Paradigms of Engagement:

Digital Storytelling as Pedagogical Strategy in Multilingual Societies

A Thesis Submitted

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Degree of Doctor of Philosophy

By

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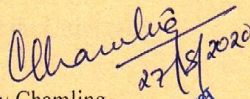
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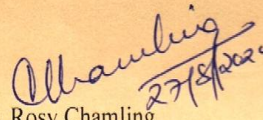
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"Paradigms of Engagement:

Digital Storytelling as Pedagogical Strategy in Multilingual Societies"

submitted by **Ignaz Ahmed** under the supervision of **Dr. Rosy Chamling, Associate Professor & Head, Department of English, School of Languages and Literature, Sikkim University.**

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CHAPTER I

Introduction

Storytelling has been an integral part of human communication since the advent of human civilisation. Human senses are so accustomed to stories that we have taken its existence for a given. The human mind creates narratives all the time, either for social interaction or for communicating with the self. Trying to make sense of the world has been an endeavour of human beings since the dawn of civilisation and storytelling has been one way of constructing meaning through language. We exchange ideas and share knowledge in a variety of ways and through diverse genres – fables, myths, anecdotes, poetry and riddles – not only to understand the ways of the world but also to bring about social change. Storytelling as a means of enhancing the learning process is not a new phenomenon. However, as a creative practice and as a medium of conveying of events, it has a multitude of styles and variations. As a powerful mode of engagement, storytelling has stood the test of time in all cultures and languages. The paradigms of engagement are myriad and digital storytelling has emerged as an effective pedagogic strategy and a distinct paradigm of engagement, thereby bringing about a unique synthesis of the mind and the machine, emotion and technology, reason and imagination. As a matter of fact, digital storytelling marks a paradigm shift in the diverse modes of engagement in the contemporary socio-cultural realm.

The invention of the computer in the mid-20th century heralded the commencement of digital technology. Stories began to be told with the help of digital tools, giving rise to the practice of digital storytelling. The technique of

storytelling has become hugely innovative with the invention of various tools of technology, like the camera, mobile phone, and the internet, which have allowed the storyteller not only to merge various modalities of storytelling, such as words, sounds and visuals into one composite media product, but also to share stories with people around the globe. Hypertexts, multimedia presentations and video games are some examples of how to tell a story digitally. The flexibility of this medium not only enriches the content and presentation of the story, it also changes the dynamics of participation owing to the digital characteristics of interactivity, non-linearity and fragmentation.[1]

Storytelling existed primarily in the form of oral and written texts until the invention of the camera in 1814 by Jose Nicephore Niepce[2], which enabled a medium for visual storytelling. The invention of still photography led to the invention of the movie camera[3], ultimately resulting in the emergence of cinema as a tool for mass communication by the early 19th century. Cinema transformed the dynamics of storytelling through visual re-mediation of written and oral texts, thus establishing the semantics of the visual language. Through the interface of screens, collaborative work between the professionals and the directorial authorship, cinema was able to reach and impact the masses by a way of inventing a visual art form for representing and experiencing diverse story-worlds and their characters. The inception of cinema brought about a change in the interaction paradigms within societies around the world as the emergence of public theatre gave rise to a new public space which was a site of mass entertainment as well as for political and creative expression. The subsequent establishment of the international and regional film industries bears testimony to the influence exercised by cinema over the masses. Use of visual narratives further expanded with the invention of the television in the early 20th century, which created

another personal-private space for dislocated mass gathering within households (Mankekar, 1993; Raghavan, 2008). Thus, even before the onset of the digital technology, visual culture brought by cinema and television had transformed the paradigms of interactions between individuals, groups and institutions through creating novel public spaces where masses could partake either in collective discussion or in collective entertainment via the visual discourse of communication.

The invention of the computational technology in the 20th century led to the emergence of different sets of tools and technology. Initially, computers were limited to use in certain sectors of defence, aerospace and education. However, with the invention of the internet and personal computers, digital technology permeated the household space. Since then until the present time, innumerable innovations in a relatively short span of time has ushered the world into a digital paradigm of interaction. Digital culture was primarily built on the foundations of visual culture already established through cultures of cinema and print. Infrastructures established through this media had already transformed the traditional paradigms by creating a new 'mediatised' space, both in the public and personal domains (Couldry, 2008; Hepp, 2012). This created a new syntax of visual representation for influencing mass mobilisation and public opinion. Through creating social, political and economic networks – print, cinema, television and radio collectively established itself as a vital social institution for a nation-state to efficiently and effectively reach out to the masses through the use of visual communication.

The digital paradigm transformed the existing structures of cinema and TV through the creation of a yet another public space in the form of the internet. Unlike the cinema and print texts, the internet exists in the parallel space of a virtual realm

that can only be accessed via a computer. Virtual space and networked-ness are two core aspects of the digital paradigm of interaction, which transcended the boundaries of nation-states and thus was able to initiate the 'convergence culture' i.e. moderating and merging the flow of human inquiry through digital methods and platforms. Jenkins (2006) cites the 'convergence' feature of digital media as the basis of a new paradigm of engagement which influences human intelligence and participation. The interactive aspect of digital technology allows its user to be both the consumer and the creator of the content. Simultaneously due to the internet, a user is also able to broadcast or narrow-cast his content. However, it is primarily the digital infrastructure which has increased the flow and access of information exponentially. It has either replaced or modified the existing methods of the information process. The present eco-sphere is populated with digital tools and processes that transition to the digital paradigm and become necessities rather than options. The digital paradigm has been incorporated in the global processes of governance and wealth generation, such as globalisation, hybridisation and capitalism (Pieterse, 1994; Canclini, 2006; Castells, 2006). However, the incorporation of the digital paradigm in the everyday discourse of people around the globe is still dependent on the diffusion of digital technology in different regions of the world.

Digital technologies have grown and spread at an uneven pace around the world. U.S.A along with other European nations had an early access to the digital technology on account of the major inventions and innovations originating from the western nations. In Asia, the countries like Japan, China, Singapore and India, have been at the forefront of the digital revolution as digital technologies and services replace the existing modes of communication in these areas. African continent presents a stark contrast in this regard as the comparatively wealthier nations such as

Nigeria, Kenya, Ghana and Ethiopia have majority of digital start-ups and services while the relatively poorer nations such as Congo, Liberia and Madagascar are yet to see a planned approach towards digital diffusion and adoption (Beaudoin, 2007).In the context of India, where this research is located, growth of digital technology is still a recent phenomenon dating back to the start of the 2000 millennium. In the past 2 decades while India has made rapid strides in the process of digitisation of its urban cities of New Delhi, Bangalore and Mumbai, its rural and remote areas still lack the basic infrastructure.

Digital storytelling as an academic discipline was initiated at the Centre for Digital Storytelling in California in the late 1980s by Joe Lambert and Dana Atchley. It was not just storytelling that got digitised but the whole cultural praxis gradually came to be centred on technology, including knowledge inquiry and acquisition. Against this backdrop, existing academic disciplines saw modification as modes of inquiry and information converged and technological mediation affected "epistemologies and ontologies that underlie a research programme" (Berry, 2011). Digital Humanities thus came as part of "media consciousness in a digital age" (Fiormonte et al, 2015), where technological mediation not only converged diverse strands of inquiry but also led to the rethinking of traditional concepts. In its simplest from, digital humanities can be defined as use of computational methods to assist the humanities scholar. However, to conceptually define and demarcate the boundaries of digital humanities is not only complex but futile as well. The manifesto of digital humanities describes the phenomenon as - "Digital Humanities is not a unified field but an array of convergent practices that explore a universe in which... digital tools, techniques, and media have altered the production and dissemination of knowledge in the arts, human and social sciences."

(Presner**,** Schnapp and Lunenfeld, 2006**).** In the light of these statements digital storytelling is one of the many methods of inquiry spawning from digital humanities.

Bernard R. Robin (2008) sees digital storytelling to be an effective pedagogical strategy for 21st century classrooms as our present environment is continuously being populated by new and more powerful technology and tools. The present generation of digital natives and digital immigrants who have evolved alongside these technological developments are well placed to harness the potential of the medium for creative and literacy purpose (Prensky, 2001). Storytelling as a pedagogical strategy is nothing new[4]; in fact pedagogical approaches of John Dewey and the Progressive School of Education and New London Group of the mid-1990s were the precursors to digital storytelling as a pedagogical strategy.[5]In his series of works on education John Dewey advocates for an interactive process of learning where students are able to interact with the curriculum through experiential education which emphasises active participation of the students. In the mid-1990s, New London Group – a group of 10 academics pioneered a new approach to pedagogy called 'Multiliteracies', which emphasised the two key aspects of literacy: linguistic diversity and multimodal forms of linguistic expression and representation. However, the approach of Multiliteracies "has been slow to transform pedagogies of academic literacy" (Kafle and Canagarajah, 2015) as repeated emphasis on monomodal forms of evaluation has made "teachers and students reluctant to engage in academic multiliteracies." (Kafle and Canagarajah, 2015).

Thus, as a pedagogical strategy it is essential for digital storytelling in the present age to deal with the bi/multilingual structure of the classrooms. Multilingualism is widely prevalent among people communicating in at least two or more languages. Designers of school curricula around the world have realised the growing importance of multilingual education. Multilingual education is "educational programmes that use languages other than the first languages as media of instruction and they aim for communicative proficiency in more than two languages" (Cenoz and Genesee, 1998). While situating the medium of digital storytelling within the paradigm of multilingual education, two opposing yet valid concerns have to be taken into consideration i.e. while "To be bilingual or multilingual is not the aberration supposed by many; it is, rather, a normal and unremarkable necessity for the majority in the world today" (Edwards, 1994), at the same time languages have different statuses in our society depending on the social hierarchy. Language is a complex construct, which is ascribed of its meaning depending on the spaces where it is used and the position of a particular community within the social hierarchy, decides its role and status.[6] Therefore, while working within a multilingual setup with digital storytelling, it is vital to understand the embedded power struggles between languages within a social structure.

Though there remains no dearth of arguments in favour of digital storytelling as an effective pedagogical strategy, these arguments albeit helpful, cannot be generalised without studying how digital storytelling operates in different local contexts and how users engage their language, culture and knowledge, with the medium. This study is a similar attempt focused on the classrooms of some schools of Sikkim which aimed to introduce the practice of digital storytelling as a novel interaction process for the purpose of teaching, learning and creative expression. The

study though situated in humanities touches upon interdisciplinary concepts and methods for its inquiry. Utilising the practice of storytelling the thesis aims to enhance the pedagogy in the classrooms of the schools of Sikkim through the integration of digital technology.

1.1 A Brief Cultural History of Sikkim

Prior to its merger with India, Sikkim existed as an independent kingdom ruled by the Chogyals[7] of the Namgyal dynasty. The kingdom of Sikkim came into existence circa 1600 in 17th century before which the land was believed to be inhabited by the 'Lepchas' who are considered to be the native settlers of the region. Scholars have also recorded presence of other tribes such as Limbus, Mangars and Bhutias settled along the western and southern borders of Sikkim during this time. For all the tribes inhabiting the Himalayan geographical region, nature worshipping was a prevalent practice and the tribes commonly followed animistic traditions of earth-centered religion which worshipped natural phenomena. Mount Kangchenjunga is considered as the guardian deity of Sikkim, rituals of which are followed till date especially within the Lepcha community who believed that their ancestors were formed from the snow of the summit of Kangchenjunga. It was for this reason that treks and expeditions undertaken for climbing the mountain were not allowed to scale the summit as it held sacred values for the native tribes and settlers of Sikkim. Due to its proximity with Tibet and Bhutan, Buddhism had a profound impact on the culture of Sikkim. Lamas and monks from the two neighbouring Buddhist-dominated states frequented the land of Sikkim as early as 8th century B.C. According to a popular folkore, Guru Rinpoche- a revered Buddhist saint, introduced Buddhism to its native inhabitants while passing through the region, and foretold the establishing of

monarchy in the region. The folk literature of native communities also records various interactions with the lamas who migrated from Tibet and eventually settled in various regions of Sikkim. Monasteries in Pemayangtse, Rumtek, Yuksom were built by these lamas which presently are among the oldest and sacred places of pilgrimage for the Buddhist community representing different Buddhist sects.

The kingdom of Sikkim was formed under the aegis of Buddhist religion in the 17th century who anointed Phuntsog Namgyal as the first Chogyal or the 'guardian of religion' of the Buddhist kingdom. The official history of Sikkim starts from 17th century onwards when the royal palace started to keep records of administrative and cultural events happening within the dominion of its kingdom. Information prior to that is preserved in fragile and rare archives of folklores of native communities, works and memoirs of foreign travellers[8] and religious edicts and scriptures of Buddhist lamas. Within its boundaries, Sikkim encompassed multi-ethnic communities of the Lepchas, Limbus, Bhutias, Magars, Newars, Rai, Gurung along with equally rich bio-diversity. Himalayan eco-system apart from being a bio-diversity hotspot is also significant for the beliefs of its inhabiting communities. Almost each tribe has its own shamanistic ritual performed during special occasions in families. The multi-ethnic composition of Sikkim has created a unique mix of indigenous culture which blends animistic and shamanistic rituals of indigenous communities with Buddhist teaching and principles. Anna Balikci (2008) makes a similar observation in her study on the relation between Buddhism and Shamanistic rituals of the Bhutia community in the Tingchim village of Sikkim. In her study she observes that although Shamanistic rituals are forbidden according to orthodox Buddhism, regardless of it, in Tingchim village both Buddhist lamas and Shamans co-exist peacefully participating in family and community rituals. Over time, Balkici argues, both Buddhist lamas and the Bhutia

or the 'Lhopo' community incorporated the myths and assimilated some of the customs and rituals related to shamanism in their culture, while completely rejecting others generating a symbiotic relationship between community, religion and faith. Similar characteristics are also visible in present day Sikkim, where Hinduism which is currently the majority religion of the state[9]co-exists with indigenous rituals and practices. Balikci (2008) attributes the symbiotic growth and peaceful co-existence of institutional religions alongside shamanistic culture to "shared conceptual view of reality... sacred topography and history of the land." (p.4)

Sikkim's multi-ethnic and multilingual background has given way to variety of rich storytelling traditions. Geoffrey Gorer (1938) notes in his ethnographical work on Lepchas the significance of storytelling within the community describing it as a "major Lepcha art and distraction." (p.265). Stories encompassed both private and public domains of native tribes which documented tales from mythical and spiritual realms to the banal and every day. Stories recited by people at positions of authority such as shamans, elders of the tribe or Buddhist lamas carried special significance for the community as a whole as it carried moral, spiritual and historical lessons. Apart from oral storytelling traditions, there were also performative storytelling traditions such as dances, songs, ritual-performance which signified important events and fragments from their collective cultural memory and were often performed during festivals and marriages. Festivals such as Losar, Saga Dawa, Phang Lhabsol, Tendong Lho Rum Faat are some of the major cultural festivals celebrated by different native communities which display elaborate rituals and ritual dances re-telling the story of the celebrated myths and beliefs.

Over the course of 3 centuries, the indigenous cultural multitude of Sikkim has faced multiple invasions from the neighbouring kingdoms of Bhutan, Nepal and China[10], colonial power of British Empire since the beginning of the 19th century and finally the abolition of monarchy and accession to democratic Indian union in the late 20th century. The indigenous knowledge of the natives assimilated different cultural influences which they preserved in their folklore. However, there existed no systematic form of recording other than orally transferring it through generations. Few written accounts exist of indigenous cultures and storytelling mostly in the form of ethnographic works of Indian and foreign anthropologists. Indigenous storytelling traditions act not only as conveyors of preserved information but also carry the subtleties and re-imagination of ancient myths and teachings through the passage of time. Present-day Sikkim comprises of an even denser and diverse multitude of population comprising both the native inhabitants and migrant settlements. In the process of cultural assimilation and inter-mixing, the ritualistic traditions became watered down and often merged with the practices of the host religion. The assimilation of institutional religions, such as Hinduism and Christianity also led to conversions of several natives. The formation of cities into urban business centres further increased the migration of natives from their villages to urban cities and towns. The influx on one hand has given way to the urban legends and new storytelling methods while on the other, has also restricted indigenous traditions and culture to pockets of rural native villages where they are till date performed by the village elders and priests and most probably remain as last bastions of the indigenous knowledge.

In 2011, the death of Samdup Taso[11], who was a spiritual leader of the Lepchas and used to perform the scared Kangchenjunga ritual[12] passed away without

leaving a successor. In the words of local film maker Dawa Lepcha, who went on to release the first feature film of Sikkim, loss of Samdup Taso was akin to losing "part of (Sikkim's) identity that is being erased".[13] The death of the revered spiritual leader was mourned throughout the state as it also signified the irreparable loss of a vital part of their centuries old indigenous culture which had remained undocumented and eventually lost with the death of Samdup Taso. Perhaps it was this loss which encouraged the rise of the local storytellers and filmmakers, such as Dawa Lepcha, Salil Mukhia, Karma Takapa, who sought to revive the indigenous knowledge through modern ways of storytelling so that it is both documented and reaches out to a large segment of population, including the new generation of Sikkim's youth. In contemporary times, storytelling traditions have merged with robust global networks of translation and broadcasting which extends the scope of indigenous stories from folklores and community rituals to a global text which reasserts the indigenous identity and culture, however simultaneously, globalized networks of present age, often presents an illusion of a uniform global culture based on the principles of humanism which gloss over the cracks and fractures of cultural heterogeneity and fast eluding indigenous knowledge by branding it as 'postcolonial exotic' (Huggan, 1994). Therefore, it is not uncommon to find the Lepcha or Tibetan memorabilia in global markets as souvenir and decorative objects, or Sikkim landscapes being marketed as tourist hotspots and exotic sets for film shooting.

The recent works on Sikkim by local and other Indian directors utilise contemporary modes of storytelling primarily through cinema. Through re-imagination of traditional myths in contemporary settings, the film-makers not only attempt to revive Sikkim's traditional culture, but also strive to embed the contemporary issues and situations of a society transitioning from a traditional to a

modern setup. Treading the fault-lines of present-day modernity and multi-cultural history, contemporary storytellers attempt to reconcile the global identity with individual aspirations and history through employing storytelling as a mode of both inquiry and expression. In 2011, Dawa Lepcha released his 'Ritual Journeys' – an ethnographic film made on an 80-year Lepcha shaman Merayk. The film follows the journey of Merayk for over 4 years between 2003 and 2007 and documents his personal routine and shamanistic healing rituals performed by him for his community. Made in the spirit of the first ever ethnographic documentary, 'Nanook of the North'[14], the film is an attempt to salvage the Lepcha traditions and rituals through documenting the personal and public life of its inhabitants. In 2017, Dawa Lepcha came out with the first feature film of Sikkim titled 'Dhokbu' which shifts away from scholarly explorations and instead re-imagines the traditional myths through contemporary modes of storytelling. Dhokbu is a story which revolves around myths of Kangchenjunga where a young scholar is lost in the jungles of the Sikkim Himalayas during her research and faces threat from the dark and evil forces and she gets rescued by a mythical character of *'Dhokbu'* or *'The Keeper'*. In an interesting take, Dawa Lepcha breathes life into the indigenous myths and personalities of the Himalayas such that the protagonist who is a research- cum-ethnographer scholar learns about Sikkim's indigenous culture not through conventional academic ways of interaction and participation but through 'living' and 'experiencing' the traditional myths. In the same year, another young Sikkim director Karma Takapa released his *'Ralang Road'* which explored the issues of cultural immigration within an already complex and diverse socio-cultural milieu of the state. In 2018, *'Pahuna'* -an Indian Nepali language film, directed by Pakhi Tyrewala was released which follows the life of 3 children who get separated from their family while migrating from Nepal to

Sikkim. While the kids try to survive on their own and search for their parents, they encounter the myths and the realities of a new land with which they gradually learn to negotiate.

Storytelling thus situates the everyday character into a chaotic and fractured setup populated with everything from objects of modern materialistic culture to motifs from multi-cultural traditions and history. In search of their identities and motives, each character undertakes a journey of change, faith and belief. Through re-mediation of old myths and tales, contemporary storytellers and readers participate in an active construction of a history which reconciles modernity with indigenous knowledge, the re-imagination and re-telling of traditional myths. However, should not be limited to artistic endeavours, instead storytelling has the potential to be one of the primary tools of inquiry in education and learning to encourage students to recognise and assimilate knowledge from indigenous sources of knowledge.

