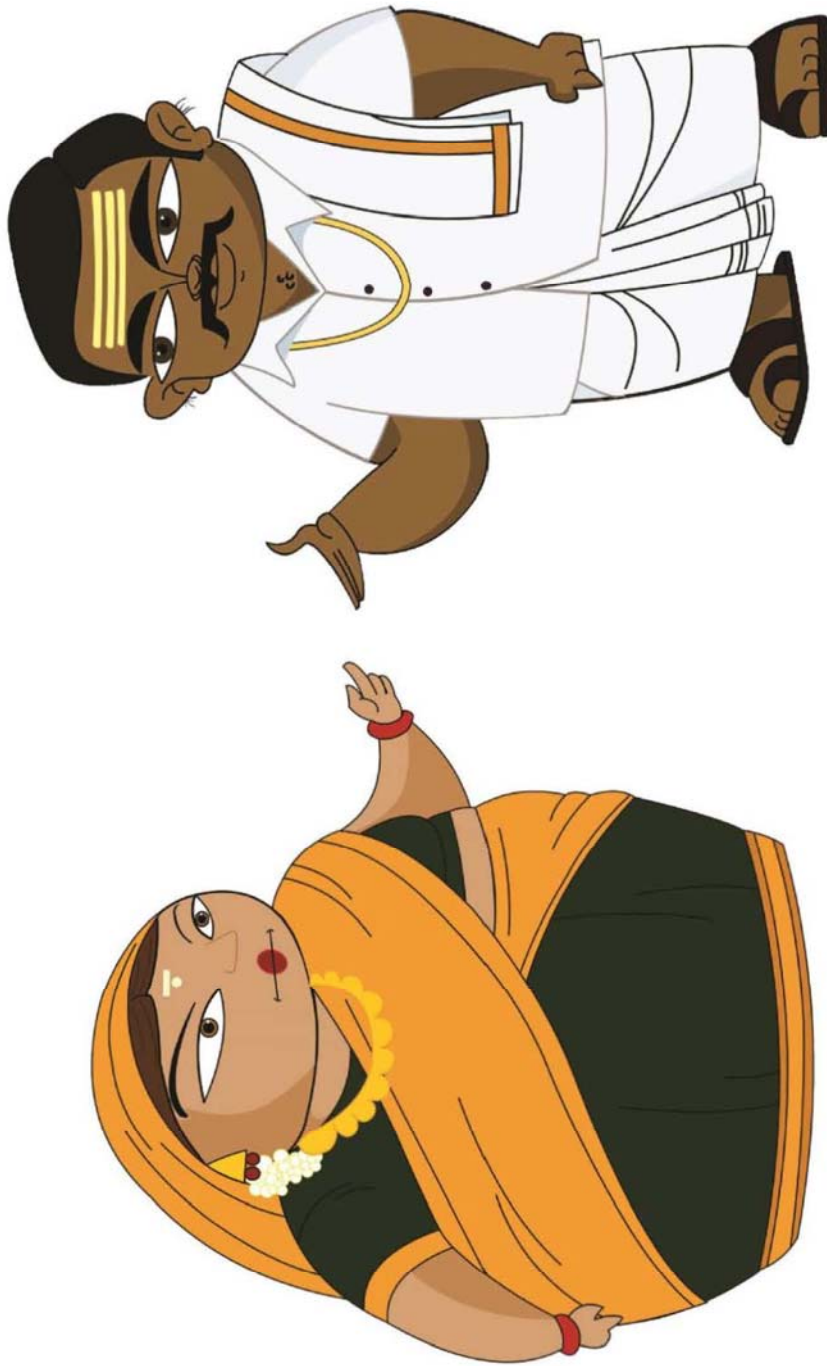
West Bengal



Appendix – D
Final Output

Jammu Kashmir





Punjabi



Rajasthan



Appendix - E

Publications

- Apurbalal Senapati, Bhaskar Saha and Debkumar Chakrabarti, Effect of Cartoon Network of School Going Children: An Empirical Study *15th International Conference on Humanizing Work and Work Environment HWWE-2017. (under publication process, to be published by springer)*
- Arunabh Choudhury, Bhaskar Saha, Sandipan Bhattacharjee, Abhirup Chatterjee, Debkumar Chakrabarti, A Novel Way to Teach 3D Modeling for 3D Animation in Maya, 63rd Annual Technical Session of Assam Science Society, 2018. “*National Conference on Applied Sciences, Sustainable and Evolving Technologies, CIT Kokrajhar,*
- Bhaskar Saha and Debkumar Chakrabarti, 2016, Multimedia Support as Means for Motivating Slow Learners of Under Privileged Kokrajhar, *14th International Conference on Humanizing Work and Work Environment HWWE-2016 ISBN Number: 978-93-83006-81-6*
- Bhaskar Saha, Apurbalal Senapati, and Debkumar Chakrabarti, 2017 Foreign Animation and Indian Kids Behaviour: An Innovative Survey *15h International Conference on Humanizing Work and Work Environment HWWE-2017. (under publication process, to be published by springer)*
- Bhaskar Saha, Sandipan Bhattacharjee, Abhirup Chatterjee, Debkumar Chakrabarti, 2018, Imperative Indian-ness in Indian Cartoon Character Design, *16th International Conference on Humanizing Work and Work Environment HWWE-2018. Abstract Proceeding.*
- Bhaskar Saha, Abhirup Chatterjee, Debkumar Chakrabarti, 2019, Implementation of Cartoon Character Design Pipeline Process Through Cognitive Approaches, *17th International Conference on Humanizing Work and Work Environment HWWE-2019. Abstract Proceeding.*
- Chaitali Brahma, Bhaskar Saha and Debkumar Chakrabarti, Tradition and Utility Artifact: Reference Bodo Tradition of Assam, *17th International Conference on Humanizing Work and Work Environment HWWE-2019. (under review)*