1.2 Research Problem

Digital storytelling as a distinctive paradigm of engagement and an effective pedagogic strategy remains unexplored in India, notwithstanding the fact that considerable amount of literature exists on digital storytelling. Its pedagogical possibilities are many but they remain little explored. The problem is compounded further when teaching-learning parameters of a primarily western monolingual monocultural and homogenous classroom are mechanically applied to highly pluralist classrooms in a multilingual multicultural heterogeneous Indian society like that of Sikkim, thereby defeating the objectives of meaningful pedagogy. The rich possibilities of instruction in the mother-tongue in the formative stage of learners is

glaringly overlooked. Besides, the studies undertaken so far in this field are community-based and not classroom-based.

1.3 Research Statement

Cognisant of the linguistic diversity of classrooms in multilingual Indian societies, digital storytelling is offered as a multifunctional, multimodal and pragmatic tool of pedagogy with a holistic orientation. As a significant paradigm of engagement, it functions as: a pedagogical tool, an archival tool and a tool to nurture creativity in students, all three being end-driven, result-oriented and classroom-based, demonstrated through a series of workshops conducted in various schools of Sikkim with students having multilingual and multicultural background. The study is not just to gauge the effectiveness of multilingual digital storytelling but also to create digital awareness and digital literacy among the students and teachers and through this medium to achieve the much neglected but much needed objective of nurturing creativity in the learners.

1.4 Research Questions

These are some of the research questions that the researcher has tried to answer in the thesis:-

- Why should the medium of digital storytelling be considered useful?
- How effective is Digital Storytelling in classrooms with students having multilingual background?
- What implications will the findings have for pedagogy in the selected region?
- How do user perceptions differ with language?

- How established is the digital infrastructure in India especially in Sikkim?

- Can a digital paradigm work within a suburban or a rural setup?

- How enriching will it be for the local community?

- How effective are digital stories as personal archives?

- How effective are digital stories as learning and assessment artefacts?

- Can a digital paradigm enhance multilingual learning in classrooms?

- Can creativity be nurtured and enhanced through the medium of digital storytelling?

1.5 Aims and Objectives

The following are some of the aims and objectives that have guided this research:

- To assess the use of digital stories as a learning and assessment tool.

- To study student interaction and assess the degree of technological integration.

- To explore the pedagogical benefits of digital storytelling in a multilingual setup.

- To engage students creatively through digital storytelling.

- To enhance digital literacy and digital awareness.

1.6 Literature Review

Howell (2012) articulates that apart from technology, digital pedagogy is about 'attitude and aptitude'. The core principles of the digital paradigm which have been fundamental in the formation of various digital pedagogies including digital humanities are:

- Access

- Collaboration

- Remediation

- Remix and Reuse

- User-centric design

These principles have been repeatedly mentioned and discussed in readers and individual publications on digital pedagogy and digital humanities. (MLA, in review; Hirsch, 2012; Howell, 2012) *Access* refers to the open access paradigm of free distribution of information to stakeholders in the learning process which range from teachers, students, parents including even a curious reader. Through open access, digital pedagogy seeks to expand the distribution and networking of knowledge. *Collaboration* refers to the practice of group and community participation in the process of learning. The idea of participative learning helps in the generation of contextual knowledge which not only re-imagines the practices of traditional knowledge generation but also fosters an inclusive environment for active cultural learning and awareness- a factor which was conspicuous by its absence in earlier pedagogical models. Collaboration also leads to collaborative work which makes participants aware of team works and proper intellectual attribution.

Remediation is a concept developed by Bolter and Grusin (1999) in their book titled '*Remediation*'. Re-mediation refers to the process of adapting the traditional texts of print and cinema in the format and structure of digital media. Thus, in the context of education, students and teachers rework the traditional lessons through the multiple modalities of digital tools to construct new meanings and associations with the learning material. *Remix and reuse* is one of the defining principles of digital

pedagogy which effectively bridges the gap between formal knowledge and personal and popular knowledge sources. In the philosophy of re-mixing, the learning material builds on the practice of inter-disciplinary and inter-subjective process of inquiry within the conventional academic process. *User centric design* is one of the features of digital pedagogy which lets the instructors to design the learning material in accordance with diverse and plural backgrounds of students. It lets instructional design attune to particular traits and features of students thus creating conducive environment to co-evolve learning with the student's behavioural development.

The computational technology led to the creation of a virtual space which 'remixes' the practice of storytelling through integrating the story structure and genres with virtual space for creating and designing interactive story worlds and environment. As a pedagogical practice, practice of storytelling has already been documented as a useful learning strategy in art classrooms (Treston-Trochard, 1992), language teaching (Cantoni, 1999) and history classrooms (Sternfield, 2001). There exists a considerable amount of literature highlighting the characteristics and effectiveness of digital storytelling, both as a medium and pedagogical tool. This body of literature is complemented by works which are region-specific and study the working of the medium in different social setups. Digital storytelling is more than a mere extension of traditional storytelling. On a general level**,** media production within digital storytelling requires user participation combined with minimum level of skill set necessary to operate digital tools and software in order to engage creatively and critically with the medium. However**,** while operating within regional contexts, the medium engages with variables of community, cultural diversity, vernacular and identity within different social contexts of classrooms, rural communities, migrant communities, youths and women.

Within different setups in a regional context, digital storytelling within classrooms has gained widespread currency. The effectiveness of digital storytelling in classrooms has been explored by Smeda N et al. in their paper '*The Effectiveness of Digital Storytelling in the Classrooms: A Comprehensive Study*' (2014)where they have explored the potential pedagogical aspects of digital storytelling and the impact of digital storytelling on student learning when teachers and students use digital stories. The success of digital storytelling as a pedagogical tool in classrooms owes to its ability to "integrate instructional messages with learning activities to create more engaging and exciting learning environments". (Smeda, Dakich and Sharda, 2014) The study which was conducted using a mixed-methods approach at primary and secondary levels of an Australian school', aimed for generating knowledge which will "inform educational policy and practice" (Smeda, Dakich and Sharda, 2014). A similar kind of study was conducted by Angay-Crowder et al with multilingual adolescents and their findings are reported in their paper '*Putting Multiliteracies into Practice: Digital Storytelling for Multilingual Adolescents in a Summer Program*' (2013). Informed by pedagogical approaches to multiliteracies formulated by New London Group in 1996, the study attempted to situate digital storytelling within the multiliteracy paradigm. The study recognised the multicultural setup in classrooms and aimed to "create a context in which students could explore their multiple literacies and identities using multiple semiotic modes and resources". (Angay-Crowder, Choi and Yi, 2013).

Studies were also conducted to train teachers in digital storytelling. Dogan in his paper '*Implementation of Digital Storytelling in the Classroom by Teachers Trained in a Digital Storytelling Workshop*' (2012) aimed to develop '21st Century literacy skills among teachers by organising workshops to train "in-service

elementary, middle, and high school teachers to use digital storytelling" (Dogan, 2012). More recently, Goldsmiths, University of London, initiated a project called "Critical Connections" which attempted to explore the practice of digital storytelling across languages in "mainstream and supplementary school contexts". The first phase of project was for two years (2012-2014). The second phase of the project was called 'Critical Connections II: Moving forward with multilingual digital storytelling' which ran from September 2015 to August 2017. Research undertaken within the project was conducted with students, teachers and parents in schools situated in different countries such as UK, Algeria, Luxembourg, Palestine, Taiwan and the United States. The focus of this project was to both observe and foster not only curriculum learning but also intercultural as well as digital literacy through digital storytelling. (Anderson and Macleroy Obied, 2016).

In the Indian context, a few studies on digital storytelling exist. One of the earliest studies pertaining to digital storytelling was conducted in 2001 in rural primary schools in Uttar Pradesh. The study explored the role of digital storytelling in "small-group collaborative learning" over the course of 3 years (Kam, Sahni and Canny, 2005). Other similar kind of studies includes Sonia Gakhar's study on *'The Influence of a Digital Storytelling Experience on Pre-Service Teacher Education Students' Attitudes and Intentions.'* (2007)Both empirical and qualitative studies have been conducted in various spaces of formal learning from primary classrooms (Heo, 2009; Coutinho, 2010; Godina & Gyabak, 2011), colleges and universities (Ribeiro, 2016; Ivala & Stewart, 2017), NGOs work with marginal communities (Storybank, 2009; Botturi et al, 2014; Simsek, 2017) and classrooms for specially-abled (Kaylor, 2007; Manning, 2010). These studies have been valuable in generating local insights

both inwards for the participating groups and outwards for the general practice of pedagogy.

Apart from accounts by foreign travellers and scholars (Hooker, 1849; Gorer, 1996; Plaisier, 2006; Balikci, 2008) Sikkim's multi-cultural and multi-ethnic history have also been studied by Indian scholars, although Manadev Roy (2016) highlights the lack of historical studies from the Indian perspective on the documentation of the ethnography of the indigenous communities inhabiting the North Himalayan state. Much of the Indian works on Sikkim have either focused on political history of the state (Basnet, 1974; Datta-Ray, 1984; Sidhu, 2012) or on its picturesque landscape and rich biodiversity (Ray, 2001; Das, 2000). Only a few studies exist which elaborates upon the cultural histories of indigenous communities of the state. One such work is A.R Foning's – *'Lepcha, My Vanishing Tribe'* (1987), which provides a detailed account of the cultural practices of the Lepcha community which is considered to be the community of original indigenous inhabitants of Sikkim. In his autobiographical account, the author contemplates the materiality of a physically cohesive community bound by indigenous customs and principles and its transformation into a diffused and diasporic community led by the aspirations of urban and modern lifestyle. Presented through anecdotes from his life, the work provides a rich and reflective account of Lepcha myths, folk stories, customs, festivals and religious beliefs. A similar work is by Yishey Doma – *'Legends of the Lepchas'* (2010) a book of short stories based on the folklore of the Lepcha tribe. The book documents a section of folk stories and myths from Lepcha culture which forms the foundation of teachings and principles of the Lepcha system of learning.

Among the more academically inclined works are of writers such as J.R. Subba and T.B. Subba. Jash Raj Subba's-*'History, Culture and Customs of Sikkim'* (2008) is considered to be an important text on the life and customs of indigenous communities and tribes in Sikkim. The book is a historical documentation of the cultural practices and livelihood of indigenous tribes across different time phase dating back to as early as circa 1600 A.D, when Sikkim was an independent Himalayan kingdom to the present-day status of Sikkim as a state of India. In an exhaustive work, the writer touches not only the folklores but also the socio-political formation of indigenous tribes and how their identity evolved and adjusted over time amidst various external cultural influences and migration from within the community (Subba, 2008). A similar yet more focused work is that of T.B. Subba, *'Dynamics of a Hill Society: The Nepalis in the Darjeeling and Sikkim Himalayas'* (1989) which is an ethnographic study of the Nepali community and its different clans residing in the hills of Sikkim and Darjeeling. The book explores the socio-political context and the issue of identity politics prevalent in the region. The more recent works within this domain are *'Tribes of North Bengal and Sikkim: A Changing Scenario of the 20th century'* (2016) edited by Bipul Mandal and Manadev Roy which is compilation of essays by various scholars on issues of transitioning cultural and identity politics amongst the indigenous tribes inhabiting Sikkim and its adjacent cities of Darjeeling, Kalimpong and Siliguri. In a historical overview of the tribes of Sikkim, Bipul Mandal (2016) outlines several ethnic groups- the Nepalese, Lepchas, Kols, Sherpas, Murmis, Limbus, Bhutia and Tamang tribes (p.16). Apart from the Lepchas, who are considered to be first dwellers of Sikkim, rest of the other groups migrated to Sikkim either from the neighbouring borders or different states of the country. Further stratifications of clans exist within all tribes based on the caste and dialects of the

people which makes representation of indigenous tribes a complex and contentious issue. (p.18)

In his seminal essay on politics of identity in Sikkim, A.C. Sinha (2009) highlights the privilege and power in an erstwhile independent kingdom, which was concentrated only in the hands of selected ethnic groups of "either Bhutia Kazis or Newar Thikadars" while "bulk of Sikkimese were struggling under oppressive feudal system" (p.124). In the contemporary scenario, the feudal system is replaced with the democratic system of recognition of indigenous tribes as scheduled tribes and castes which grants them privileges in the form of stipulated reservation within government services. Vibha Arora (2007) argues that this has given rise to a new form of identity politics which re-enforces the "retribalization and affirmation of tribal identities" (p.213) as a way for multiple ethnic groups to assert their individuality and indigeneity. Thus, representation of indigenous identity and culture in Sikkim should also be viewed as an "emergent product of history, cultural politics and economic development of the Himalayan region in the last two centuries" (Arora, 2007; p.195). According to the census of India conducted by the Government of India in 2001 and 2011, following are the comparative illustration of language-wise distribution of population in Sikkim.

Table 1: A comparative illustration of language wise distribution of population in Sikkim based upon Census survey conducted by Government of India in 2001 and 2011

S.No.	Languages	2001	2011
1	Nepali	338,606	382,200
2	Bhotia	41,825	41889
3	Hindi	36,072	48586
4	Lepcha	35,728	38313
5	Rai	8,856	7471
6	Bengali	6,320	6986
7	Urdu	2,930	2001
8	Tibetan	1,977	2785
9	Limbu	34,292	38733
10	Sherpa	13,922	13681
11	Tamang	10,089	11734
12	Mangar	< 1000	< 1000
13	Newar	< 1000	< 1000
14	Sunwar	< 1000	< 1000

Figure 1: Source- Census of India, 2001 and 2011

The survey depicts a clear increase in population of the different linguistic groups in a decade except the Rai and Sherpa communities which show a slight decrease. Compared to 2001 census, Nepali remains the largest spoken language in Sikkim with 3,82,200 speakers, followed by Hindi language which exchanged its position in 2001 census with the indigenous Bhotia language for 2nd and 3rd places

with 48,586 and 41,889 speakers respectively. Indigenous languages of Limbu and Lepcha closely follow on 4th and 5th place with 38,733 and 38,313 speakers respectively. The top five languages form the bulk of population of dominant speakers in the state. In contrast, the other indigenous language groups such as Sherpa, Tamang, Rai and Tibetan are spoken only by marginal sections of population. The Sherpa language with 13,681 speakers has shown a slight decrease in speakers from the previous census. Tamang language marks an increase from the previous census of 2001 but overall population of speakers still remain low with 11,734 speakers in 2011. Similarly, Rai and Tibetan languages also remain sparsely spoken with only 7,471 and 2,785 speakers respectively. These figures apart from giving an idea about the language-wise distribution of population in the state also indicate the dominance of speakers of certain language groups over others. This dominance, according to Mona Chhetri (2016) has given rise to 'ethnic patronage' and 'cultural politics' in the state. In her recent ethnographic study Chhetri (2016) traces the fault-lines of regional politics from days of Sikkim as an independent kingdom till contemporary times and observe that "ethnic identity is at the core of regional politics" (p.558). Through the example of tourism industry which is one of the major revenues generating sector of the state, the author discusses how Sikkim has deployed Buddhist symbols and images along with that of non-Buddhist symbols as "demonstrable aspects of ethnic culture" (p.559) which signifies the emergence of an "affirmative action politics" (p.558) in the state that is based on a strong nexus between the use and display of ethnic identity and culture in forming the landscape of regional politics.

Interestingly enough, history of education in Sikkim is also closely linked with power struggles between multiple indigenous communities. A.C. Sinha opens his paper on politics of identity in Sikkim by highlighting the uneven access to education in its erstwhile position as an independent kingdom where Buddhism received the patronage of the ruling dynasty "...and whatever education was available, it was meant for the wards of the lessees and the local land lease holders" (Sinha, 2009; p.124). A more comprehensive work on education in Sikkim is Dick B. Dewan's *'Education in Sikkim: An Historical Retrospect of Pre-Merger and Post-Merger Period'* (2012). The work is a comprehensive study of both indigenous and formal system of education existing in Sikkim. Before the inception of formal education in the state, Dewan's work notes the presence of monastic education during early ages much on the lines of ancient Gurukul system which focused primarily on spiritual learning. His work mentions the presence of Lepcha, Bhutia and Hindu monastic schools for education which provided holistic learning drawing from the cultural and spiritual sources (p.165). 1880 onwards, Dewan notes, formal education was introduced in Sikkim through the efforts of Christian missionaries who came to the state once Sikkim became a part of the British protectorate (p.168). This was complemented by various reforms and measures undertaken by the Durbar administration and private local enterprises in the kingdom (p.181). However, it was only 1950 onwards that a systematic approach was laid down for formal learning and assessment with establishment of private and secondary schools (p.219). Post its merger with India in 1975, Sikkim's education system was integrated with formal educational boards of India with specific thrust on teacher training and establishment of institutions of higher learning.

1.7 Research Gap

Digital storytelling currently is a topical subject globally and considerable work exists on this medium. However, little work has been done in the Indian context and virtually nothing in the region of Sikkim. India with its diverse and multicultural setup provides an excellent opportunity for the study of the role of digital storytelling across multicultural societies of which classrooms are a part. It is noteworthy that studies conducted in India have been more community-based than classroom-based. The emphasis has been more on community-building exercises such as 'Designing for community storytelling in rural Indian context' or for the archival of indigenous oral narratives. More importantly, as evident from the literature review, the trajectory of research though comprehensive in its own way is silent on the key issues of multifunctionality of digital storytelling as a tool for effective pedagogy and fostering creativity in students. It is this glaring lacuna that is the basis of this research that has tried to fill this gap.

1.8 Scope of Study

The study specifically focuses on the use of digital storytelling as a pedagogical tool in the multilingual school classrooms of Sikkim. The researcher has attempted to utilise the resources at her disposal to explore the challenging aspects of the technological integration in education within the state. Being an action-based research, the sample size of both schools and students was chosen to keep the balance between representation of the research population and at the same time ensure qualitative engagement with students through active participation. Digital storytelling was chosen as the preferred tool to approach the aspect of technology integration in classrooms as the practice of storytelling proved to be a vital conduit of information

across generations within the indigenous communities of Sikkim. Thus, through storytelling, the study sought to 're-mediate'[15] the traditional practices of community-oriented oral and written storytelling in the context of modern-day classroom teaching where the multimodality of storytelling is merged with that of digital tools to foster the process of learning and individual creative expression. The findings from this study though not enough to arrive at any generalisation, expects to influence the local practices and policies on digital integration in the field of education. The contextual case study of Sikkim also provides an action-based insight into exploring the applications of digital storytelling to facilitate the discussion on digital divide in rural and remote areas. Therefore, this might prove to be a useful resource for future works in similar areas or contexts. The research is multidisciplinary drawing upon cultural studies, anthropology, psychology, digital humanities, education and literary theory.

1.9 Methodology

The study is situated within the interpretive paradigm of research in humanities and adopts an action-based inquiry. The subject of inquiry was the practice of digital storytelling and its effectiveness as a teaching-learning tool in the multilingual classrooms of Sikkim. To measure the effectiveness, the study focused on engagement strategies in classrooms through the tools of digital pedagogy. Unlike the conventional strategy of two-way communication between the teacher and the student in a mono-lingual setup, the study has sought to transform conventional paradigms of engagement through introducing collaborative and interactive learning between the students and the instructors in a multilingual setup. To this effect, workshops were conducted in schools of Sikkim which encouraged students to engage in the learning process through their native tongue by advocating the philosophy of

looking 'back and forth' between their everyday experiences and formally acquired classroom knowledge. Digital storytelling was employed both as an instructional tool, as an evaluative component and as a record of the students' progress and participation throughout the course of the workshop.

The purpose of action-based research is to bridge the gap between theory and action through ways of participative workshops and case studies to understand the implementation, scope and limitations of the theory. In the context of this study, the research aimed to study the gap between the theory of digital pedagogy and its implementation within the multilingual classrooms of Sikkim. The core objective of this action-based research inquiry is to bring change through applying the theories of development and education in practical contexts through a participatory approach. Therefore, through an action-based methodology the study also sought to introduce the practice of digital storytelling as a method of digital pedagogy in these classrooms. Students from the selected schools participated in the action of creating digital stories through which they were encouraged to construct their own spectrum of shared knowledge and meaning. The following sections will present a discussion on how action-based methodology was utilised in classrooms of Sikkim to observe the process of 'contextual' learning and digital interaction through the practice of digital storytelling.

From the perspective of action-based inquiry, it is thus vital to observe digital phenomenon in context of the socio-economic realities of a particular nation state. In this study, the research situated the study of digital paradigm of interaction in the context of classroom learning in the schools of Sikkim. The study has been informed through scholarly research works in multiple disciplines such as digital pedagogy,

digital humanities, computer studies, new media and cultural studies, thus incorporating the trans-disciplinary structure of digital paradigm of interaction. Digital technology has also been considered as an urban phenomenon by some scholars. Thus, the study focused on rural and remote areas to study the challenges and the potential of the application of digital tools in these areas. The theoretical framework for the study was provided by the principles of digital pedagogy and digital humanities which emphasises open, networked and collaborative learning.

Sikkim was chosen as the preferred field site for case studies as the study itself originated from the English Department of Sikkim University and given the mountainous terrain and climate of the region, establishing digital infrastructure has been a logistical challenge in the entire region of Sikkim. Though the capital city of Sikkim, Gangtok along with few other urban towns, mainly from East Sikkim, have facilities of internet connectivity, the network speed and access are highly dependent on the weather conditions of the region. Particularly hostile conditions in the region especially in relation to digital connectivity was another reason to situate the study in the region to explore if digital paradigms of interaction can be applied in these classroom settings. Furthermore, the diversity of students in the state of Sikkim made the study also question the traditional mono-lingual instructional method of the classrooms and sought to extend a multilingual learning strategy with digital storytelling as one of the modalities for digital classroom pedagogy.

For the purpose of case studies, the researcher conducted digital storytelling workshops in the classrooms of the selected schools in Sikkim. The researcher used sources such as local news articles, personal experiences of previous students and employees, internet blog along with personal visits to some of the schools in the

region to observe the process and use of ICTs in learning. The majority of the schools are government schools, which were chosen mainly for two reasons –

i) Government schools had a wider network than private schools in Sikkim, especially in rural and remote areas of the state. Given the wider reach, government schools had a diverse pool of students coming from different linguistic and economic backgrounds with many of them also being first generation learners from their families.

ii) Digital infrastructure in most of these schools ranged from bare-minimum to negligible.

The research applied stratified sampling for selecting government schools from all over Sikkim. To achieve this, firstly the Sikkim state was stratified into its four administrative districts of North, South, East and West Sikkim. These districts comprise of several villages and small towns and are primarily rural with the exception of East Sikkim which comprises the capital city of Gangtok. As an action-based inquiry is based upon the participation and interaction with the subjects, the sample size was restricted to 3 schools per district with a total of 12 schools from the four divisions of Sikkim. The permission to conduct workshops in government schools was obtained from the Joint Director of Education Department of Government of Sikkim. The list of the participating schools is as follows:

1.   Machong Senior Secondary School (East)

2.   Rorathang Secondary School (East)

3.   Dikling Senior Secondary School, Pakyong (East)

4.   Karjee Secondary School (West)

5.   Kasturba Gandhi Balika Vidyalaya, Labing (West)

6.   Sanganath Secondary School (West)

7.   Rateypani Senior Secondary School (South)

8.   Lachen Secondary School (North)

9.   Hee-Gyathang Senior Secondary School (North)

The initial plan was to conduct workshops solely in government schools. However, the Principal of St. Xavier's School, Pakyong in east Sikkim offered to allow us to organise a three-day workshop in his school. This opportunity was then used in helping the study give a comparative perspective of performance between these two different infrastructures.

Once the required permission for the schools was obtained, the researcher explained the workshop proposal to each of the school's principals who then made the students of a certain class available for the workshop. In this context the researcher had to work with a broad range of classes from class 6th to 12th as due to curriculum commitments and time-table schedule, each school had a different grade available for the workshop. This also proved beneficial for the study as it provided a broader student sample across secondary and higher-secondary levels for introducing the practice of digital storytelling as part of their classroom strategies. The average composition of a class was of 50 students. Out of these 50 students, 25 students were selected through random sampling to participate in the workshop. As mentioned earlier these workshops were already being conducted in limited conditions of connectivity and resources. Thus, to strike a balance between the resources and the participative inquiry a group of 25 students were selected for workshop, who were later divided in 5 subgroups of 5 students each. Overall 250 students participated and created digital stories on various topics.

The idea of the workshop was to create a digital classroom where students can engage in a learning process which is collaborative and technologically mediated. The duration of these workshops was two to three days during normal classroom timings of students. The aim of the workshop was to introduce digital story as a multilingual teaching-learning tool. Thus, students were encouraged to converse and interact in their native languages or any other language of their choice throughout the course of the workshop. The workshop lessons were designed around the curriculum-based exercises of various subjects of the participating grade so as to integrate the process of digital learning with the existing framework. This would help the students in the process of 'Re-mediating' (Bolter & Grusin, 1999) traditional strategies of learning into digital ones. The workshops were conducted in two parts- in the first part students were introduced to the digital tools which they were supposed to use later in order to create their digital stories. Apart from that, students were also given writing assignments in the first session where they used their formally acquired classroom skills for completing the task. In the second session, students were asked to convert their written assignment into a digital story thus encouraging the students to work on the same text but this time with multiple modalities. This also provided the researcher a comparative assessment between learning through traditional strategy of writing vis-à-vis digital strategy of storytelling. Throughout the course of the workshop the students were encouraged to discuss and share their ideas with each other without imposition of any specific instructional language. This motivated students to converse in their native tongue and include it in their process of problem solving and creative expression.

The method of creating digital stories was divided into three stages of pre-production, production and post-production. The workshops were conducted solely by the researcher who was the primary instructor and facilitator assisted by a resource person on few instances. In the pre-production stage, the students were made to use web learning tools such Google, YouTube and Wikipedia to gather more information about the subject and theme of the story. The students were encouraged to use the internet to make general learning queries about the topics they have already learnt in their classrooms. Once the research was complete, students were asked to work on a short script or an essay for their story. In the production stages, students worked on story boarding and associated the written scenes with images and corresponding audio either a dialogue or some background music. The images were either downloaded from the internet or students sketched their own illustrations in some instances. The students were educated about the use of copyright free images and audio in their project. They were made to visit websites such as 'Creative Commons', 'Pexels', 'Getty Images', 'Unsplash', 'Shutterstock' and 'Besound' to illustrate the example of open access. For the purpose of audio, audio recorders were used by students to record dialogues and narration of their stories. Most of the students made use of both voice and music as audio tracks in their digital stories. To streamline the elaborate process of scripting and storyboarding, participants were provided ready-made templates for writing created by researcher as illustrated below:

Storyboarding sheet

S. No.	Scene	Visual	Audio

Scripting sheet

Working Title:
Group Number:
Synopsis:
Character List:
Script:

As the workshop revolves around the topic of digital storytelling, several digital tools were used during the course of workshops. The research made use of following digital tools during the course of workshops:

- Laptop computer – 4

- Portable Speakers

- Portable Internet Dongle

- Audio Recorder

- Digital images

- Movie maker software

- Internet and web-based learning tools

The digital toolkit which accompanied these workshops was portable and fully functional without any network connectivity as well. In schools where network connectivity was unavailable, students either worked with the already downloaded images or chose to sketch their own illustrations. The offline and portable setup of digital learning through tools of digital storytelling made it possible for the research to conduct workshops even in remote areas of Sikkim which don't even have a consistent mobile network. In this context, digital storytelling can move beyond the classroom spaces and work as a community building tool as well.

To analyse the workshop participation, student participation was analysed along with the artefacts of digital stories created by them. To analyse student participation and interaction during the course of workshop, diary logs of the workshop sessions was maintained wherein the records of the student queries and observations regarding the overall process was noted down. In addition to this, diary logs were also supplemented through the methods of group discussions and personal interviews with students, teachers and the Principals to overcome the vulnerability of biases and myopia resulting from single researcher perspective. Digital stories created by these students were also considered as a unit of analysis for this study. The artefact of digital story was used as an evaluative tool both by the school teachers and the researcher. The teacher stored the student-created digital stories to assess the fluency of their spoken and written language. The researcher analysed student-created digital stories for the content to observe the process of 'remediation' (Bolter & Grusin, 1999) from the written text to the multimedia text and understand the process of multimodal and multilingual learning in the classrooms of Sikkim. The analysis of relevant digital stories accompanies the sections of the following chapters of the thesis which details the process and application of digital storytelling. An analysis of their work was also performed by students through peer review of each other's works. In the context of the workshops conducted as a part of this research, peer review was introduced as students engaged in collaborative process of storytelling with the purpose of creating and sharing knowledge. To inculcate critical thinking and decision making about their own works, students were encouraged to review digital stories made by their classmates on the basis of certain parameters they decided in collaboration with their instructor, a template of which is as follows:

Group No	Title of the Story	Use of Language	Audio narration	Use of Images	Comprehensibility

Figure 2: Peer-review assessment sheet

1.10 Chapter Overview

This thesis has been divided into 5 chapters.

Chapter 1: The introductory chapter includes research problem, research statement, research objectives, contextual literature review, research gap and research methodology. Subsequent chapters form the body of the thesis and consist of arguments, findings and discussion based on case studies conducted as part of this research.

Chapter 2: 'Digital Storytelling as a Teaching-Learning Tool' situates the process of creating digital stories as a primary pedagogical strategy in the classrooms of Sikkim. Based on the workshops conducted in selected schools, the chapter presents an analysis of digital stories both as a composite multimedia artefact and as an active process of constructing meaning through merging personal and curriculum-based sources of knowledge. The chapter discusses at length different case studies of student-created digital stories and argues how digital storytelling can be a quintessential strategy to enhance student interaction with ICTs (Information Communication Technology) through employing storytelling as a learning and assessment tool. This also happens to be a popular source of communication within the native communities to which these students belong.

Chapter 3: 'Digital Storytelling as an Archival Tool for the Preservation of Language and Culture' explores the role of digital stories as personal archives and

memory banks created as part of the student learning process. The chapter explores the multilingual composition of the classrooms in Sikkim and situates the process of digital storytelling as a multilingual instructional and interactional method for students. Drawing upon theories of archiving and curation, the chapter further argues how digital stories can supplement the existing archives through the documentation of contextual and indigenous knowledge. The case studies in this chapter present an insight into how digital stories can be curated through a multilingual instructional framework to promote inter-cultural literacy along with the curation of personal anecdotes and memories. These are seen as sources of alternate knowledge with the potential of initiating discussion on marginal topics in the mainstream discourse.

Chapter 4 'Digital Storytelling as a tool for Nurturing Creativity' explores the use of digital stories for individual and creative expression. This chapter presents a discussion on the theories of creativity in learning and situates digital stories both as a process and an artefact of creative expression. The case studies in this chapter focus on how digital stories can be used to enhance both the creative expression and assessment within the rubrics of school curriculum.

Chapter 5: 'Conclusion' is the final chapter of the thesis which summarises the thesis and presents a detailed analysis of the findings, limitations, scope and implications of this study. The process of digital integration both functionally and aesthetically is an incredibly exhaustive process spanning trans-disciplinary domains of knowledge. Thus, a list of 'Works Cited' along with 'Bibliography' has been included at the end of the thesis.

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CHAPTER II

Digital Storytelling as a Teaching-Learning Tool

Introduction

The trend towards the active implementation of digital storytelling in the pedagogy of primary and higher education is a recent development. Use of computerised apparatuses to record, playback and share stories, is a popular trend extensively visible on present day social media platforms and applications. The functional advantages and efficacy of digital technologies combined along with its creative opportunities of expression, have not only modified the traditional manner of storytelling but have made digital storytelling the cornerstone of designing modern day communication strategies. In contemporary times, the format of digital storytelling has been utilised in popular media formats such as advertisements, e-books, memes, videos, documentaries, podcasts and video games to make digital interaction more participative and personal.

To assess the effectiveness of digital storytelling as a pedagogical tool, it is important to situate the practice against the backdrop of traditional pedagogical approaches and understand its curriculum implementation through the framework of digital pedagogy which is a modern approach to the teaching learning process. In the Indian context digital pedagogy is still a novel phenomenon and is gradually being adopted by educational institutions through integrating the use of ICTs for the teaching-learning process. Following sections in this chapter provide an overview of the pedagogical approaches in India from the early to the present times with special reference to the state of Sikkim where this research is situated. The chapter further

focuses on the use of digital storytelling as a pedagogical tool in the classrooms of Sikkim and discusses how the medium can introduce multimodal learning along with initiating a multilingual interaction paradigm within students and teachers in their native tongues. Based on the action-based workshop sessions on digital storytelling conducted in the schools of Sikkim, the chapter configures the application and implementation of ICTs in the teaching-learning process in the classrooms of schools of Sikkim.

2.1 An Overview of Pedagogical Approaches: From Early to Modern Strategies

The overview of traditional pedagogical approaches is quite vast as teaching methods and techniques age back to the ancient societies and cultures when transfer of knowledge was hardly institutionalised. Unlike the contemporary educational system, education and knowledge in ancient times was seen as a holistic process informed by traditions of various social institutions, cultures and religions. While western models of knowledge dissemination can be traced back to the Socratic and Aristotelian principles of dialectical learning and rhetoric, learning models in the East were predominantly centred on the persona of the master teacher or the guru. In the ancient Indian educational system, we saw the prevalence of the 'Gurukul' system of education where the students were required to leave their homes and live along with their 'guru' for the designated period of learning. The guru was both a spiritual and a subject mentor. The tradition of gurukul system of education can be seen extensively in the realm of Indian classical arts where different arts are closely associated with a particular school of guru-student ideology and practices (Altekar, 1944; Pandya, 2014; Kashalkar-Karve, 2016). Ancient historical documents of India such as *Ramayana*, *Mahabharata*, *Arthashastra*[16] are filled with various instances of

'paramparas' between the guru and his students. The relationship between the student and the guru was highly formal and any deviation from the set standards was discouraged.

The ancient gurukul system revolved around the mystical aura of the guru who was considered a knowledge bearer of all domains including the spiritual and after-world. Apart from the dissemination of subject knowledge, gurus were also considered to be the upholders of culture and tradition in accordance with the divine law of the scriptures. The gurukul system of education was based on the principles and teachings of ancient Vedic texts and Upanishads which emphasised all round personal and professional development of the student. (Altekar,1944). The knowledge was disseminated through oral and performative mediums. Dance, music, storytelling and poetry were several ways through which knowledge was transmitted through generations before the arrival of the writing technology. Kashalkar- Karve (2013) observes in ancient India knowledge about how music and dance exclusively rested in the oral and performative realms of the 'gharanas' and the 'paramaparas'. In India, ancient modes of teaching were primarily rooted in the religious scriptures. Apart from the gurukul system which was structured around the Hindu caste system and drew heavily on the Upanishads and Vedas, there were Buddhist and Jain monasteries, Islamic madarsas, which also imparted indigenous learning based on their own religious texts. (Frederick, 2016)

The major limitation common to most of these indigenous centres of learning was its exclusive nature which either catered to the upper castes as in the gurukul system or was community-specific centres such as the Islamic madarsas and maktabs. The Gurukul system was not accessible to all and only was only the elite few from

upper castes were able to access it. The merit standards were arbitrarily devised and the assessment of students' performance was subject to qualification of the set standards. Moreover, in the absence of any systematic basis of assessment in the gurukul system, personal bias became a major limitation in this mode of interaction. It was only after the arrival of the East India Company and the Christian missionaries, mainly from Britain and Portugal that the western idea of knowledge and education was introduced in India. (Nurullah and Naik, 1943).

Contrary to the east, in the west knowledge was disseminated primarily through the written medium which facilitated the restoration and archival of texts. These archived texts later went on to become the ideological source for the western colonial project of the 19th century which contributed towards the spread of western model of education in colonies. The origins of western teaching and learning practices can be traced back to the ancient Greek and Roman civilisations dating over 2000 years ago (Lawton and Gordon, 2002). Works of thinkers and philosophers such as Pythagoras, Socrates, Plato, Aristotle, Cicero, Tacitus, Herodotus[17] were influential both for their ideas and methods of education and for the development of early pedagogical practices. This instance of two-way communication model placed high emphasis on the instructional form of learning which became the foundational pedagogical practice in the schools and universities that emerged in the late 11th and the early 12th century. Miller (2007) likens the role of a traditional instructor as content deliverer where the teacher played the central role of an educator or the instructor. History of traditional pedagogy from the ancient times reveals an underlying strain of 'pedagocentrism' that contemporary scholarship has sought to deconstruct and interrogate.

The central role of the teacher/instructor in traditional pedagogical systems nullified the diversity and differential abilities of the students. Uniformity of teaching methods and practices effectively disregarded the multiple diversities emanating from one's language, ethnicity, and physical and mental attributes, religion and similar defining factors. Furthermore, the modality of teaching was guided by the authoritative voice of the instructor which hampered individual personality and creative development of the students. The teaching methods too often remained restricted to classroom teaching and lacked the element of active participation of students. This non-participatory approach has often run counter to the very spirit and objective of education and effective teaching. This weakened the receptivity of the students who were considered nothing more than an 'empty vessel' that needed to be filled up with knowledge the fountainhead of which was always the teacher. More often than not this kind of knowledge turned out to be more theoretical and devoid of practical application. In the overall process, the role of the student was reduced to that of a passive recipient whose only task was to qualify the routine assessments in the form of examination or other similar modes of evaluation. Another characteristic of early pedagogical approaches was its fundamental intra-disciplinarity with rigidly defined disciplinary boundaries. Such disciplines became unconnected, individual islands whose sanctity had to be respected and exclusionary view of knowledge became an inevitable corollary. Interdisciplinary research and cross-disciplinary studies were highly uncommon given the closed-door approach towards learning and education.

Present-day pedagogical strategies are a result of the gradual evolution of the traditional approaches. Scientific approaches were adopted during the late 18th and the early 19th century to inform the practice and concerns of pedagogy and pedagogues.

Works of philosophers and educators across Europe such as Johann Heinrich Pestalozzi in Switzerland, Friedrich Wilhelm August Fröbel in Germany and Switzerland, Maria Montessori in Italy, Johann Friedrich Herbart[18] in Germany were instrumental in the development of pedagogy as a specialised field of study of teaching-learning methodology which sought to train and assess students in a structured manner. Subsequent works and ideas of John Dewey, Len Vygotsky, Jean Piaget, Albert Bandura and New London Group of the mid-1990s[19] have been highly influential in the development of an integrated and inclusive pedagogical model which apart from focusing on the student's perceptive and experiential learning also formulated multimodal and interactive pedagogical techniques. Pedagogy as a discipline of applied science is an interdisciplinary field and is closely informed by various disciplines such as sociology, philosophy, humanities and especially psychology. Educational psychology specifies three major paradigms to understand the pedagogic approaches i.e. Behaviourism, Cognitivism and Constructivism. The pedagogical practices within the behaviourist paradigm are centred on the behaviour modulation of the students according to the context of teaching material. The teachers are expected to generate desired response and performance by designing teaching material such that it stimulates student's behavioural response towards preferred standards of learning. The student development is assessed through observing and measuring behavioural outcomes and frequencies of desired responses towards the learning context. The major limitation however, with the behaviourist paradigm was its overt emphasis on stimulus response. It overlooked the active participation of the students within a massively diverse socio-political and cultural milieu and as Schunk argues, has been inadequate in explaining "the acquisition of higher-level skills… that require a greater depth of processing." (qtd. in Ertmer and Newby 49).

The learning paradigm shifted from behaviour stimulation towards harnessing of cognitive abilities of human senses especially the brain. Cognitive psychologists emphasised the functioning of the brain and the mental structure in acquiring knowledge through experience and a sense of perception and its effect on the development of behaviour. Unlike behaviourist pedagogues, practitioners of cognitive paradigm emphasised on the active role of mental processes in structuring and storing knowledge (Mergel, 1998). Instructional strategies were designed to be more interactive to encourage active participation of students in the learning process. Both behaviourism and cognitivism although made important contributions to the field of psychology and education both the paradigms faced criticism for being reductionist in terms of student contribution in the learning process and failing to identify the multimodality of the learning process in humans. The findings and limitations of both behaviourism and cognitivism were instrumental in laying the foundation ultimately for the philosophy of constructivism.

The merit of the constructivist point of view is that it recognises the underlying complexity and diversity amongst humans and society. We as humans are a part of multiple communities and societies and have as many beliefs, values, language, expression and identity. Constructivism acknowledges the complex multitudinous mix of humans and encourages the students or the learner to actively engage in knowledge enquiry through perspectives of both prescribed and experiential knowledge. For constructivists each individual 'constructs' a field of its knowledge and meaning through personal, social and formal interactions. During the late 20th century, introduction of digital technology transformed the paradigms of engagement as interaction between objects gradually became technologically mediated. In the context of education, the over simplification of human growth and its attributes was

further compounded by the invention of computer-based technology which saw an uneven and misplaced implementation of technological integration in education. For strategic implementation and integration of Information and Communication Technology (ICT), a new system of pedagogy integrated with digital paradigm of interaction also called digital pedagogy was introduced in the United States during the 1970s and 1980s[20] and gradually spread across the globe with the diffusion of the digital technology.