- Chaitali Brahma, Bhaskar Saha and Debkumar Chakrabarti, Tradition Wisdom and Sustainable technology; Bamboo and Green Products of North-East India, *International Conference on Future Aspects of Sustainable Technologies, 11 – 12 November, 2019.*
- Subash Rai, Bhaskar Saha, Dipankar Nath, Debkumar Chakrabarti, 2018, An Experiential Study: Effect of Exaggeration in the Animation Execution, *16th International Conference on Humanizing Work and Work Environment HWWE-2018. Abstract Proceeding.*
- Subash Rai, Bhaskar Saha, and Debkumar Chakrabarti, 2019, A Study on the usage of animation-multimedia components in documentary film for better communication, *17th International Conference on Humanizing Work and Work Environment HWWE-2019. (under review)*

HWWE-2017: 15th International Ergonomics Conference on Humanizing Work and Work Environment

Effects of Cartoon Network of School Going Children: an Empirical Study

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Abstract. The growth of the cartoon animation program in television is rapidly growing program in India compared to the other segment of the television. There is a significant impact of cartoon channels in the society, especially among the school going students. There are some studies found in this area in various disciplines. Most of the studies are done with the survey based with a set of questionnaires. This work shows an innovative two-fold survey research which is not done earlier. Moreover, the conclusion of the survey is also validated by the evidence of market survey.

Keywords: Cartoon, Animation, Student, Guardian, Survey, School.



A Novel Way to Teach 3D Modeling for 3D Animation in Maya

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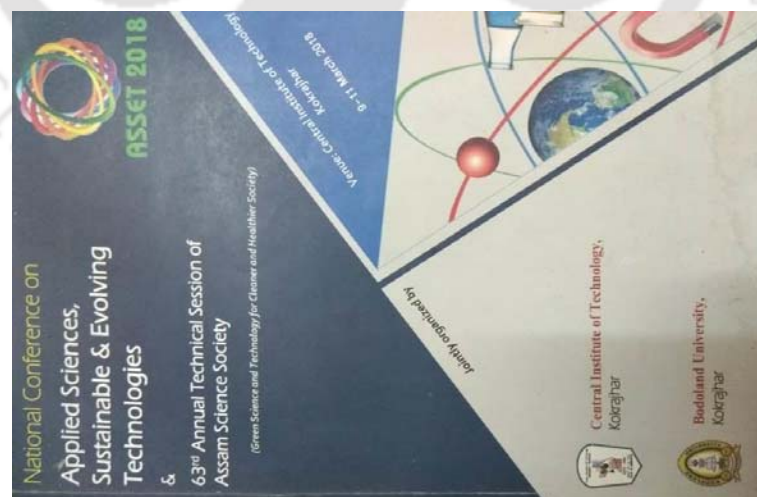
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Abstract.