2.2 Digital Pedagogy in India

Digital pedagogy as a conceptual term refers to the use of digital technology in teaching and learning environments. Digital Pedagogy employs the use of digital and electronic media such as computer, multimedia, social media, Web 2.0, mobile applications and video games, in a formal teaching-learning process. The vast and diverse array of digital technology is collectively referred to as ICTs or Information and Communication Technologies. As a practice digital pedagogy primarily originated in western countries of Europe and United States of America owing to the invention of computers and related technological innovations in these regions. In the context of the 21st century, it is undeniable that technology has ushered the human race in a new kind of world order. Physical and geographical boundaries have transcended giving way to the convergence of cultures and information. Digital technologies have made it possible and feasible to process huge amount of information within a fraction of seconds thus bringing in information explosion. 21st century is sometimes also characterised as an 'Age of Information'[21] given the massive amount of data being generated and almost free and unrestricted public access to that information. The phenomenon of digitisation which is seen as a

unifying and converging process worldwide at times might paint an illusion of global uniformity. However, the ground realities differ greatly. In other parts of the world especially in countries of the Asian and African continents, a sustainable digital infrastructure along with wide adoption of digital technology by the masses is yet to be realised.

In the context of India, where this research is situated, the process of digitisation in the country has considerably developed over the course of past few years. With its ever increasing mobile and internet user base[22], India has been successful in digitising most of its official processes especially the banking and payments sector. The telecommunication sector has also played a major role towards the adoption of digital technology by Indian masses through providing cheap smart phones and affordable network costs. The mass adoption of internet-based technologies especially smart phones and computers have made digital entertainment popular in the country with OTT services, multiplayer gaming and also e-commerce services emerging as market leaders. This has resulted in a paradigm shift for Indians as digital technology re-configured the traditional dynamics of interaction and exchange of goods and services. For majority of India's population[23] which still resides either in rural or remote areas, digital technology was a disruption to their existing traditional models of communication. Thus, the process of technological integration especially in developing countries such as India although had initiated a new form of cohesion through digital networks, its sudden introduction has also been a disruptive force for rural and tribal communities, forcing sudden change of lifestyles and stalling of their financial stability.

In the context of education, there has been a gradual integration of technology in higher and primary level of education. In India, Ministry of Human Resource Development (MHRD) oversees formulation and implementation of policies regarding integration of ICTs in education. Under its aegis, the ministry has established various independent bodies and state boards to coordinate ICT integration on national and regional levels. The aspect of technological integration in universities and centres of higher learning is facilitated through University Grants Commission (UGC) and All India Council for Technical Education (AICTE). On the regional level, the responsibility of ICT integration in schools has been delegated to the National Council of Educational Research and Training (NCERT) and the State Council of Educational Research and Training (SCERT). According to its national policy on ICT[24], the ministry in coordination with its other bodies implement ICT integration through building of required infrastructure, teacher training, capacity building of education personnel and curriculum designing. The role of ICTs towards social development and education in India have been studied by various scholars (Rajpal, Singh and Bhardwaj, 2008; Raji and Madhavan, 2009; Vijaykumar, 2011; Roy, 2012; Banerjee et al, 2014). These studies have been instrumental in highlighting the scope and limitations regarding ICT implementation in different cultural and economic contexts within India.

The state of Sikkim in India, where this particular study originates from, is situated at the foothills of Eastern Himalayan ranges. Compared to other Indian states, the state of Sikkim is sparsely populated with a population of just over 6 lakhs according to the 2011 census. With its mountainous terrain, Sikkim is home to a number of indigenous tribes and communities such as Bhutias, Lepchas, Limboos, Rai, spread across its four districts i.e. North, South, East and West Sikkim- making it

an ethnically diverse and multilingual state. The mountainous terrain and breathtaking landscapes although make Sikkim a sought-after tourist destination, it often masks the limitations it poses for infrastructural setup. Arduous terrain coupled with unpredictable weather conditions have made setup and adoption of digital technologies challenging on a mass level. In addition to this, majority of the population of Sikkim resides in rural areas and town with only a fraction of the state's population residing in the urban capital city of Gangtok and other neighbouring urban cities of East Sikkim.[25] This limits the access and awareness about digital technology to affluent regions. The presence and gradual growth of educational institutions in Sikkim have to a great extent worked towards increasing the digital literacy in the region.

Education in the state of Sikkim is overseen by the state's Human Resource Development Department (HRDD) along with Sikkim's division of State Council for Educational and Research Training (SCERT). SCERT also looks at the curriculum designing and teacher training in government schools. With regard to ICT implementation in schools, SCERT is entrusted with the role of conducting capacity building workshops for teacher training, development of curricula, designing textbooks for schools, integrating general and cultural awareness with the learning material and as a policy advisor for government bodies regarding use and implementation of ICTs.[26] Annually, SCERT conducts workshops and seminars under centralised schemes of RMSA (Rashtriya Madhyamik Shiksha Abhiyan) and DIKSHA (Digital Infrastructure for Knowledge Sharing) primarily for capacity building for teachers in respect to the use and integration of ICT in designing and delivery of learning material. The textbooks designed by SCERT especially for the students of primary class utilise the QR code technology for making digital content

available to both students and teachers which can be accessed either through mobile or desktop. In addition to this, the new textbook design also moves away from the conventional chapterisation of the learning material to the division of learning activities according to different themes customised to harness the contextual learning and the indigenous knowledge of the students.

English is recognised as the primary language of instruction in government and primary schools. In addition to it, state's education department recognises 11 other regional languages belonging to different native tribes of the region with more languages set to join the official list of the state.[27]Although assignments and examinations are conducted in English language, however SCERT designed textbooks encourage students and teachers to collaboratively engage in their native tongues during discussion and brain-storming sessions in classrooms. In its newsletter, Sikkim division of SCERT clearly states the vision behind implementation of ICTs in the state - "*ICT should be used in such a way that it becomes an opportunity equaliser by providing information, communication and computing resources in remote areas*" (SCERT Sikkim official website). The aim of SCERT in Sikkim thus has been to engage students in ICT learning through adequate teacher training and re-designing of learning material such that it fosters collaborative work ethics and multimodal learning. More recently, at the time of the corona-virus pandemic in India in 2020 when countries were forced into an unprecedented lockdown, SCERT in coordination with HRD ministry of the state worked towards implementation of online mode of education for students of the state.[28]

It is within this framework that this particular study sought to situate digital storytelling as a pedagogical tool in the classrooms of Sikkim, based on the initiatives of the SCERT, which focuses on inculcating collaborative work ethics and emphasises the multimodal and multilingual form of learning in students. Digital storytelling situates itself as an action based participatory activity in the classrooms which can be utilised to build on the student's contextual knowledge and foster academic learning along with enhancing digital literacy and awareness. Integration of digital storytelling in classroom teaching follows a systematic framework based on pedagogical models as discussed in the subsequent chapters.

2.3 Digital Storytelling and Digital Pedagogy

Storytelling has been an integral part of the oral and written communication of ancient civilisations. Merging storytelling with digital tools and technology changes the dynamics of the structure and pluralises the storytelling landscape through the proliferation of plots, characters, authors and readers. Over centuries the practice of storytelling has remained relevant as they have been hybrid models of communication synthesising conflicting discourses such as the society and individual, public sphere and private space, popular and underground, hero and villain. Bakhtin's 'Heteroglossia', Derrida's 'Deconstruction' and works of other semioticians such as C.S. Pierce, Ferdinand De Sassure, Roland Barthes, Marcel Danesi[29] offer valuable theoretical positions to understand the ways in which language and society function and communicate both within and without the structure of a story. Digital technology merges the written language with the programme code, embedding the story in a cinematic, illustrative and an immersive space. It extends the practice of storytelling from authors to individuals where individual experiences and instances constitute for

a story enhanced through characteristics of nonlinearity, extended interactivity and sharing made possible by ICTs. In the contemporary times it has been the most utilised strategy for communication in the popular culture. From social media apps such as Instagram, Snapchat, Facebook – to advertising, journalism houses, political parties, international organisations, all have made profuse use of digital storytelling to reach its audience.

Practice of digital storytelling as a pedagogical approach marks a transition from the traditional to the contemporary technologies. Digital technology adds value to the individual stories by opening opportunities for a collaborative and interactive workspace. For new humanities, knowledge and meaning-making is drawn from both cognitive participation and cultural participation. While instructional framework of schools involves cognitive participation, cultural participation for students happens mostly in the company of their family, friends and community members. Digital storytelling as a pedagogical tool in classrooms situates itself within this gap of cognitive-cultural participation and assists in merging these two experiences through the practice of storytelling. In the process of creating personal narratives, students fill in the voids of their cognitive experience through anecdotes and memories thus encompassing multiple sources of knowledge for harnessing multiple literacies.

Thrust of digital pedagogy is not merely limited to the innovations in classroom teaching but also in the convergence of the trans-disciplinary inquiry of knowledge methodologically through the digital paradigm of open access, collaborative work ethics and networked repositories. Technology incorporation in pedagogical framework should not be limited to its functional characteristics alone. Rather, technological knowledge should be blended with existing realms of content

and pedagogy knowledge. Earlier pedagogical models were informed by two realms of knowledge - i) content, and ii) pedagogy. In earlier pedagogical models these two knowledge realms were treated as mutually exclusive domains.
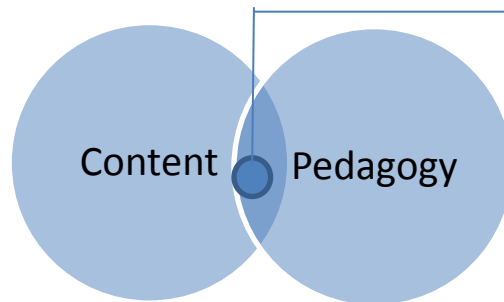

Figure 2: Shulman's Pedagogical Content Knowledge (PCK) Framework

The PCK framework includes knowledge from the 'Content' domain which includes the actual material that has to be taught and the 'Pedagogy' domain which involves the designing of instructional methods and activities which will be used to deliver a particular content. The PCK framework focuses on design and delivery of teaching lessons in classrooms. In this model, the content knowledge of the subject influences the teaching practices and strategies. Hence, the content becomes accessible for the new learners. Shulman (1987) shifts the emphasis towards the 'process' rather than the 'outcome' of classroom interaction between the teacher and the students. This makes the students stakeholders in the learning process as PCK knowledge precisely requires a teacher's instructional framework to adapt with the diverse and plural mix of students.

In 2006, Koehler and Mishra forwarded a revised version of Shulman's PCK model which added a third component of technology in the model and the revised model was known as 'Technological Pedagogical and Content Knowledge' or

TPACK model. Through including technology in the learning model, Koehler and Mishra proposed a theory of technological integration in education fundamental to the practice of digital pedagogy or techno-pedagogy. Intervention of the TPACK model in education resulted in the opening of three separate domains of knowledge in addition to Shulman's existing model of pedagogy content knowledge (PCK) which were i) 'Technological content knowledge' (TCK), ii) 'Technological pedagogical knowledge' (TPK) and iii) 'Technological pedagogical content knowledge' (TPCK). (Koehler & Mishra; 2006).
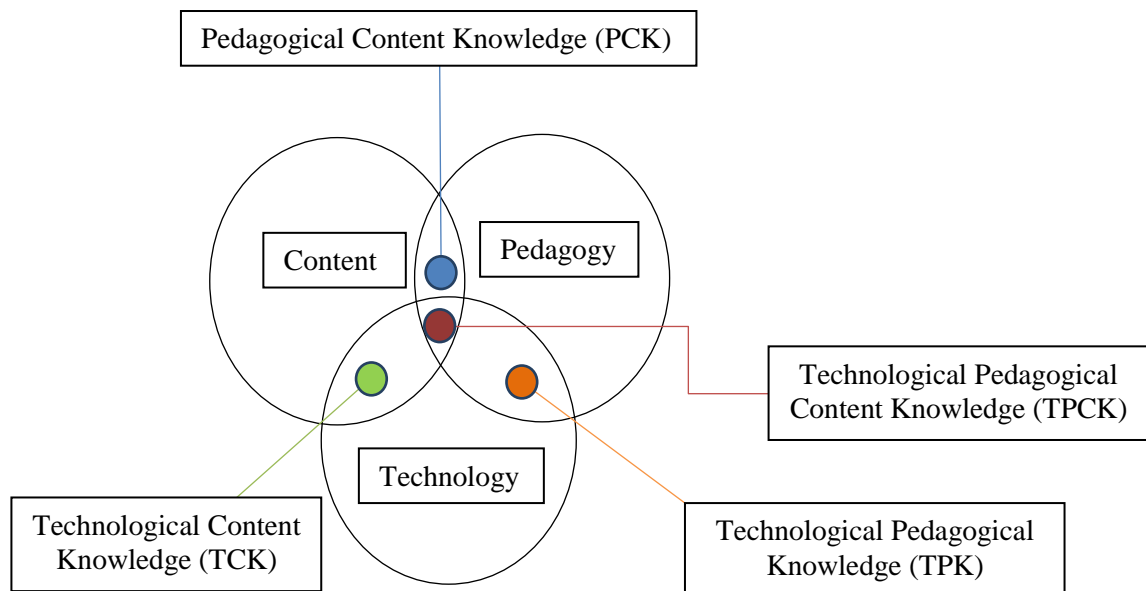

Figure 3: Technological Pedagogical Content Knowledge (TPACK). (Koehler & Mishra, 2006)

Integration of technology in education involves understanding of the relationships and interdependence among the aforementioned knowledge domains. In the above illustrated model, TCK, TPK and TPACK are additional domains of

knowledge which informs the traditional model of PCK with technology. Thus, TCK refers to intersection between content for delivery and how can it be made accessible and interactive for a new learner through technology. This knowledge domain requires the teacher to identify relevant digital tools and strategies which can enhance lesson delivery and student understanding in the class. TPK marks the intersection between the technology and the scientific practice of pedagogy. This knowledge domain requires teachers to re-align their traditional beliefs with the digital paradigm and understand how technology integration can innovate teaching practices and assessment structures. Given the vast array of digital technology, the task of a teacher is also to choose and understand the aesthetics and functionality of relevant tools and ascertain its application in classrooms. The combined knowledge of these domains forms the composite model of TPACK which extends the discourse of digital in everyday interaction between teachers and students in classrooms. TPACK framework lays emphasis on the change in paradigm of interaction within classrooms through digital technology on both the functional and the individual level. This framework encourages both teachers and students to re-imagine their lessons and activities through a digital paradigm focusing on collaboration, accessibility and multimodality. TPACK have emerged as a foremost model for implementation of technology in classrooms with theoretical, methodological and epistemological implications.

2.4 Digital Humanities in Classroom: Adapting Digital Stories to Classroom Teaching in Schools of Sikkim

Digital humanities have often been talked about as an emerging field of inquiry for its approach towards rethinking traditional humanities methods and theories. Digital storytelling is one of the many methods of inquiry spawning from digital humanities. In the context of classroom pedagogy, teaching strategies for digital humanities have been applied and studied with respect to graduate and undergraduate students but has seldom been understood in the context of primary school classrooms. In primary classes, subjects such as history, social studies, English and other languages are the ones which are taught to foster the 'humanistic'[30] skills and temperament in students. Digital storytelling as a pedagogical strategy of digital humanities re-configures the teaching of these subjects through active participation of students via technology in a reflective, constructive and convergent exercise of creating stories. In addition to converging of various knowledge sources, digital stories allow its creators to creatively and critically engage with both the content and the syntax of the format.

To understand the application and scope of digital storytelling as a learning strategy it is important to see it as a tool at the intersection between knowledge domains of technology, pedagogy and humanities or the TPCK model as discussed in the earlier sections. Talking about the pedagogical strategies becomes even more important in Digital humanities as it promotes open access to a labyrinth of information moving out of the traditional realms of the classroom and encourages critical thought along with active participation. Along with multimodal learning strategies, emphasis of digital humanities pedagogy is also on cultural inclusiveness in

the process of learning, Thus, the concept of 'Multiliteracies' and its emphasis on linguistic diversity and pluralism plays an important role in shaping the interaction paradigm of digital humanities pedagogy.

Multiliteracies and multilingualism became the core focus area for the pedagogical approaches of the 21st century in response to the increasingly globalised networks of engagement across economic, social and political domains. The concept of multiliteracy emphasised diversity and pluralism in classrooms for a holistic learning process. The increasing movement of individuals, groups and communities across borders for social and economic factors have resulted in cross-mixing of native communities with the migrant ones resulting in a multicultural composition of societies. In this context, the concept of 'multi-literacies' was formulated which emphasised on re-claiming the heterogeneity and appreciating the role of pluralism in human growth and learning. The approach of multiliteracy situates the learning process in the context of a connected and networked environment where learning processes extend beyond the formal spaces of the classroom and are characterised by the linguistic diversity, individual subjectivities, community building and new technologies.

In the context of this study linguistic diversity, new technologies and collaborative participation were fundamental aspects on the basis of which the process of digital storytelling was designed for the classrooms of Sikkim. The multiliteracy approach of 1996 formulated four broad schemas for designing the pedagogical strategies such that diverse learning modalities could be effectively integrated within the learning process of the classroom. These four schemes are i) situated practice, ii) overt instruction, iii) critical framing and iv) transformative pedagogy (N.L.G, 1996).

This study incorporated the use of digital storytelling in the teaching-learning process within classrooms of Sikkim based on these four schemas supplemented by the TPCK model which forms the knowledge domain of digital pedagogies across disciplines. Digital storytelling in education brings together all three forms of knowledge i.e. technological, pedagogical and content knowledge. To integrate TPCK framework of pedagogy in multilingual classrooms of Sikkim, the practice of digital storytelling was employed as an introduction to digital paradigm of interaction which connected the curriculum learning with contextual sources of knowledge such as personal anecdotes, memories, community practices and beliefs.

A series of workshops were conducted in certain schools of Sikkim, most of these students had either negligible or minimum interaction with digital learning. The aim of these workshops was to introduce students to digital tools and technology in context of their immediate surroundings. Through introduction of digital storytelling, students were encouraged to interact with domains of technological knowledge, curriculum knowledge and cultural knowledge. Emphasis on multilingual instruction and interaction within these workshop sessions made the activity of creating digital stories more relatable and also allowed students to actively participate in the process of constructing meaning in their own respective native languages. Storytelling was employed as a bridge to merge the diverse yet complementary realms of knowledge. Apart from student participation, focus was also on teacher participation, which assisted the researcher-cum-workshop instructor and students with the workshop. Exercises conducted as a part of this workshop were designed on the basis of curriculum prescribed lessons and activities. This was done so that the new learners get a familiar and defined entry point for creating stories while simultaneously encouraging students to fill the narrative gaps in the story by drawing upon their

personal experiences and memories and creatively using the digital tools. In the paragraph below, this section discusses the conceptual framework behind the workshops conducted on digital storytelling as a teaching-learning tool in modern day classrooms.

Based on the four schemas forwarded by the multiliteracy approach as discussed in the previous paragraphs, the aim of the workshop was to utilise the practice of digital storytelling both as a process and as an artefact in the learning process. As a 'situated practice', students were encouraged to create digital stories by collaborating in groups and drawing from their personal insights and experiences and also from those of their class-mates. The aim here was to extend the scope of the learning process beyond the perceived boundaries of curriculum and classroom and include the contextual everyday instances as a potential site or activity of learning. The process of gathering and combining of sources for creating stories made students engage with their immediate surroundings and supplement their curriculum learning with contextual understanding and examples. Certain features of digital stories such as sharing over online networks and instant feedback also makes it an effective multimedia artefact which can prove vital for the purpose of academic assessment and extended interaction.

'Overt instruction' approach of multiliteracy highlights the importance of moderation and guidance to students in a multimodal setup of learning. Unlike conventional classrooms, instructional framework in multiliteracy builds upon students' contextual knowledge and merges it with wider areas of learning. Thus, through acting as a moderator, the teacher builds on the students existing knowledge and experience and encourages students to re-mix the learning process in a defined

and controlled environment. In the context of the workshops conducted as a part of this study, exercise on digital stories were designed on the lessons and activities mentioned in students' text books to provide the students the base material to work with and further enrich it with their inputs and insights. Given the vast and networked expanse of digital tools and information, overt instruction was also applied in forming the guidelines to introduce students especially the new learners to educate them about the use and ethics of digital modalities of learning and how they could incorporate these within their digital stories.

'Critical framing' is one of the core aspects of the modern day pedagogies which require students to think and participate critically with their learning material. The aim of critical framing is to develop an independent, insightful and an analytic vision in the students. The transformation from monolingual and mono-modal paradigm of engagement to a multimodal one broadens the scope of learning through convergence of information and providing a customised and networked environment for personal expression. The digital stories created as a part of this study utilised the reflective practice of storytelling to critically analyse their immediate surroundings along with their personal experiences in the context of other relevant discussions. Huge part of critical framing also pertains to make new learners aware of the judicious use of technology and highlight the potential misuse of technology through examples of fake news, identity theft, cyber bullying and cracking cyber security.

The ultimate aim of the multi-literacy pedagogy is the component of 'Transformative practice' which emphasises on transforming the paradigms of engagement within the classrooms between the teacher and the students. As a transformative practice, digital storytelling helps in revamping the traditional two-

sided classroom interaction with a collaborative workspace fostering inter-class discussion. The multilingual stories and multimodal literacy were also significant towards presenting an alternative to the hegemony of monolingual instructional medium of schools. Digital storytelling as a teaching process can be adapted to lessons of prescribed subjects which in turn can enhance the learning process through integrating the contextual and action-based insights with the theoretical concepts of the subject. Digital storytelling as a pedagogical tool extends beyond classrooms to the social and community realms to which these students belong, thus, acting as a cultural artefact.

The multiliteracy approach provides a cohesive theoretical framework to combine with the TPCK model of pedagogy within the classrooms of Sikkim. Digital storytelling adds to the TPCK model through including the practice of storytelling in designing and delivery of the learning material. The structure of storytelling initiates an interactive and collaborative workspace between the teacher and the students, communicated through multiple modalities of technology and language. Application of digital technology is not only restricted as a functional extension of traditional pedagogies, instead the emphasis in the workshops conducted during this research was to introduce digital storytelling as a conduit to an open-access and networked paradigm of learning. TPCK pedagogical model integrates digital storytelling in teaching both as an instructional tool and as an open-ended and discursive process which lets students bring forth their personal expression merged with the contextual knowledge about their respective cultures and general curriculum knowledge.

2.5 Digital Storytelling as a pedagogical tool: A Case Study of the classrooms in Sikkim

Digital storytelling in education brings together all three forms of knowledge i.e. technological, pedagogical and content knowledge. To integrate TPCK framework of knowledge in multilingual classrooms of Sikkim a series of workshops were conducted in the schools across Sikkim. The target student group were secondary level school students (grades VI-XII) especially from government schools who had negligible or minimum interaction with digital learning. Through the introduction of digital storytelling, students were encouraged to interact with both technological knowledge and curriculum knowledge. Storytelling was employed as a bridge to merge these different yet complementary realms of knowledge. Apart from student participation focus was also on teacher participation that assisted the instructors and students with the workshop. In the following section the chapter will discuss the workshop sessions conducted in the various schools of Sikkim.

2.5.1 Digital Story- 'Hafiz Mian'

Figure 4: Source- Getty Images

Figure 5: Souce - Getty Images

This digital story was made by the students of class 7 of St. Xavier's School, Pakyong in East Sikkim. In St. Xaviers School, Pakyong a total of 25 students were selected, from grade VII who were then divided into 5 groups of 5 students each. The material for the workshop was drawn from their English subject textbook in consultation with the subject teacher. In this particular example students collaborated with their English language teacher on the exercise assigned during the workshop session. Students were given the task of translating stories of their choice from Nepali or English and create it visually through digital tools. The group chose the story of 'Hafiz Mian' prescribed in their English text book. The participating students were fluent with the vocabulary and use of English, their English language teacher also chose to collaborate with them on the adaptation of the story. This case study was a vital unit of analysis as it involved both the teacher and the student in the learning process through an exercise. The collaborative learning session provided a glimpse towards a model of multimodal and multilingual interaction in classrooms.

The students chose the story of 'Hafiz Mian' and with the help of their teacher. It was divided into three sections: background, plot and conclusion. The teacher then divided the group of 5 students into 3 subgroups consisting of 2 students in each and herself and the remaining student in the last group. She assigned these three groups the three sections of background, plot and conclusion and asked them to re-write their sections in forms of dialogues in the Nepali language. As the story had a single character, dialogues were written in third person as narration of Hafiz Mian's character sketch. Once students were finished with writing dialogues, the teacher then asked the students to translate their dialogues from Nepali into English. It was observed that students were able to grasp better the English language vocabulary through dialogue translation which allowed them to correlate their expression with

linguistic counterparts in English. The story-telling led to a more humanistic driven learning process drawing from personal and experiential knowledge sources.

In the second half of the workshop the group was required to create a digital story based on their translation of the story. The workshop instructor gave an overview of the application of specific digital tools of movie making software, audio recording and internet search through Google and YouTube for images and videos. The group then worked together to create a storyboard of their multimedia project where they associated their written dialogues with visual images searched and downloaded through the internet. The written text to which students' learning has been limited till now was extended through combining the visual and aural modality in the form of digital storytelling. Narration of the story was recorded by the collaborating teacher in this case. Although only one version of narration was opted finally for the story, the exercise of audio recording provided participants a constructive tool and strategy to train and assess the fluency of language. It was also observed within this particular case study that students displayed greater proficiency and enthusiasm in operating digital tools than the teacher in the group. Several instances of it have been noted down in diary logs of the researcher-cum-instructor. One such instance recorded on 17th September, 2019 states that during the process of storyboarding the students had difficulty in visually representing the character of Hafiz Mian. To solve this, students' immediate response was internet search by queries of 'grandfather,' 'old man,' 'old tailor,' 'wizard old tailor' while the teacher suggested a single keyword of 'Muslim tailor.' Another instance recorded in the logs indicates students' proficiency in learning basic computer functions of storing, naming and organising files. The students were able to engage more efficiently with

the digital tools than the teacher who took more of interest in content creation and output.

This case study provided some valuable insights in relation to the transformation of traditional classroom learning. The group served as a probable micro-model for student-teacher interaction in a digital classroom with multilingual instructional method. Although the student-teacher ratio was far less than that of a traditional classroom, the interaction turned out to be constructive and inclusive. The collaborative process enabled students and teachers to partake in each other's learning process. While the presence of their teacher helped students to draw on her knowledge and experience, the teacher too drew upon the students' enthusiasm and novel combination of modalities for devising her approach as a teacher. Apart from the process, the artefact of digital story also became an assessment tool as the teacher later utilised it to assess students' use of language, both in writing and speaking. This case study serves a perfect example of how lessons in traditional classrooms can be re-invented and re-imagined through digital paradigms of engagement.

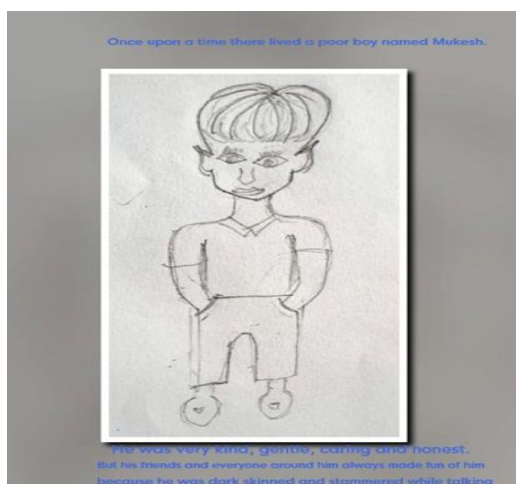## 2.5.2 Digital Story - 'The Struggler who becomes Popular'

Figure 6: Student Illustration
- St. Xavier, Pakyong

Figure 7: Student Illustration
- St. Xavier, Pakyong

This digital story was created by class 7 students of St. Xaviers School, Pakyong in East Sikkim. In this school the teaching learning aspect of digital story was closely studied as the students made digital stories based on their curriculum. Here, the students chose English as the subject from which they wanted to make their digital stories from. These students were being introduced to a chapter on Proverbs in their school curriculum. Instead of only reading about what proverbs were, they were given the task of creating digital stories on the proverbs of their choice. In this three-day workshop organised in St. Xaviers School, Pakyong the first day was dedicated to making the children understand digital storytelling and how one can incorporate this in their curriculum in order to make it more interesting and efficient, the other two days were spent on applying it. Nepali language is rich in proverbs and has a vast range of proverbs that have been passed down through generations. The students were given the freedom to choose the language they would want to make these digital stories in but almost all of them chose to do it in English and also chose proverbs from the English language. It was found that these digital stories that were created as part of their curriculum were mostly in English. It was observed that students from the schools where the medium of instruction was English found it difficult to separate the English language from their curriculum because they are instructed to only use the English language by their school authorities. In this process they end up suppressing their desire to communicate in their mother-tongue. However, these students got more interested in understanding how to make a digital story and this group chose a proverb 'Don't judge a book by its cover' and created their digital story on that. They named the story 'A struggler who becomes famous.' This digital story talks about a young boy named Mukesh who was criticised by everyone around him because he was not good to look at, Mukesh had no friends and lived a sad life. His life changes when he

starts a YouTube channel and uploads his songs as he had a very good voice. Mukesh gets recognised by a well-known film producer who wants Mukesh to sing for him. Mukesh gets famous in no time and becomes a big star. The students through this story wanted to deliver the message of the proverb 'Don't judge a book by its cover.'

If we go by the TCPK model by Koehler and Mishra where the content (C), pedagogy (P), technology (T) and knowledge (K) merge, we see that in this and the other digital stories of this kind are proper examples of this model. The pedagogical aspect is taken care of through open collaboration and moderation via peers and instructor. Digital storytelling works as a tool in enhancing the teaching-learning process as it also makes easier for the teacher as the children also engage themselves with the medium in order to produce these digital stories making it easier for the teacher to capture the attention of the students.

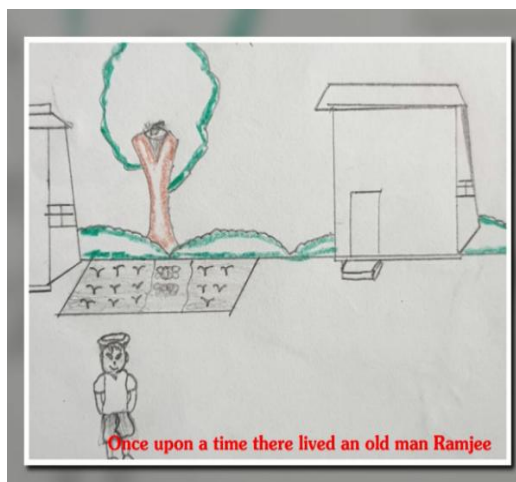### 2.5.3 Digital story - 'The Helpful Man'

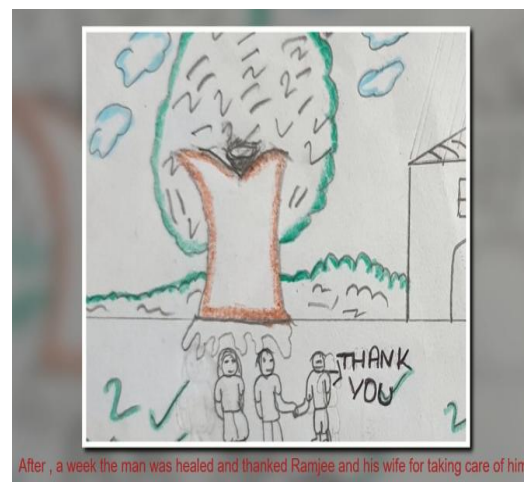*Figure 8: Student Illustration –K. G Balika Vidhyalaya*

Figure 9: Student Illustration – K. G. Balika Vidhyalaya

This digital story was created by the 6 students of Kasturba Gandhi Balika Vidhyalaya, Labing in the western district of Sikkim. The students made digital

stories as a result of a two-day workshop at their school. These stories have been produced as a part of their curriculum from their chapter from the English language subject on proverbs. Here, the students chose the proverb 'Simple living high thinking' and produced the story titled 'The helpful man.' This digital story is created by the students using their own drawings due to the low internet connectivity in that area which made it difficult for the students to download pictures from the internet. These students drew illustrations of their stories which also boosted and enhanced their creativity and made the process of digital storytelling an easier exercise.

2.5.4 Digital Story - 'Malala Yousafzai'

Figure 10: Source - Getty Images   *Figure 11: Source - Getty Images*

'Malala' is another example of a digital story created by the class 7 students of Hee-Gyathang Senior Secondary School, in the Northern district of Sikkim. The group was assigned to adapt a story from their English language textbook into a digital story. Students chose to narrate the story of a Pakistani girl Malala Yousufzai, an activist for female education and the recipient of the Nobel Peace Prize for peace. Like the previous examples, this group of students collaborated with their Nepali language teacher on the project. The students made use of both the stories prescribed

in the curriculum and information gathered through the web learning tools to prepare their storyboard. The process of creating a digital story initiated a rich discussion within the group about Malala herself and the issue of female education in India, thus cultivating an environment for multiple literacies for students.

The group started their task with each member reading the story and making notes of important details about Malala's life, followed by a teacher moderated discussion where the group members shared their insights with each other. The students prepared a rough draft of their script. The details in the rough draft were further worked on by gathering information on Malala and other events relating her. Students gathered an exhaustive amount of data in form of articles, videos and images about Malala through web search. At this point of the exercise, students were given an important lesson of sorting and cataloguing digital data. The instructor with the assistance of a teacher helped students analyse the gathered data and follow the method of critical selection and elimination of the data which meant that students made not only critical choices for their stories but also made relevant and reliant web searches. The group was introduced to a host of web-based learning tools such as Wikipedia, Britannica, YouTube, Google search, Google translate and online English and Nepali language dictionaries.[31] Apart from digital software resources, the group was also introduced to the practice of audio recording. It was observed during the workshop sessions in Hee-Gyathang Senior Secondary School that the teachers preferred an audio recorder when it came to language teaching. The diary log of the researcher made on the during the workshop mentions that at the end of workshop teachers made queries about the price and availability of a portable audio recorder. Some of them also shared their valuable insights on how they plan to include audio-based assessment strategies for language classes. In the context of this particular

case, the story required a simple narration and the teacher encouraged each student to record their own individual iterations of the script which was later utilised by him as a reference for giving feedback to students in English language training. As this project involved majority of its data to be downloaded from the internet, the group was educated about the use of copyright free images and music and were given a list of sources for future reference.[32]

In this exercise the group participated in the process of 'remediation' (Bolter & Grusin, 1999) of their conventional text-based lesson into a digital story. The process of creating a digital story introduced both students and teachers to new strategies and methods of learning and knowledge acquisition. The adaptation of the written text to visual media complemented by the internet and other digital tools extended the scope of classroom learning by establishing an environment of multi-literacies where students participated in digital literacy, cultural literacy, critical and creative literacy. The position of the teacher is also vital to the setup whose role changes from a traditional instructor to that of a moderator and collaborator with the responsibility of encouraging multimodal learning through active participation and regular feedback.

2.5.5 Digital Story- 'John'
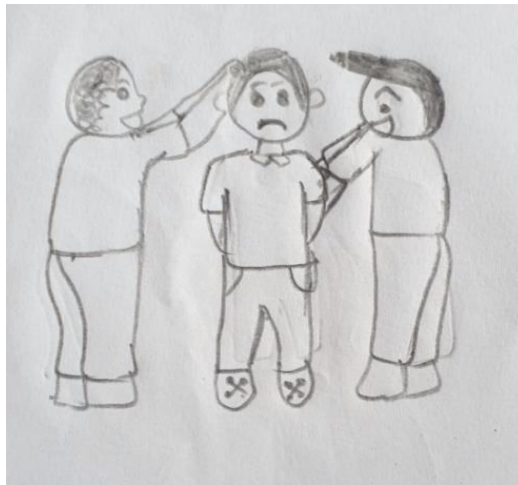
Figure 12: Student Illustration
- Dikling Sr. Sec. School
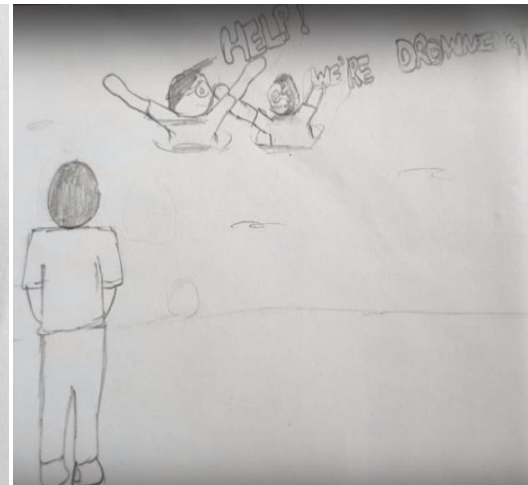
Figure 13: Student Illustration
- Dikling Sr. Sec. School

This digital story was created by class 8 students of Dikling Senior Secondary School. Since this digital story was also made as part of enhancing the teaching-learning experience, this group of students took up a chapter from their English language textbook and adapted it into a digital story, making their own modifications and reworking on it to keep the fluidity of the 'text' intact. The students in this school also chose English as a preferred language of expression. As discussed earlier, constructivism sees knowledge as a construct of the experiences one has had throughout his life. Here the students have been allowed to adapt a story from their curriculum into a digital story, giving the students the freedom to use their experiences and their perception of things and with that how they view the story from their curriculum. They used personal anecdotes and fictionalised some parts of it. This gave the students the liberty to use their imagination and experience and merge it with the content from their curriculum with the use of technology. The students collaborated with their group-mates. They divided themselves into groups of four and two of them worked on writing the story for digital media and the other two worked

on sketching the characters of the story. Thus, a curriculum-based story becomes a multimodal source of literacy in the process of remediation to a digital text. In the process of reimagining a print-based story in a visual form for a digital platform, students took part in multiple phases of learning from a single text.

2.5.6 Digital Story - Rathong Glacier

Figure 14: Source- Google Images   Figure 15: Source- Google Images

This digital story was created by class 10th students of Dikling senior secondary school in East Sikkim. In this exercise the students were assigned the task of creating a digital story based on their classroom lessons of environmental studies. In their Environmental Science subject the students had studied the topics of climate change and global warming. In this exercise the students were required to observe the instances and examples of climate change in the context of their local environment and create a digital story on that. In response to this task the students after initial rounds of discussion and internet search chose to create their digital story on the Rathong glacier situated in West Sikkim. The Rathong glacier is an important glacier to the biodiversity of Sikkim and the adjoining Himalayan regions. The glacier is a source of rivers and is important in sustaining the livelihood of both the humans and

the wildlife. In recent times, however, due to global warming, Rahtong glacier has experienced melting at a faster rate which has also led to occurrences of natural disaster such as landslides.

The students themselves had witnessed numerous instances of natural calamities which had kept them and their family from travelling to town for school and regular supplies. Drawing on their personal experiences, students discussed the potential threats of climate change and global warming. 'Rathong glacier' helped students gather local perspective on how climate change can affect the local communities and the indigenous ways of sustenance. During the process of creating this digital story, students referred to a host of other climate change videos on YouTube. The students took keen interest in writing the narration for the story through which they wanted to educate their community and village members about the adverse effects of pollution and climate change on Rathong glacier. Sikkim each year witnesses a high footfall of tourists from across the globes who undertake trips such as mountain treks. The students contrasted the state-propagated image of their state as a 'tourist destination' and 'organic state' with that of their own as 'vulnerable to climate change'.

It was noteworthy in this exercise that these students prior to the workshop had never participated in an interactive activity on climate change. During discussion with students, couple of students also revealed that they found their environmental studies classes boring. Therefore, through this workshop students were encouraged to participate in a reflective and introspective process of learning. In 'Rahtong glacier' the discussion of climate change was extended beyond their curriculum and students were required to look at their day to day activities and how it impacts the climate.

Through internet search the instructor was able to show students various examples of climate change from around the world. This encouraged students to initiate their personal dialogue among themselves regarding the environment around them and understand climate change in the local context. Students were much intrigued about the environment and climate and tried to explore the facts surrounding it through digital tools which helped them to correlate their acquired knowledge with real life events and instances pertaining to the environment. Students extensively used audio recorder to record different sounds which they could hear around their school. Although the final digital story consisted of only a voice-over accompanied by background music, the operation of digital tools enabled the students to delve into the process of climate change. Integration of digital technology in education thus provides the students with the scope of gaining from both individual and collaborative learning process.

Conclusion

The chapter has discussed pedagogical approaches to literacy within the classrooms at the school level. Starting from the traditional models of imparting literacy the chapter traces the onset of digital phenomenon and subsequent integration of technology in the later pedagogical models. Drawing specifically on the TPCK (Technology, Pedagogy and Content Knowledge) model forwarded by Koehler and Mishra (2006), the chapter explores the current scenario of technological integration in the Indian education infrastructure with special reference to Sikkim. Uses of ICTs in present-day classrooms have been advocated by several scholars (Ertmer 2005; Raji and Madhavan, 2009). However, a comprehensive technological integration can

only be possible through acknowledging digital technology not only as mere extension of traditional methods but as a separate system of learning altogether.