3D modeling is well-thought-out as the most important part of the Animation Kingdom. It is well observed that many Institutes, Studios and Industries have started animation courses at various levels. These courses are fundamentally grounded on knowledge, skills, techniques and software of 3D animation. At this point of time, it is witnessed that most of the students or artists with interest in 3D animation are concerned about how to create 3D character-based models. This could most likely be due to meagre knowledge and inadequate inter-platform expertise in dealing with Polygon and NURBS primitives. The present research projected a novel communicative approach for teaching the confidence of creating 3D character-based models. For this, Polygon and NURBS in Maya could be used with the concept of interchanging the 3D design platform and format. Productivity of the animation studios would expressively be augmented with familiarization of this technique. The teacher / instructor would be better able to impart adequate to the students with the use of this new teaching approach. This approach would further contribute to opening newer and more prospective avenues towards sustainable design methods and styles.

Keywords. NURBS in 3D Surface; Polygonal in 3D Surface; Understanding Maya; Planning of wireframe flow concept in 3D model.



Multimedia Support as Means for Motivating Slow Learners of Under Privileged Kokrajhar

Bhaskar Saha, Debkumar Chakrabarti

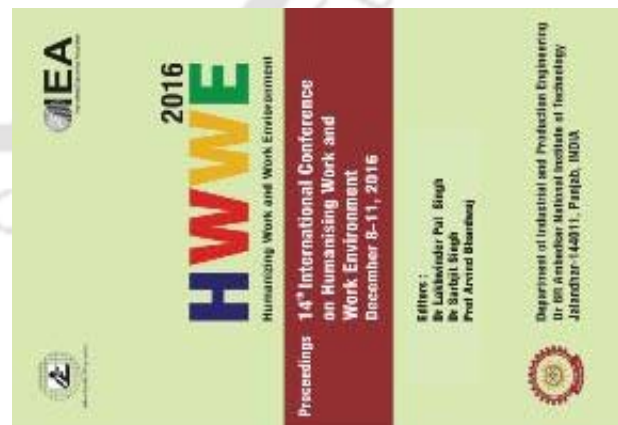
Abstract—Learning is internalized when teaching technique matches with learners' attitude and aptitude. When using conventional classroom lecture method only, a communication gap is experienced between the teachers' expectation and the students' performance. Animation and multimedia presentation of subject matter appears to add motivational value to NE India under privilege students. An opinion survey was conducted on Diploma level students of CIT and an experiment was carried out with multimedia support along with conventional lecture classes. Those who were not interested in following lecture have revealed that they found difficult to follow the lecture on the topic and when the same topic was presented along with its multimedia support class becomes interactive. Only multimedia alone presented to students did not give clarity, it required teachers' support to explain. This paper explains the need for both teachers' presence and multimedia support for various courses to ease learning specifically for slow learners from under privilege part of society.

I. INTRODUCTION

THE quotation, "Education opens the door to the future. It gives us options. It helps us reason. It is always in motion." of Julie Payette, a Canadian astronaut, is very impressive and motivating for the teacher as well as the student. But so far there is no any optimal or uniform teaching technique and hence it is an active research area to improve the learning and teaching methods. A large number of researchers, including the educational psychologists are involved [1] in this domain. Our effort is also invested in this area considering the several socioeconomic factors in the Indian context and our focus is especially on the slow learner. We defined the slow learner are those who are unable to get the class properly. First part of this paper has studied the selected existing work in this area and then explained our experiment. Finally, it shows the outcome of the experiment and draws the conclusion based on the outcome.

The terms Multimedia are quite common to the people because of its use in several disciplines. From the last few decades, it has drawn attention in the Educational Technology or Learning Technology. And it breakthrough the new concepts of innovative teaching techniques and gradually changing and adopting the way teachers teach and students learn. The Educational Technology not only comprises of the use of technology in the process of teaching and learning, but also included so many other factors like efficient and enhanced learning management systems, schema of

information dissemination, effective teaching, management of student in the class, feedback mechanisms and evaluation methodologies etc. [2 Malik and Agarwal]. Richey [3] clearly define the Educational Technology, Prensky shows that, how it advocate the teachers [4], whereas Neo and Neo [4] shows that how Multimedia provides a technology based constructivist and effective learning environment with students active participation. Several experiments already performed on study materials like still and animated graphics, video and audio integrated in an organized manner facilitate the learning of new knowledge much more effectively. It has already proved that, the interactive nature of multimedia is much more effective rather than the traditional "chalk-and-talk" method of teaching [5] and also it is more flexible to learners to adapt to individual learning strategy. Malik and Agarwal briefly outlines on Educational Technology as Tool for effective teaching. According to Jami [6], one of the major problems of learner is the communication gap. It may be the learner and teacher or learner and topics and it can be reduced with the help of Animation and Multimedia Communication Design and it also affects the learner's psychological mind. In addition to these, it has been already shown the effect of students' motivation, enhance self-esteem levels, as well as make them to become creative and self-directed thinkers [7]. Tannenbaum [8] described the importance of inclusion of an interactive component in multimedia, where as Drave [9] suggests about the quality of interaction that is more important than the content for the success in learning. According to Ruggles [10], the provision of tools does not in itself lead to a successful outcome.



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HWWE-2017: 15th International Ergonomics Conference on Humanizing Work and Work Environment

Foreign Animation and Indian Kids Behaviour: an Innovative Survey

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Abstract. Animation cartoons are very entertaining as well as learning interactive media for growing up kids. Many-a-times parents opine anxiety over the unwanted influence of foreign cartoons. It was noticed that while children were glued to the newness in presentation they imitate the characters. There are numerous study in this area, especially the effect of animation cartoon in child behavior. Most of the studies are based on the interaction with the guardians with a set of questionnaires and their feedback. Based on some expert opinions there is a serious drawback in this conventional survey methods. Since, they do not interact with the children directly, rather they conclude based on their guardians or teacher feedback. The survey is conducted in the area of under privileged locality (Kokrajhar, Assam, India) where animation films are not common compared to other places. In our research, this issue has been addressed. In the experiment we have interrogated with the children's along with the guardian's feedback. The final conclusion in drawing based on the combined feedback. An additional path is enlightening in our research. The domain experts and guardians are suggested that, it would be directed towards positive if the more Indian style is projected, both in presentation and content.

Keywords: Foreign cartoon, Indian viewers, guardians and children, Indian characters.



Humanizing Work and Work Environment: “Technology Enabled Workplace Design”

Imperative Indian-ness in Indian Cartoon Character Design

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Abstract. Animation is a strong hold tool for expressing one's ideas and thoughts in such an interesting way that, people become quite curious and excited about the topics and themes portrayed in those. According to a previously done experiment from our lab and its reports, children are very fond of cartoon series and shows which are going on air regularly. Also from the previous reports it was evident that, parents and guardians of those children deliberately want some changes to theme and characteristics of those animated series contents. Children tend to be fond of cartoons that mostly portray foreign traits and traditions. Parents and guardians expect (and urge also) that what their children see should contain some Indian elements and features. The values, culture and aesthetics are quite rich and well flourished in India and introducing those indigenous characteristic criteria to an animated cartoon character will not only be a new thing, additionally will also help to impart those aesthetic ethnicity and cultural values to the children. In this paper, we attempted to bring about those traits for having an aesthetic, cultural, traditional and even moral impact on the viewers of the animated series and shows, by introducing some special and unique traits of attire, stylization and unique elements of different territories and regions of India. By witnessing core Indian elements being implemented to routinely showcased Indian cartoons is something not mostly seen at this Very stand of the cartoon shows. Blending of those Indian traits will not only be quite interesting, also have a big impact on the children and keep on holding the cultural and ethical Indian values of its core origin. Provinces have some special and unique traits which dignify and help to identify them as from a core Indian province, and therefore tradition, culture and aesthetic ethnicity. This could in fact inculcate some behavioural change of the viewers towards an Indian-ness: flavored with traditional / ethical values and core cultural structure revealing aesthetics and ethnicity.

Keywords: Indian-ness, Cartoon Character, Design elements, unique ness, aesthetics and ethnicity through animation.





Track Name: Other

**Implementation of Cartoon Character Design Pipeline Process
Through Cognitive Approaches**

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Key words: Character design elements, Cartoon character design, Animation for communication, Production Pipe line

1.0 Introduction : Success of a cartoon film or advertisement profile in terms of acceptance by varied groups of users depends not only on the story or message it tells, the characters designed specific to depict the message, theme ideation and context presented in it makes it attractive.