In this respect the research introduced the method of digital storytelling in the classrooms of some schools in Sikkim which did not have much exposure to the digital technology. The method of digital storytelling was preferred over other ICT-enabled methods due to ubiquity and familiarity with the method of storytelling across generations. Use of digital storytelling as a pedagogical tool has been advocated by numerous scholars and professionals (Robin, 2008; Ohler, 2013; Smeda & Dakich, 2012) and while it lucidly explains the utility of the method, regional studies are necessary to explore the intersections and insights between learning and cultural praxis of storytelling. As part of the research fieldwork, digital storytelling workshops were conducted in the schools of Sikkim with dual objective of fostering digital literacy and promoting learning through multilingual and multimodal mode of instruction.

Monolingual mode of instruction has been problematic in the context of the Indian educational system, which caters to students from diverse array of ethnicities, tribes and communities. The case study of Sikkim presented a similar sample of students belonging to native tribes such as Lepcha, Limboo, Bhutia and Rai, who have their own indigenous languages but within the classroom setup. The indigenous becomes subservient to the dominant mode of instruction i.e. English. To bridge the gap between instructional material and everyday life the format of storytelling was employed which helped students look inwards into their 'experiential' and indigenous knowledge and correlate it with curriculum-based knowledge. Presence of digital tools enabled students to have simultaneous interactions with multiple facets of

literacy, such as, proficiency in handling digital equipment, writing for digital media, translation from the written to the visual, collaborative working, multitasking and creative skills.

One of the key focuses of the various approaches to literacy in the 21st century is personality development through inculcating cultural awareness, critical thinking, scientific reasoning and creative expression. Multilingual classrooms of Sikkim proved to be an interesting and readymade example of lateral personality development. To promote learning through multilingual setup, students were encouraged from the outset to communicate among themselves in the language they felt most comfortable in for conveying their ideas. Workshop instructors were also encouraged to engage in a multilingual interaction with students. Diversifying mode of instruction allowed students to interact in a much 'informal' way as compared to the compulsory use of English in classrooms. Conversations between students in their own respective languages enabled them to correlate the academic knowledge with their personal anecdotes, jokes and beliefs. The collaborative work environment, fostered through both the aspects of digital and storytelling also helped in gender fluidity within the classrooms, thereby transforming learning into a holistic and an inclusive process.

Digital technology occupies a central place in the politics of 21st century. In popular culture digital technology has often been problematised on grounds of being disruptive, addictive and artificial but in the context of education it is seen as an enabler which breaks the hegemony of the traditional methods based on linearity and unidirectionality. The multimodality of digital technology opens up networks for both information access and its presentation. It decentralises the activity of teaching by

sharing the responsibility and accountability of the learning process with the students. Digital stories created by students as part of this research were put up for self-assessment and peer review at the end of the workshop. The sole function of the workshop instructor was to facilitate coordination, moderate assessment and review sessions and provide technical support to students. Self-assessment and peer review helped students to witness for themselves the intersections they have explored between their indigenous knowledge and curriculum-based academic knowledge. Utilisation of digital pedagogical methods in education is therefore not only limited to the inclusion of ICTs within the existing infrastructure but also involves the successful utilisation of the digital networks for reassessing the traditional approaches and reimagining the presentation of curriculum-based material. Digital pedagogy reframes the paradigms of engagement within a classroom as it blurs the hierarchy between a student and a teacher. The teacher loses out on the position of being the sole instructor and arbiter of the student's potential and instead is placed in a collaborative work environment with the responsibility of moderating the process of problem solving and decision making. Digital storytelling as a tool of digital pedagogy engages students in learning through the process of collaborative creation and lateral thinking, which merges the academic and the everyday sources of knowledge, resulting in the creation of a 'constructivist learning environment' (Smeda, Dakich & Sharda, 2014).

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Chapter III

Digital Storytelling as an Archival Tool for the Preservation of Language and Culture

Introduction

The practice of archiving is as old as human civilisation and can be traced back to the collection of art and antiquities owned by private collectors and connoisseurs. In simple terms, archiving means record keeping for using or referring to in the future. Our history gets its structure from archives which bear testimony to the forgotten events. Professional practice of archiving as we understand it today traces its origin to one of the 'memorable' moments of the world history i.e. the French Revolution. This was the time when 'archives' became institutionalised and became more complex than simple record keeping. The upheavals during the French Revolution are considered momentous and had it not been for the establishment of 'Archives Nationales' in 1789, the collective memory of the revolution in present times might have been less romanticised and celebrated. Archives shifted away from general record keeping and moved towards a more specific function of preserving and structuring history. Archival libraries were set up to centralise the vast amount of data from various fields and work towards their preservation and cataloguing. State ownership of archives also released archives from private ownership of socio-economic institutions, such as, religion, army and bureaucracy and made it accessible for the general public. Post the World Wars, European countries such as Germany (1952), Italy (1953), United Kingdom (2003) and United States of America (1934) all established archival centres of their own. After a period of destruction and

annihilation of both the human race and its then cultural symbols, preservation of culture became of paramount importance as nations rushed to consolidate and establish a cultural identity in the new world order. India got its national archive as early as 1891 in Kolkata as Imperial Records Department now known as the National Archives of India.

The traditional idea of archives was that of a centralised repository which is basically a storage vault of historically and culturally valuable documents. These documents can be accessed by the public for official and academic purpose either through an online catalogue or by physically visiting the institution. Neat and tidy organisation of archival centres masks the arduous and complex process of preservation and curation responsible for an efficient catalogue system. In popular culture, terms such as archiving, preservation and curation are used synonymously. However, in archival science and related disciplines these terms have specific connotations. Preservation connotes the process through which tangible and intangible artefacts are stored for safekeeping and extended access. At times the process might require digitisation or conversion of physical media into a digital format operated through binary code and at times the process might involve complex chemical procedures for the conservation of perishable physical media. Preservation however, does not guarantee archiving until systematically curated. Curation refers to the overall process of preserving, maintaining, selecting and archiving of the records. Given the vast amount of data to handle, selection might be inevitable in the curation process but inevitably it also spawns the politics of an archive.[33]

A lot of ambiguity surrounds the term 'archive'. While archival and library science provides a functional and technical perspective of archive, studies from other fields, such as, humanities, sociology and anthropology, emphasise the role of archives as an institution. Archive role extends beyond safekeeping and storage of records. Archival information bears with it the hallmark of authenticity and credibility thus becoming fundamental in creating grand narratives of nation, religion, society and culture. Archives appropriate the historical thought and memories according to the vision statement of the state-controlled archives which in turn extend their discourse as the dominant narrative in the public space. Foucault points out the reductive appropriation of archives when he discusses the archaeology of knowledge his book titled the same (1996). For Foucault archives are not static repositories, instead they are the embodiment of memory, history and thought held together in a specific relation through the curative process of governing an institution. The relationship between the artefacts, archive and memory is a dynamic one, rather than a static one, which only presents a part of the knowledge. However, the problem arises when the part is projected as the whole and the fundamental truth.

To each archival discourse exists a counter-archival discourse as "each truth has a varying degree of inter-subjective validity and public legitimacy." (Brown & Brown, 1998). In his seminal essay 'Archival fever' (1996) Derrida contemplates on the very concept of archive and reminds the reader of the intersectional spaces of the public and the private sphere that archives occupy. By drawing on the etymology of the word 'archive' which traces its origin to the Greek word 'Arkhe'- Derrida draws attention to its signifying principles of 'commencement and commandment' i.e. both a place for the initiation of knowledge and also for the initiation of authority and law. Thus,

archives connote not only the preservation of information but also the moral, legal and ontological authority it manifests.

Digitisation has ushered archiving into a new paradigm of the access of information where the boundaries between the public and private spaces have greatly dissolved. Internet has threatened the privileged position of archiving through interrupting and 'talking back' to the institution. Counter archives such as activist archives, slavery archives, women and transgender archives, illness and disease archives, environmental archives, indigenous archives, are sites of alternate knowledge production which are either altogether ignored or find little mention in the history. Unlike the systematic organisation of traditional archives, counter-archives exist at the margins in the forms of anecdotes and what Agamben terms as 'testimony'.[34]

In recent times, digital stories have emerged as an effective and efficient medium for documenting personal histories and narratives. In the following sections of the chapter application of digital stories for archiving is also an exploration of knowledge production through personal memories and testimonies of the common people. Through the concept of 'archive fever' Derrida (1996) presents the paradox of archive, which in its function as a power discourse ends up in subjugating the very model of inquiry which gave it origin i.e. archaeology. Derrida' and Foucault's works thus present the inherent irony of an archive i.e. to maintain its power dynamics, a particular set of records suppresses the narratives of 'others' to create an imaginary semblance of continuity and the fundamental truth over the public sphere it commands.

The use of digital techniques has expanded the practice and scope of storytelling and narrativisation. Digital storytelling as a medium for communication is now increasingly being applied in various other fields and disciplines, such as, education, cultural communication, community building, development communication and health communication for learning and training purposes. Storytelling as a medium has the advantage of developing a personal rapport with its users. Users can relate themselves to the characters, narratives, plots and interactions within the story world. The dialogical characteristic of storytelling further extends the discourse of the story within the lives and actions of the community and the age-old tradition of preserving stories through generations. Retelling of stories bears testimony to its vitality within any cultural setup which bears all the information mostly in the guise of popular entertainment. Popular social media platforms, such as, Facebook, Instagram, Snapchat and similar applications, are examples of how the traditional dialogical model of storytelling has been remodelled around the digital technology for effective communication.

The chapter focuses on how digital storytelling can be a viable strategy not only for learning but also for the preservation of indigenous expressions. A survey of digitised archives of the national libraries such as IGNCA and Sahitya Akademi reflects the importance of digital storytelling as an archiving tool. The multimedia format of digital storytelling helps in the preservation of not only the visual and aural expression but also binds it within an editable format and share friendly package ensuring longevity and extended interaction with the object. In the same vein the chapter argues that digital stories can be instrumental within the setup of a classroom where it can persuade students to participate in simultaneous process of curriculum

learning, creative self-expression and preserving and sharing their personal expressions.

3.1 Digital storytelling as a Tool for Digital Preservation

Digital stories are being extensively used by national libraries for preserving ancient manuscripts, art forms and valuable information on indigenous tribes, cultures, communities and their customs. Not only is the production of digital stories considerably cheaper compared to video production, its short duration and file size also makes it a handy artefact for further distribution. Digital stories are often classified into the category of 'born-digital'[35] artefacts which are originally produced or programmed in a digital format. In the context of digital archiving it is in contrast to the process of 'digitisation' which includes the process of conversion from manual and analogue format to the digital format. Owing to the efficacy of digital technology, enormous data around the world, especially older texts, manuscripts and audio-visual media has been converted into a variety of digital formats. Digital conversion not only preserves the data against physical decay but also opens up their discourse within the digital domain. The process of creating, converting, storing and preserving the data digitally is referred to as digital archiving and curation. Digital archiving and digital curation therefore provide a joint framework for accessing both digitised and born-digital collections.

Digital archiving and curation are often used synonymously to refer to the process of digital preservation. Several scholars and practitioners (Sabharwal, 2015; Cunningham, 2008; Higgins, 2018) however, finds this generalisation problematic citing methodological differences between the practices of archiving and curation. Cunningham (2008) argues for a separate categorisation of 'digital archiving' within

the larger field of 'digital curation'. As a discipline practice of digital curation "involves the preservation, promotion, and providing long-term access to born-digital and digitized collections … with surviving (albeit considered obsolete), current, and emerging digital technologies" (Sabharwal, 2015). Digital storytelling as a tool of preservation has been a vital tool for documentation both for the purpose of digital archiving and digital curation. Since the emergence of the computer-enabled technology and the worldwide web, digital storytelling has permeated the individual's sphere of everyday life where the user can choose to be either a creator-collaborator or simply be a viewer and extend the artefact's network and value in the digital realm. Thus, apart from institutional usage, digital storytelling also provides the scope for preservation through personal documentation. Higgins (2018) cites differentiation in the field of digital curation and highlights "different digital manifestations of information" (p.1329) such as "web-archiving, personal digital archiving, research data management and email preservation" (p.1329) as independent sub-disciplines which require their own set of specialist studies and methods. In the context of this research, digital storytelling as an archival tool for preservation has been situated within the sub-discipline of personal digital archiving.

Personal digital archiving as its name suggests is the creation and maintenance of personal archives either through individual recordkeeping or through the collection of items. In 2013, Library of Congress (LOC) which serves as the national library for the United States organised a conference on personal digital archiving along-with the University of Maryland and Maryland Institute of technology. The major focus of the conference as summarised in LOC's official blog was on "creators of personal digital materials" (Le Furgy, 2013). The key takeaway of the conference was the agreement on the fact that personal archives can also be a meaningful method to reconstruct the

past. Digital technology especially the internet has been instrumental in giving voice to the marginal and indigenous communities. Scholars such as Ronald Niezen (2005) and Patricia Search (2007) point to the use of digital technology for cross-cultural communication which has led several indigenous groups to maintain a strong digital identity while at the same time also acting as the archival resources for their communities. While storage of media for personal documentation, memories and collections is a common practice, especially after the advent of social media, personal archiving faces the challenge of curatorial rigour so that the information stays preserved and accessible over a long period of time.

In contrast to institutional archiving which houses artefacts of national and cultural importance, personal archiving bridges the gap between the institution and its everyday manifestation. While scholars acknowledge the importance of personal documentation, several limitations have also been observed in the curation and stewardship of personal records. According to Catherine Marshall, most of the personal records either faced benign neglect form its owner or were preserved through simplistic methods of backup and replication (qtd. in Cushing, 303). She highlights other challenges such as distributed storage of personal data; long-term access and accumulation of information within the personal database which makes the method of personal archiving even more complicated (qtd. in Cushing, 2010). Keeping in mind the advantages and challenges, this research situates the method of personal digital archiving within the discipline of pedagogy and digital humanities. Using digital storytelling as a tool within the classroom, the research has attempted to curate a personal digital archive guided by the practice and rigour of pedagogy and humanities.

3.2 Digital storytelling as a Curative tool for Preservation and Pedagogy

Digital stories are an example of 'born-digital' artefacts which are conceptualised and disseminated through the use of ICTs. In the previous chapter the thesis presented a discussion on the use of digital storytelling as a pedagogical tool in classrooms. This section is an extension of the same argument through the illustration of the integration of digital storytelling as a tool for the preservation of language and culture through classroom pedagogy. The thesis explores the application of digital storytelling as a curative tool. Preservation is not a primary task of classroom pedagogy nor is its tools aligned for the task of systematic preservation. The multilingual and digital context of the study presented an opportunity to explore the use of digital storytelling in the creation of personal archives in classrooms. The use of digital storytelling as a tool of preservation and documentation has already been undertaken in several studies and works on counter-archives and alternate archives have been done. The study draws upon the social and collaborative aspect of these practices and attempts to situate it within the multilingual classroom pedagogy.

Much of the focus of the new pedagogies is on encouraging literacy through multiple and diverse sources for culturally inclusive learning. The emphasis on linguistic diversity in an instructional framework of these strategies makes it best suited to establish a setup of collaborative story-telling within a classroom which promotes learning through personal memories and shared histories. Digital story serves as a multimodal learning process through which learners can mould a composite artefact by combining their imagination with formal and informal sources of learning. Studies done with indigenous communities and marginal groups focus on active participation of these communities through encouraging them to look within

their social and cultural context for local knowledge sources and utilise the format of digital storytelling to give them a 'voice' for conveying their ideas. The 'born-digital' characteristics of digital stories ensure storage and extended access to their voice. This research explores similar application of digital storytelling in the context of multilingual pedagogies in the classrooms of Sikkim. The study acknowledges the complex and systematic procedure of preservation and therefore the emphasis of this research was to ascertain digital storytelling as a curative strategy to explore the intersections of learning and preservation.

Acquiring of knowledge involves the intertwining of learning and preservation as knowledge is supposed to be acquired, preserved, applied and distributed. Preservation and distribution of knowledge is largely dependent on practices such as storytelling, performative arts and formal education. Oral and performative archives are in fact among the oldest forms of records which have been passed through generations with subtle modulations. Technical paucity of the earlier generations had made only limited documentation of the information possible. However, with the digital technology it is now easier than ever to record and documents these ephemeral sources of information. The professional discipline of archival science lays emphasis on the source and veracity of the information which overlooks the personal and the oral archives as their authorship remains unattributed, but the meaning and message largely remains present in the social conscience of the community. Informal learning of students includes interaction with these sources of information during social and cultural participation.

Curation is one of the fundamental principles of digital pedagogy. In what is reflective of its principles, Modern Language Association (MLA) has hosted an online and open peer review site for the development of its new publications.[36] In the context of classroom pedagogy, digital storytelling presents itself as a useful curative tool to organise the learning material in a manner that it encourages an individual to draw on one's personal and cultural sources of knowledge. As a process, creating digital stories involves gathering and combining of diverse material such as images, audios, videos, graphics which allows the student to actively participate in associating the everyday discourses with the institutional discourses of knowledge. At times, it gives rise to new perspectives which might re-contextualise or re-imagine the objects and events from the existing archives. As an artefact, digital stories emerge as an independent and collaborative media artefact which is indicative of not only students' learning and participation but also leads to the creation of 'Nomadic archives' (Callahan & Kuhn, 2011).

'Nomadic archives' falls under the concept of participatory archives coined by Isto Huvila in 2008. In contrast to the institutional archives, nomadic archives are fluid and 'remixed' formations of the existing scholarship. Practice of nomadic archives integrates the inherent strategies of interrogation and observation in the learning process with the practice of curating the archive i.e. to supplement it with contextual inquiries with changing times. The digital platform further enables the locally produced born-digital cultural artefacts to converge with the mainstream sources of inquiry through web hosting and open access for the purpose of further knowledge creation. Nomadic archives as a pedagogical strategy for digital humanities forwards an intercultural and interdisciplinary learning through merging with practices of alternate and marginal knowledge domains such as environment,

illness, LGBTQ, personal narratives of minorities, migrants and refugees, indigenous communities and similar others. In the context of classrooms, the practice of creating personal archives needs to be implemented through curriculum-based exercises or workshops which assist in providing a context for personal narratives of the students. Digital storytelling as a tool for creating a digital artefact and as a process of creating personal narratives thus situates itself at the intersection of learning and preserving.

In the context of multilingual classrooms, the concept of 'nomadic archives' presents an interesting opportunity to explore the application of digital storytelling as a curative tool. Integrating digital storytelling with literacy has been advocated by numerous scholars and practitioners (Robin, 2001; Lambert, 2002; Ohler, 2006). Several long term and pilot projects have been implemented worldwide across schools (Banaszewski, 2005; Gyabak & Godina, 2011; Staley & Freeman, 2017) and universities/higher education (Ribiero, 2016; Chan, Churchill & Chiu, 2017; Anderson, Chung & Macleroy, 2018) to engage students and teachers in collaborative learning and creative expression. Although effective, most of these projects centred on learning of a particular subject or language through digital stories. Critical connections- a multilingual digital storytelling project initiated by the Goldsmiths University in United Kingdom (U.K) is perhaps one of the most comprehensive projects aimed at making digital stories a viable medium for the purpose of both learning and archiving. Although in the project's handbook it nowhere mentions the term 'archiving' yet the autobiographical and fictional expressions of students through their stories preserve a vital part of that very everyday discourse which goes missing in the annals of national and institutional archives.

The project - 'Critical Connections' is relevant for the purpose of this research primarily for its vision and methodology of using digital storytelling as a curative tool. Based in United Kingdom, the prime focus of the project was to collaboratively engage with multilingual and multimodal literacies found in the present-day classrooms. Citing existing literature, the project acknowledges the limitations of previous studies which remains "narrowly focused on literacy in the dominant language and fails to… build on the multilingual literacies or the technologically mediated literacies that form a significant part of students' cultural and linguistic capital." (qtd. in Anderson, Macleroy & Chung, 2018). In collaboration with the teachers and students of mainstream and community schools in and around London as well as from overseas schools from Algeria, Palestine and Taiwan, the two-year project (2012-2014) explored a 'transformative pedagogical approach' using digital stories which recognised "social and cultural as well as intellectual and technological dimensions to learning" (Anderson, Macleroy & Chung, 2018).

This research takes its cue from 'critical connections' project and situates digital storytelling within multilingual classrooms of Sikkim. However, apart from the learning process this thesis also explored the scope of personal archiving at the intersection of formal learning, cultural communication and individual expression. Within the multilingual classrooms of Sikkim, digital stories sought to produce a reflective inquiry through collaborative participation of students from different indigenous communities and produce a shared spectrum of knowledge. Practice of storytelling encouraged students to correlate their text book lessons with real life experiences and memories. In doing so the students presented their versions of indigenous knowledge which by far and large find seldom mention in the mainstream discourse. As a curative tool, digital storytelling encouraged students to 'remix' their

sources of knowledge to create cultural and creative artefacts based on their imagination and acquired knowledge. The creation of digital stories apart from enhancing literacy skills of students also led towards a first-hand documentation of indigenous expression. Student-created digital stories also bear testimony to the constant flux and transformation in erstwhile perceived static domains of cultural archives. The open access to personal narratives created by the students of Sikkim situates itself within the gap of missing archives of indigenous knowledge and also bears testimony to the changes and transition in perception, application and in the use of the indigenous knowledge domain. In the following sections, the thesis aims to discuss the digital stories created as part of this research through the lens of personal archiving after giving a brief overview of the digital literacy and digital archiving in India.

3.3 Digital Archiving and Literacy: An Indian Perspective

Demographically India is a heterogeneous mix of diverse cultures and communities. The Indian constitution officially recognises 22 languages as 'scheduled' languages and promotes their learning and usage. Apart from these 22 languages, a large number of tribal and indigenous communities exist across India having their own languages and dialects and indigenous communication methods. Many of these communities are situated in remote locations with no direct access to the mainland thus contributing too little or zero awareness about them amongst the mainland population. The sum total of information being generated within these hugely diverse and scattered Indian demographics is undoubtedly immense. Digital technology thus proves itself to be a practical and a viable medium not only for self-

expression and networking of multilingual society but also to preserve and archive the vast repository of the existing knowledge.

The Government of India, since independence has been taking various steps to integrate digital technology into the mainstream. Since the initial step of introducing computers in government and other learning institutions back in the decade of 1960-70s, current Indian classrooms are being transformed into 'smart' classrooms with laying emphasis on interactive learning. According to the TRAI (2019), India has over 560 million internet subscribers with a growth rate of 9.32%. (p.4). This makes India the second largest Internet user base in the world after China. Interestingly, this number only accounts for 25% of India's population which has internet access as digital penetration is almost negligible in the majority of rural and tribal areas. The growth trends, however indicates positive growth in the diffusion and adoption of digital technology in India. In March 2014, Government of India rolled out its National Digital Literacy Mission (NDLM) with an aim of training rural and remote communities in the use of Information and Communication Technologies (ICTs).

Apart from digital literacy, Indian government over time had also initiated several missions and projects for the preservation of its vast and diverse cultural heritage archived in rare and perishable formats such as manuscripts, analog tapes and films, rocks, caves and memory – highly susceptible to generation loss and natural decay. Ministry of Culture in collaboration with the National Informatics Centre (NIC) has been conducting digitisation of Indian Archives. In relation to this thesis are the national libraries and art organisations which preserve and curate the literary and cultural archives. Indira Gandhi National Centre for Arts (IGNCA) is a government-funded arts organisation and houses an exhaustive collection of cultural

documents and artefacts. With its centres across India, IGNCA has a comprehensive catalogue of cultural texts of multifarious indigenous communities. As of 2016, IGNCA had digitised a substantial amount of their collection as shown in the table below:

S.No.	Resource Type	Total Collection	Digitized Collection
1	Books	1,60,000	25,500 (15.93%)
2	Periodicals (back issues)	2360	600 (25.42%)
3	Manuscripts	2,50,000	1,50,000 (60%)
4	Microfilms	20,600	12,000 rolls (58.25%)
5	Images	1,14,700	1,00,000 (87.18%)
6	Audio recordings	5,000 hours	1,800 hours (36%)
7	Video recordings	3,000 hours	1,200 hours (40%)

Figure 16: Digitised Collection in IGNCA - (Samar Bakshi, 2016)

In northeast India - where this research is geographically situated, specifically in the state of Sikkim- digital archiving is yet to establish itself in a formidable manner. State archives exist in each of the respective states. However, most records are either of official nature or are related to the history of ancient kingdoms in the region. Reflecting upon the conditions of public libraries in north-east India, Sinha (2016) highlights the 'deplorable' condition by observing the fact that out of the eight states only three states - "Manipur, Mizoram and Arunachal Pradesh have enacted library legislation in their states" (p.448).

In contrast to these public libraries, university and college libraries of the region have considerably developed with better infrastructure for preservation and access of information (Sinha, 2016). Lack of infrastructure has also been responsible for the low digital literacy in the region. In 2017, Assam government launched its 'Jyoti Chitraban Digital Archive' which made it the first state from North East India to

launch such an initiative with an aim "to digitise every audio-video material from Assam and Northeast India, and store and preserve all such materials of archival value for posterity." More recently, the central government has launched its 'Digital Northeast Vision Document 2022' campaign to 'improve digital connectivity and infuse digital literacy' in the region.

The eight states from North East India boast of high literacy rates with Tripura and Mizoram recording literacy rates over 90% according to 2011 census and other states falling between the 70-80% ranges. In spite of high literacy rates, knowledge from these north eastern parts of India has largely been at the margins of the mainstream political discourse. Ironically the presence of traditional archives further restricts the dissemination of north eastern knowledge within the community of 'powerful' few with access to the institution. Libraries of central universities, state universities, colleges and other research institutes in the North East although have equipped themselves with digital infrastructure and includes a much diverse repository of information on the region but within the public domain indigenous cultures and stories from North East are still limited to few published books and oral narratives.

There is an obvious gap within the national archives of personal and everyday lives of the indigenous communities primarily because archives, especially national, are bound to be selective due to the institution they embody. They manifest the latent identity and the power of the nation and thus make the personal and everyday expression a secondary artefact in the pursuit of a singular national identity. Brown (2013) in an introduction to a special issue of journal *'Archival Science'* presents a vital insight that "prejudice or persecution may equally be encouraged through the

creation and keeping of records" (p.87). Thus, it is crucial for archives as a discursive system (Foucault, 1972) to create a public sphere where "archives are of the People, by the People, and for the People" (Ketelaar, p.18).

In the Indian context, the traditional archives need to get digitised not only for the preservation and cataloguing of records but also for providing access to information and creating a digital network wherein the institutional and the personal archives fill each other's gaps. Ketelaar provides valuable insights regarding the future of archives and also draws upon the importance of individual and personal memories in the reconstruction of our past. The memory of a nation as embodied by archives is actually an assortment of individual memories of its citizens. Thus, to make archives more people-centric it is imperative that people themselves participate in the maintenance of and access to these archives. Given the ease and efficiency of creating digital stories, they have been a preferred format for multimedia archiving. In the context of this research effort has been made to explore the use of digital storytelling in the creation of personal archives of Sikkim and how digital stories can be a vital way of creating a state of 'archival memory'. This project realises its logistical limitations in creating what Ketelaar (2003) suggests as 'archival memory'. However, it focuses on one of the aspects i.e. of public participation in creation of relevant and context-based information and how it can help towards the creation of a more open and an inclusive archive.

3.4 Sikkim in Archives

Sikkim was incorporated as an Indian state on 16 May, 1975. This was twenty-eight years after India gained its independence. Its history can be divided in pre-merger and post-merger periods to the Indian state. Before its accession to the

Indian union, Sikkim was ruled by the Chogyals from the royal family of the Namgyal dynasty. As an independent kingdom, Sikkim enjoyed the status of a princely state in British India and after India's independence in 1947, it chose to remain a protectorate of India until April 14, 1975 when through a referendum Sikkim was included as the 22nd Indian state. The political and cultural history of pre- and post-merger periods have been documented within various sources ranging from official political and historical documents to personal memoirs, travelogues, religious scriptures and folk stories from the region. The most common of these sources are the political records and documents which have been preserved in the National Archives of India. The national archive houses documents of official nature including treaties, agreements, surveys and orders passed by previous administrations. Cultural records on the other hand are preserved by centres such as IGNCA, Sahitya Akademi and regional government centres which document the traditions, lifestyle and language of indigenous tribes of the state.

As a part of the fieldwork, multiple visits were made to the IGNCA centre in New Delhi. The aim was to get an overview of the literature on North-East India with special focus on the cultural texts pertaining to the indigenous communities of Sikkim. During these visits, a diverse range of material on North-East India, both in print and in audio-visual format, were found in IGNCA, New Delhi. One of the earliest works found in the library related to the state of Sikkim was of G.A. Grierson's titled 'Linguistic Survey of India' first published in 1909. Divided in three huge volumes the survey is an interesting study of British attempts to map the vast multilingual demographics of an undivided India. The third volume of the survey is on 'Tibetan-Burman' family of languages wherein it talks about the languages and dialects of Sikkim among many others spoken in the Himalayan region. The survey

identified Bhutia, Gurung, Lepcha, Limbu, Rai, Thangmi, Murmi and a number of other dialects being spoken in the region. Other significant texts on Sikkim included Geoffrey Gorer's '*The Lepchas of Sikkim*' (1987), '*A Grammar of Lepcha*' by Helene Plaisier (2006) and '*Encyclopedia of North East India*' by Majid Hussain (1998). These works were based around the study of language and practices of indigenous tribes in Sikkim. Books and studies on Sikkim by native writers were however absent from these archives. Among the multimedia catalogue published on IGNCA's website there were only two documentaries specifically dealing with the cultural aspects of Sikkim - '*Buddhism in Sikkim*' and '*A Dialogue with women – Priestesses of Lepchas*'. These documentaries are available for purchase from the library's official store in the form of a CD and DVD. The documentary on Buddhism in Sikkim traces the origin of the religion from Tibet and follows its assimilation in the socio-political realm of Sikkim especially within the Lepcha tribe, which is considered to be the oldest native tribe of Sikkim. Spanning through different eras, the documentary presents a multi-ethnic and multilingual socio-cultural fabric of Sikkim, weaved within the culture of Buddhist teachings and principles. The other documentary on the priestesses of the Lepcha community documents the indigenous practices of the Lepcha women who are said to possess magical and divine powers. The documentary discusses the multiple roles of these Lepcha women within their native communities and sheds light on the rituals and practices associated with becoming a Lepcha priestess.
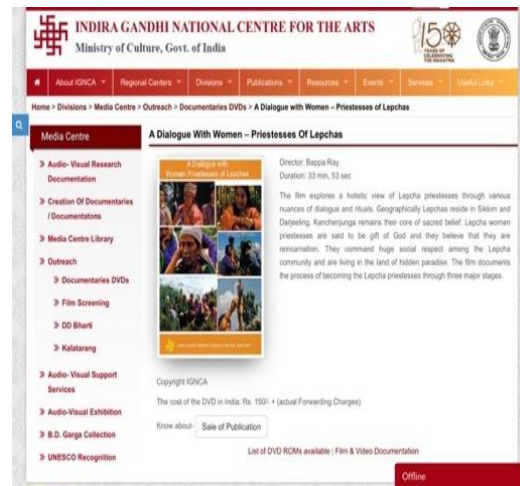
Figure 17: IGNCA Website Screenshot1   *Figure 18: IGNCA Website Screenshot 2*

In Sikkim, the scholar visited the Sikkim State Archives and state library located in Manan Kendra, the designated cultural centre of the Sikkim government. The visit was undertaken to gather an overview of the information preserved in the state repositories and also to assess its current digital infrastructure. Established in 1990, the Sikkim State Archives largely houses official documents dating back to the pre-merger days of Sikkim, when the state existed as a sovereign kingdom. The documents preserved within the archives are mainly past government gazettes, arms permissions, cardamom taxes, land deeds, educational grants, environment protection laws etc. These documents albeit a valuable historical source does not reflect the cultural diversity and practices of the state. The old laws and deeds give the reader an idea about Sikkim's evolving demographics. However, it doesn't reveal anything about the rituals, folklores and the cultural history of the people. In comparison, the state library in Manan Kendra had a more extensive collection of books ranging from fictional to academic texts documenting the cultural history of Sikkim. A common observation shared between both these State institutes was that entirety of their material exist in the form of text-based versions which needs to be physically

accessed by the reader. Unlike the national libraries, both these centres had little to negligible digital infrastructure for digital preservation and archiving of its documents. The Sikkim State Archives has its own website[37] which hosts selective digitised content in the form of old gazettes of the government and several old pictures of political significance. Sikkim's state library in Manan Kendra which holds bulk of the cultural documents on Sikkim is yet to formulate a digitisation strategy for its documents. Lack of digitisation has not only limited the access of the existing documents but has also restricted the inclusion of contemporary digital and born-digital texts in its catalogue.

Most of the government archives and official records are curated so that they are representative of the state's cultural and geo-political features and also keep in line with the nation building project of national archives. One of the major examples of this was a documentary on Sikkim, made by one of India's most eminent film director Satyajit Ray in 1971, and called 'Sikkim'. This documentary does not find any place in national archives and its sale and screening was banned in the country until recently in 2010 when the ban was overturned by Ministry of External Affairs (MEA) only to be replaced by an injunction later in the same year by the High Court of Sikkim banning its screening[38]. The documentary directed by Ray was made at the behest of the 12th Chogyal of the erstwhile Sikkim kingdom, who invited the director to make a film depicting Sikkim's sovereignty. One of the five documentaries ever produced by Ray, 'Sikkim' presents the cultural practices, natural landscapes and lifestyles of its native tribes along with the depiction of ceremonial events and festivals conducted by the royal family. The documentary was supposed to be a symbolic re-assertion of Sikkim's sovereignty to the international community through highlighting the philanthropic and welfare measures taken by the royal family, along

with a self-effacing display of diversity of various tribes, religions and languages. After Sikkim's accession to the Indian union, the documentary was considered to be a subservient text. The documentary neither saw an official release nor was any attempts made for its systematic preservation. In the same timeframe, works by important personalities of Sikkim such as Lal Bahadur Basnett's – *'Sikkim: A Short Political History* (1974), Brajbir Saran Das's – *'The Sikkim Saga'* (1983) and Datta-Rey's – *'Smash and Grab: Annexation of Sikkim'* (1984) presented a political account of the internal and external affairs of Sikkim during the period of integration with India.

A considerable corpus of work has emerged from both native and non-native writers, directors and academicians who have focused on diverse facets of Sikkim's culture. J.R. Subba's exhaustive anthropological works on the culture, customs, religions and mythologies of native tribes are vital resources of information on Sikkim's bio-diversity.[39] In similar vein, works of T.B Subba, another eminent scholar from Sikkim, have documented the religion and culture in the whole Eastern Himalayan belt comprising of North-east India.[40] Apart from formal works, there are creative works which display individual angst against the backdrop of changing Sikkim such as Nari Rustomji's – *'Sikkim, A Himalayan Tragedy'* (1987), A.R Foning's *'Lepcha, My Vanishing Tribe'* (1987) and *'Time Change'* (1980) by the former Queen of Sikkim, Hope Cooke. Among non-native writers, travelogue on Sikkim by Arundhati Roy (2001), Andrew Duff's *'Sikkim: Requiem for a Himalayan Kingdom'* (2015) - a revised journalistic account of the political merger with India and most recently, G.B.S Sidhu's *'Sikkim: Dawn of Democracy'* (2018) which documents the role of Indian intelligence services during the political merger of 1975 are some of

the relevant contemporary documents which present historical facts along with contextual insights into the life and culture of Sikkim.[41]

In more recent works, film makers from the region have made an important mark in respect to carving their own niche of creative expression. Moving away from the formal explorations and documentation of history, the film makers utilize the natural landscapes of Sikkim as a site of conflict, protest and individual aspirations against the modern-day backdrop of identity politics, especially as a north eastern Indian. The contemporary works reframe and reconfigure the traditional perspectives on diversity through inverting the crucible of diversity and unsettle the deep-seated bias and prejudices within the social structures. Karma Takapa's *'Ralang Road'* (2017), Tribeny Rai's *'Yathawat'* (2020), Angel Tshering's *'Buwa'* (2020) and *'Kitabein'* (2018) are some examples of independently made and produced films which have gone on to earn national and international acclaim.

In contemporary times, besides the institutional archives, cinema, personal memoirs and academic researches- personal anecdotes through short videos and digital stories have emerged as another way of documenting context-based information and insights by both native and non-native users. Travel videos and blogs on YouTube by tourists, videos on steps and procedures of organic farming in the state, food preparation recipes of local dishes, wedding and festival videos are some examples of simple videos which through documentation of the everyday activities also document the issues of topical importance. Marginal archives of climate change, mental wellness and vernacular creativity are other such topics that often get subsumed under the grand narratives of Nation-State building. Thus, digital stories can be utilized as a form of public testimony to the institutional records which

preserves the factual along with the contextual. In the following section, the chapter presents a descriptive analysis of the digital stories created as a part of storytelling workshops conducted as a part of this research with special focus on the practice of personal archiving through contextual learning.

3.5 Multilingual Digital Stories as Personal Archives: A case study from the schools of Sikkim

A total of 10 workshops were conducted in the state of Sikkim in 10 schools over a period of one year. 25 students were selected from each school thus involving 250 school students in a process of creating digital stories. The objective of the workshops was to simulate learning and creativity through engaging students in conversations with each other in a language they were most comfortable in. In some cases, students opted for English while others chose to express themselves in their native languages of Nepali, Limboo and Lepcha. Digital stories offered the students a chance to look inside their everyday experiences and relate it to their acquired classroom knowledge.

The participation and collaboration among students led to several interesting stories which also provided new insights on possible applications of digital storytelling within the region of Sikkim. Digital stories as personal archives were one of the approaches which were outlined during the process of the workshop. Students collaborated and engaged in conversation among them and the topics they chose for story creation were mostly personal anecdotes involving their friends or some member of their family as characters. The following section discusses some of the stories created by the students of the various schools of Sikkim with special focus on the aspect of personal archiving.
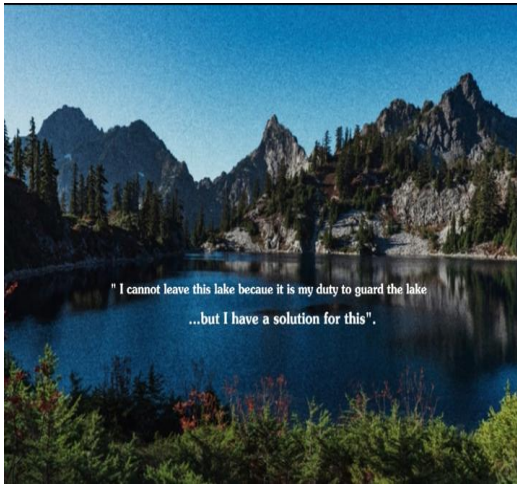
3.5.1 Digital Story: Tingyounk Lake

Figure 19: Source- Google images

Figure 20: Snapshot of Student's personal postcard - Hee Gyathang Govt.School, Hee Gyathang

This particular digital story was produced during the workshop conducted in Hee-Gyathang Senior Secondary School in the village of Hee-Gyathang in North Sikkim. The story talks about the 'Tingkyoung Lake' which apart from being a tourist spot also holds a spiritual significance within the indigenous community of the Lepchas. The Lepchas are one of the indigenous tribes of the village of Hee-Gyathang and form the majority of the population of this area in Sikkim.

The story traces the myths and folk beliefs associated with the lake through personal anecdotes of an inhabitant. This digital story has been created by the students of class 10 of this school and they have been hearing these stories that have been passed on through generations about this lake in their locality as well as several other myths that have continued to fascinate them through generations. With the archiving of these stories one can be assured that these myths and folklores that have been transmitted through generations will now remain preserved. The plot about two men fighting for a woman and the woman choosing the stronger one, who wins in this

sportive duel, is an archetypal plot that has been the centre of many folk stories. However, something that stands out in this plot is the environmental implication this story holds. The woman, who was the goddess of this Thingkyoung Lake, when she chose to marry Think Gokmu, assigned the fishes of the lake the task of looking after the lake. It is because of this belief embedded in this story that these fishes have remained unharmed in this legendary lake, thereby, helping in the conservation of the ecosystem of the region. This story also gives us an insight into the Hi-Young Ming Moo Clan, a clan that has not gained enough visibility.

The idea of metamorphosis which is deeply ingrained in every literature and culture is also found in this story of the Thingkyoung Lake. The insect that falls from the hair of the Lake goddess is transformed into a fish which is responsible for guarding the lake. This can be compared to the spider from Ovid's 'Metamorphoses' (8th A.D. circa), Kafka's insect from his short story 'Metamorphosis' (1915) and so on. In digital stories like these archiving becomes very necessary so as to preserve these culturally woven stories and make them part of the larger archiving discourse. Preservation of these folk stories, passed on through generations about a geographical location, becomes important in order to study the place, its culture and its people.