2.0 Methodology : A participatory workshop was conducted at Multimedia Communication and Design, CIT with students, faculty and industry experts to re-look into how character design creates impressive appearances based on few selected India origin cartoon films where it appeared that though many Indian animation production houses give time and efforts in preparing the cartoon character, it needs to be looked into through a proper design process and research to develop the character instead of random adaptation of foreign presentation style.

3.0 Results: The basic issues in the animated pasteurization of a character depends on the abstraction of personality, place of origin, ethnicity identity, dress and decoration elements and the context ambience recreation of the story. It also raises the issue of context of viewing by the specific target users; if semiotic embodiment of information encoded in character are easy to understand by the intended viewers.

4.0 Conclusion: This paper addresses some issues of creating good character design pipeline process with specific reference to Indian production houses practice.

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Track Name:

Tradition and Utility artifact: reference Bodo tradition of Assam

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Key words: Bodo Tradition and Culture, endangered art and craft, role of technology institute for Sustainable Development

1.0 Introduction : Look into a range of artifacts is a contextual need for the day as to sustain tradition and heritage practices of the Bodos or the Bodo-Kacharis which constitute a very important section of the different ethnic groups and races settling in Assam with their distinctive cultural and linguistic traits. The paper studies into the traditional arts and crafts highlighting different methods and ideas of crafts persons, and the changes experienced recently for meeting newer challenges. The question arises how to retain identity and to improve upon them and bring in new technology to upgrade the practice for sustainable development with the same group of artisans.

2.0 Methodology: To collect the primary data, the field survey was conducted by selecting three representative villages under Kokrajhar district of BTAD area. For collection of primary sources field study, interviews, observation will be done in different villages Interviews will also be taken amongst the artisans. Visit and study in the museums are also required a part of the field work. Primary sources of the information include questioners field material, personal interviews and observations.

3.0 Results: The people are no longer dependent upon production of their craft skills. Most of the villagers have moved out from their traditional village life to urban or sub urban locations and trying to keep pace with the modern way of life. Very few basket makers or weavers of bamboo and cane are found in the Bodo villages. By and by the art and craft of the Bodos are becoming endangered. Plastic made items are becoming dominant in their life.

4.0 Conclusion: Central Institute of Technology Kokrajhar has basic objectives to fulfilling the aspirations of the local people related to their cultural heritage, overall economic development of the region and to impart the local youth with requisite technology to empower them. This paper examines the role of institutional responsibility to upgrade the working conditions and the scope for product design and diversion specific to endangered art and craft of the region for betterment for a sustainable society.

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Traditional Wisdom and Sustainable Technology; Bamboo and Green Products of North-East India

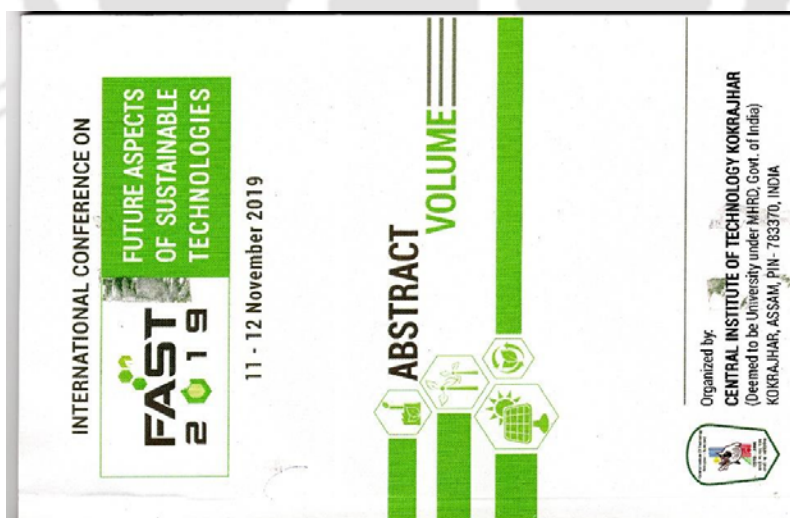
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Eco- friendly products denote the activities of human beings in way which is friendly to the environment. They are generally known as “Green products” which are generally made from non- toxic locally obtained sustainable materials. Today these eco-friendly products are readily available from articles like handmade paper, jute bags and recycle papers to eco-friendly fuels. To be precise, one such eco-friendly products can be included in the list, that is cane and bamboo the ‘Green Gold’ which is grown in abundance in this region of North East India and which can provide local solution to several global challenges. This paper showcases on promotion of traditional craftsmanship employment and innovation applications through the sustainability process technique or design. Unique ways of using the traditional method of Bamboo basket as dustbins which is eco-friendly in application and is put into use as a fertilizer after it is decomposed. However, there are lot of challenges to make it very effective, usable and appropriate in quality and use for market. An attempt has been made to facilitate rural talent, preserving identity.

Keywords: Green product, sustainability, eco-friendly, Green Gold.



Humanizing Work and Work Environment: “Technology Enabled Workplace Design”

An Experiential Study: Effect of Exaggeration in the Animation Execution

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Abstract. Exaggeration, a part of the principle of animation which is very impact fully observed in the animation, entertainment world and it is basically used in abstract form like characters, props, clothing, colours, effects, audio, etc. Animation entertainment has full of exaggerated contents used to communicate the narrative or story to the fullest. As per the previous few experiments found, peoples are familiar and are involve in animation films and series and they spend quite good amount of their time in watching animation entertainment. In this situation it is very essential to understand whether the animation films/series are helping them to develop their abstract imagination skill and become creative. In this paper an innovative types of survey had been done with the Diploma & Degree Design based students who are studying in multimedia & animation specialization field. From the survey it is found that cartoon animation has been given very high exaggeration in current time animation films or series. It is also found that original animation laws or principles of animation are being effected day by day and giving more importance to exaggeration.

Keywords: Principle of animation, Entertainment, Abstract Form, Reflection of Viewers



A Study on the usage of animation-multimedia components in documentary film for better communication

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Abstract— Animation and multimedia presentation has become one of the popular media of imaginary expression of information and entertainment to narrate a real life experiences. Through this medium, innovative usage of graphics, pictures and sound etc., any sort of complex narrative can be easily understood. Thus, it is very essential to understand whether the use of multimedia contents in a documentary film would be effective enough to convey the desired messages. A survey on students of Design department at CIT Kokrajhar was conducted to understand their views as group of learners those who would become practitioners afterwards and on a select section of common viewers as end users' perception on the medium of animation presentation-

According to Saha and Chakrabarti's experiment it is found that multimedia content presentations is fruitful and easy to understand to the learners for communication purpose and knowledge [4]. Documentary modes progress chronologically with the order of their appearance in practice but it so often depends on the theme of documentary. Although there are few defined modes of documentary presentation, there exist no method of delivering documentary at execution level. According to Annabelle Honess Roe, animation can be used as a representational strategy in nonfiction film and television and also asserts that animation exploration expands the range and gravity of what documentary can show us about the world [5]. The concept of animation not new and it has been used in educational and social guidance films to portray and to maintain historical record in the past [6]. This paper aim to comprehend that with the innovative implementation of animation-multimedia components and techniques, any documentary irrespective of complexity in narrative/theme would be made understandable easily and better communicative. In this paper the emphasis is given to the perspective of a group of learners who happened to be the students of Design department at Central Institute of Technology (CIT) Kokrajhar. As they were from design background, they were knowledgeable about design perception and also about concept of documentary making. The objective lies on the views of group of learner's perception based on questionnaire.

I. INTRODUCTION

The documentary film has become the increasingly significant and illuminating critical discourse in current age. According to the oxford dictionary, a documentary film is a nonfictional motion picture proposed to document reality, mainly for the purposes of teaching, education, or upholding a historical record. Documentary also entertain, defend a perspective, helps assessment, and to observe real life. According to Nichols Bill, Documentary is a filmmaking practice, a cinematic tradition, and mode of audience reception which is continually evolving and is without clear boundaries [1]. Documentary is a non-fiction film of social representation [2]. The documentaries help to make people aware and actively participate in a society, which can make shape the future of this world. Documentaries have been made in one form or another in nearly every country and have contributed considerably to the development of realism in films. The Documentaries always strive towards the communicating the facts and proper information for betterment of the world. The multimedia contents are generally observed to be implemented as technical support for the progress of the content in documentary films. Multimedia has got more power and capacity of representation if innovatively implemented through the multimedia concept. According to Frank Thomas and Ollie Johnston, implementation of animation with proper principles can make bigger connection with the viewer [3], which may provide us the scope of animation application in documentary.

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