3.5.2 Digital Story- 'The Sacred Boy'

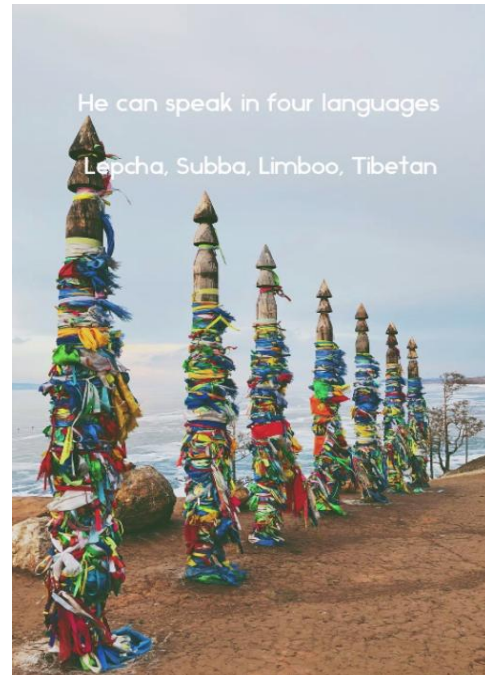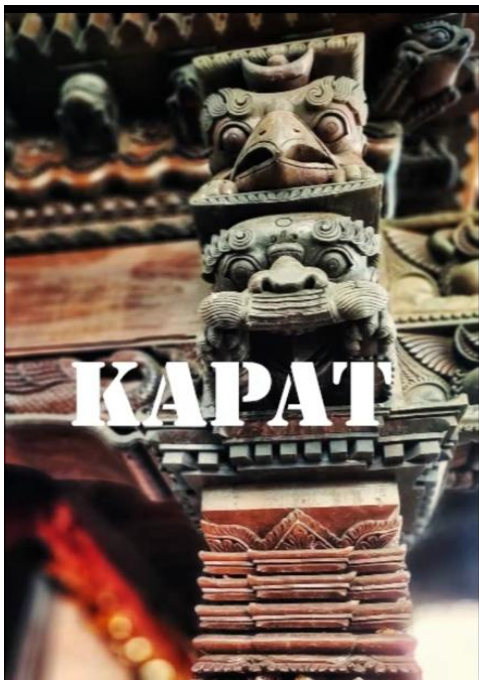*Figure 21: Source - Google Images*   *Figure 22: Source - Google Images*

This story was also produced as part of the workshop conducted in Hee-Gyathang Government School. The 'Sacred boy' is an innovative creation in the context of personal archives. The story traces a rural legend about a local boy who studies in the same school as the creators of this digital story. This boy is believed to possess magical and spiritual power. Widely disseminated within the local rural community of the Hee-Gyathang village, this boy is considered to be a healer who can cure illness through his magical instruments and spells. Despite his unique power the boy who goes by the name of Kunzang Sherab Lepcha is not a celebrated personality. He leads a normal and quiet life of a boy but is respected in his village for his special healing abilities. Narrated in Lepcha, Nepali and English, the young creators of the story provide their impression of the 'sacred boy' whom they know as a friend within the school and a spiritual healer within the community.

The story is an interesting example of how archives exist at intersections of history, folklore and popular imagination. The 'Sacred Boy' though unique in his abilities and revered by fellow villagers is yet another incarnation of popular folklore of spiritual healers. The texts on Lepcha communities cite the significance of spiritual healers and witches within the local traditions of the community (Panda & Sangram, 2009; Subba, 1999). Animistic religions around the world share the core belief that spirituality or divinity manifests itself through objects, especially living ones including humans and presence of it remains continuous throughout generations and thus the idea of reincarnation is strongly ingrained in the animistic belief system. In the Lepcha tradition 'Sacred boy' is one such reincarnation of a spiritual healer in long list of healers, both old and contemporary.

Beliefs and rituals although specific become a part of everyday routine of a community. They become part of both tales and factual records. As they continue to carry through time across generations, practices develop new dimensions in response to popular imagination. Archival records preserve the information on traditional practices. However, its multiple interactions and intersections with other objects over time are overlooked. This is not to be seen as a drawback but as a functional limitation of institutional archives which deal with the vast amount of information across various domains. Personal archives can prove to be a viable resource in supplementing the institutional archives within the formation on the individual and everyday instances of traditional practices and thus also preserving the movement of these practices through time. The point demands reiteration of Ketelaar's (1999) argument of establishing a network of 'archival memory' which lays emphasis on connecting institutional archives with everyday memories of a personal archive.

The 'Sacred boy' thus becomes an important story or a personal archive not only because of the boy but also through its rendition. Its contemporaneity is what makes it so bizarre to see a school boy as a spiritual healer. The familiarity of the 'local' story creators with the subject greets the unfamiliarity of a foreign viewer which builds up a tentative and curious case for further exploration of the Lepcha traditions. Personal anecdotes and memories are thus valuable for the understanding of this age-old tradition

3.5.3 - 'Kapat'

23: Source - Google Images   *Figure 24: Source - Google Images   Figure*
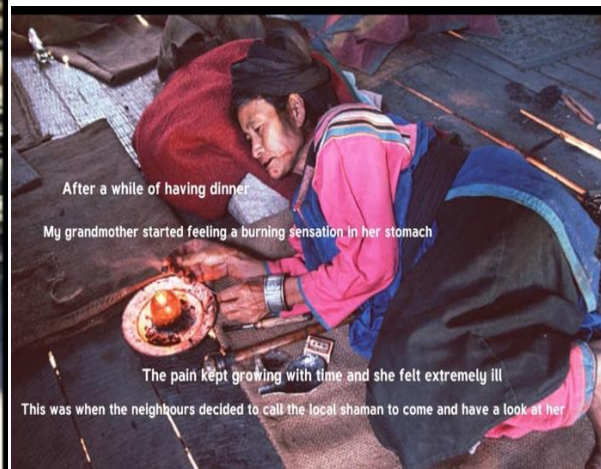
This story was created by the class 10 students of the Government Senior Secondary school situated in Rorathang a village in East Sikkim. The story is about an ancient and unusual practice of 'Kapat' in certain parts of Sikkim. 'Kapat' is believed to be a local poisonous herb used for the practice of witchcraft and hence the folklore around it is about evil and disturbing stories of witchcraft and devil worship. It is

known to be still used in some parts of Sikkim and some parts of sub-Himalayan West Bengal. It is believed that if a life is lost and if there is suffering caused to the victim due to this poison, it brings wealth to the family that poisoned them. This is an age-old practice that passes through generations, which requires a human sacrifice to appease these dark gods and goddesses so as to bring wealth and prosperity to the family that indulges in it. There is very scanty research about 'Kapat' and most of it which is available is through oral narration of stories from their grandparents and great grandparents. Students here believed that the practice of Kapat is still prevalent in places in Sikkim and were keen to share their versions of the story of 'Kapat'.

This digital story is a personal archive that sheds light on this ancient practice taking place in the hills of Sikkim. Another interesting observation made in this digital story created by the students is the use of female characters in this particular story. Poison is mostly seen as a weapon used by women to destroy women, be it from the fairy tales we read as children like snow-white or several Victorian fictions and Shakespearean plays. Women have been seen as the main perpetrators in carrying out heinous crimes related to poison from a safe distance. In 'Macbeth'(Shakespeare,1623), we see the three witches brewing a potion made of the "Eye of newt, and toe of the frog, wool of bat, and tongue of dog" (Macbeth, Act4, Scene 1), among several other things. The witches while telling us about the recipe of their deadly potion say that it is made up of the "Root of Hemlock, diggedi'th' dark", this recipe of the witches in 'Macbeth' resembles the recipe of 'kapat'. It is believed that 'kapat' is also made up of some lethal root found deep within the forest. The people who perform the practice of 'kapat' have to go in the middle of the night, dig it out and collect it from there. However, the practice and the recipe of the poison are

not yet completely known as it is a confidential thing which only its practitioners or the shamans know about.

These are a few interesting observations and analogy one can draw from these oral folklores of the hills to the western ones and this kind of analogy is made easier to carry out when these small personal incidents from these remote areas are archived and kept available for the people to look into it in the future. Students made use of personal anecdotes to breathe characters into the story to narrate about a practice of which all of them were indirectly part of as members of their respective communities. The story was enriched with the use of visual materials which in this case were photographs to further demystify the practice and also overcome the language barrier. English subtitles were added later to make it more accessible especially for the urban Indian readers. The digital story preserves both the information about the ancient folklore as well as its contemporary reading.

3.5.4 Digital Story- 'Limboo Community'

Figure 25: Source - Google Images   *Figure 26: Source - Google Images*

This story was created by the class 9 students of Lachen Secondary School in Lachen in North Sikkim. Lepchas and Limboo tribes are believed to be the original inhabitants of Sikkim. Anthropological works of writers like T.B. Subba, J. R. Subba and even international scholars such as G.V Driem, M. Vandenhelsken paint a vivid ethnographic picture of indigenous tribes residing in the Himalayan region. Limboo which means 'Archer' in the English language (Subba,1999) descends from 'Kirati' language which is a part of Tibeto-Burman family of language (Grierson, 1981). Limboos are originally the followers of an animistic religion called 'Yumaism'. However, with time these tribes have adopted Hinduism and also Christianity and Buddhism. According to the official statistics provided by the State Socio-economic census, Limboos form 26.5% of the total tribal population of Sikkim (SSEC, 2006).

The story focuses on the musical traditions of the Limboo culture, particularly the diverse use of musical instruments during different community gatherings. It talks about how even in the same instrument the tones vary in different ceremonies that adds to the mood of that particular ceremony. Limboo language was the mother-tongue of the students who took part in creating this digital story. In this story we hear the students narrate in two languages- Limboo and English. The students chose not to stick to only one language for narration since they felt that switching from one language to the other helped them describe their culture in a more effective manner as certain cultural concepts lose their essence when translated. With this study being supportive of the use of more than one language in the classroom the students were encouraged to express themselves in the most natural manner like the way they would have at home or with their counterparts elsewhere. Students used their personal photos along with stock images to show different Limboo festivals and events.

This digital story is a short introduction to the Limboo musical instruments which encouraged the students to make a similar one on Limboo dance forms and the Limboo funeral customs. The students being able to create and preserve content based on their cultural practices proved to be enjoyable as well as stimulating for them. Personal archives are relatively fragile as there is no record keeping or cataloguing of personal memories and anecdotes. However, the medium of digital storytelling enables not only their documentation and preservation as archives but it also makes a rather important intervention in the mainstream discourse where they gather a renewed sense and meaning in the multimedia package. Bolter and Grusin (1999) describe this process as 'remediation' which in the context of this research happens with the myths and folklores of these indigenous communities. For ages they have existed either as oral narratives or memories but the multimedia format of digital stories makes the past relevant to contemporary perception.

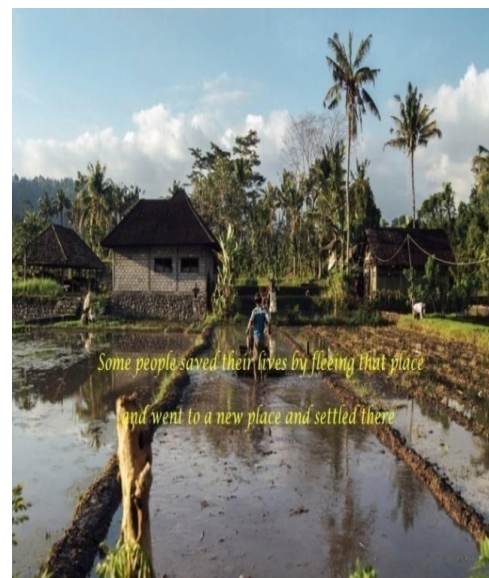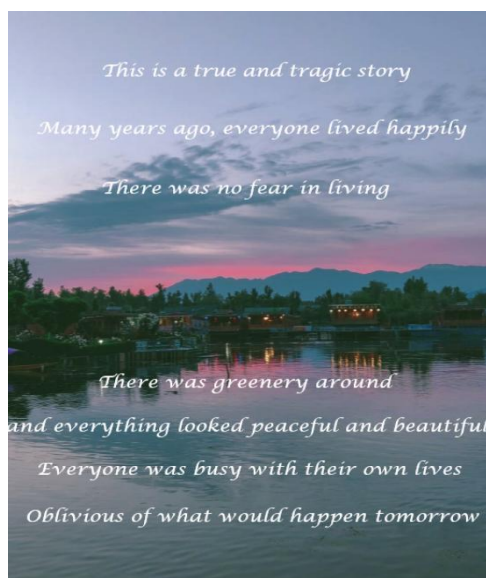### 3.5.5 Digital Story- '1968 Landslides'

Figure 27: Source – Shutterstock Images   *Figure 28: Source – Shutterstok Images*

This digital story has been created by the students of Government Senior Secondary school in Rorathang village in East Sikkim. The story is about the devastating landslides in the Sikkim-Darjeeling region in 1968. Over 20000 landslides occurred during that year and a village of Rorathang was one of the severely affected areas by this devastating landslide. Students who created this story recalled the incident through the experiences of their elders. The story centres on this violent natural calamity that made the inhabitants of an entire village homeless, thereby necessitating the relocation of this village in its entirety. The massive loss and destruction that occurred in the hills and mostly in the village called Rorathang, has been archived in this digital story.

Although the hills are often seen as a place where the environment is not as disturbed as in the metropolitan cities, one cannot lose sight of the recurrent landslides that have been taking place in the region due to deforestation and other man-induced factors like rampant digging for construction purpose and mindless tampering with the landscape without regulated drainage system. The story has a clearly minatory aspect to it. The hills with all their serenity and peace are also a potential bioregion but the humans who claim to be the sole custodians of this space should also remember that nature will retaliate and cause havoc; transform this pristine space into a sight of horror if they continue to remain callous in their attitude towards nature and the physical environment. The story is in Nepali with English subtitles, which fit in well in a multilingual setup of these classrooms.
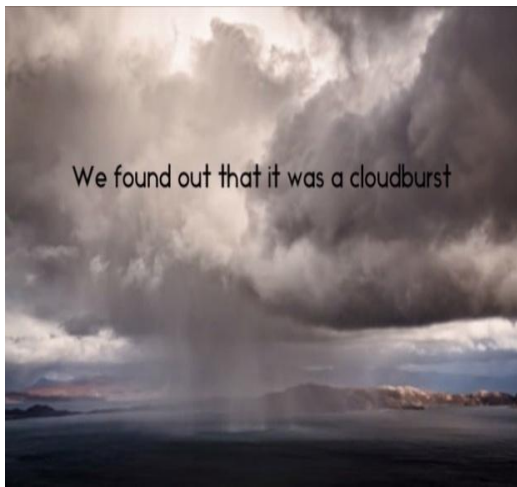
3.5.6 Digital Story- 'Cloudburst'

Figure 29: Source - Google Images

Figure 30: Source - Google Images

This digital story was made by the class 7 students of Kasturba Gandhi Balika Vidhyalaya, Labing. Labing, is a small village that lies in the western part of Sikkim. It is a remotely located village where one reaches after a very long and tedious drive from Gangtok. These students were very keen on creating and sharing their stories. This story talks about the cloudburst that took place in village Tsong, near Yuksom in west Sikkim. Cloudburst has occurred a few times in this region in the recent years. However, cloudburst was not a common natural phenomenon in the past. Cloudburst is something the inhabitants of this region could have been facing for a long time but possibly had not come up with the correct nomenclature for the calamity. This is yet another disaster which could be a product of the misdoings of the human race towards nature. This cloudburst led to tourists in the area getting stranded and houses being destroyed. This area is a small village and relies mostly on farming and animal husbandry for a living. This cataclysmic event led to the death of a large number of animals that these people depended on for their livelihood. In situations like these the loss of animals is something that does not draw much attention and is extremely

saddening. The government, however, provided relief to these people and helped them rebuild their houses. The people of this area are still traumatised and fear the very sight of monsoon clouds as potentially destructive and evidently unpredictable.

3.5.7 Digital Story - 'Geetanjali'

Figure 31: Source - Google Images

Figure 32: Source - Google Images

This digital story was produced by the class 9 students of Machong Senior Secondary School in east Sikkim. This story talks about one of their dear friends whom they chose to name 'Geetanjali' here and how she dies by committing suicide which leaves her family and friends devastated as they try finding answers to why would she take that desperate step. Teenage suicide is one of the major concerns of our society that does not get as much recognition as it should. The stigma that surrounds mental health is one of the major reasons these children are not heard out and have no one to talk to about their problems to. It is alarming to note that in the course of these workshops that were held in various schools all across Sikkim, suicide was one of the recurrent topics that these children wanted to make digital stories on. Suicide was the most common theme among all these stories that the students wanted

to be made into digital stories. According to an article in 'The Print' published in January, 2019 "in terms of suicide rate in the last decade, Sikkim has the highest (37.5) among all states and the second highest in the country after the Union Territory of Puducherry (43.2). Suicide rate is the number of suicides per one lakh population. According to the 2011 Census, Sikkim's population was 610,577." The state of Sikkim is said to be the worst affected area. Although at the face of it Sikkim appears to be one of the most harmonious states in India and is also considered one of the richest states of India these figures of suicide cases in this part of the region keep increasing. As suicide has become a recurrent phenomenon many of these students have got de-sensitised to this issue, which has been a matter of concern. They just live with this grim reality, often plagued by questions to which they do not find answers.

Topical issues such as suicide, depression, climate change, are widely discussed and debated topics. However, such issues seldom make the archival repository. Medical and clinical issues are mostly absent in archives. Due to the social stigma attached to mental illness archives on illness, disease and epidemics are suppressed. They become memories that are often ignored and forgotten. The everyday discourse of health is perhaps more closely related to our personal memories. While some might indulge in self-destructive or hurtful behaviour, all human beings at some stage of their lives have to grapple with issues of mental health. However, the silence around these issues even in the present age is disconcerting since we see the world as a 'Global Village' in an age of 'information explosion'. The point here is not to blame institutional archives rather it is to highlight the issues which we as a society chose to ignore. Documenting sensitive health issues is definitely not an easy task given the amount and vulnerability and personal emotions

of the patient and family at stake. Hence it is only proper for these narratives to be documented through a more personal sort of medium which is objective but also not intrusive. Digital stories can potentially circumvent the grand narrative of archives and break down challenging period of illness into heartfelt factual accounts. 'Geetanjali', the story under consideration, is one such anecdote dealing with suicide, penned by the young student creators', gives voice to a phenomenon which has been at the margins of the mainstream and historical discourse since generations.

3.5.8 Digital Story - 'Chinta' or 'Deliberations with the Spirit'
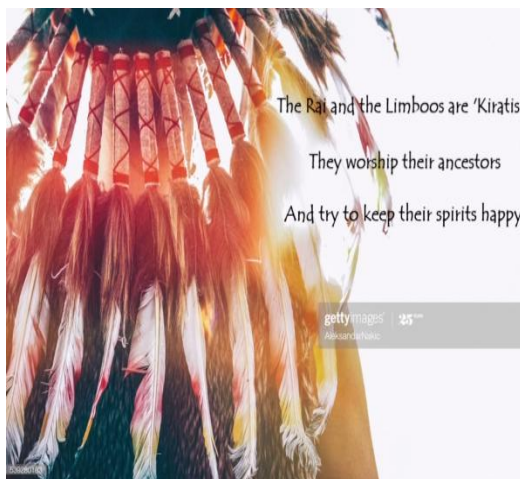
Figure 33: Source - Getty Images
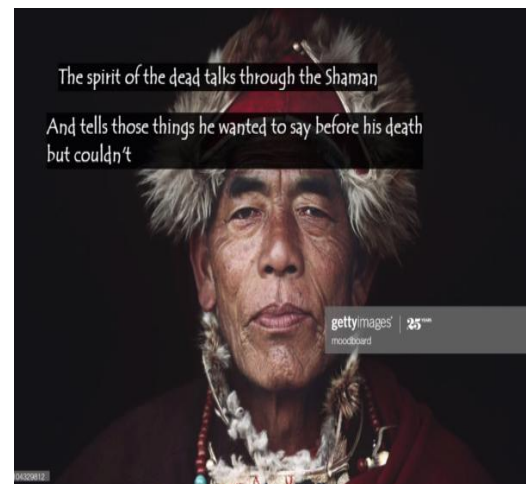
Figure 34: Source - Getty Images

This digital story has been created by the class 8 students of Lachen Secondary School in Lachen in North Sikkim. In their story the students documented the practice of 'Chinta' or deliberations with a spirit which they usually witness after the funeral of the deceased in their family. The ritual is conducted by a local shaman referred to as a 'Jhankri' who summons the spirit of the dead to know about the last wishes of the deceased person. The ritual has been in place for ages and happens in most Nepali households of the Rai and the Limboo communities.

Initially all the participants were given the task of writing an essay on any family event they were a part of. The purpose of this exercise was to make students practice writing from memory and work on the skill of visualisation. The students wrote about different ceremonial events such as marriage, funeral, sibling birth and similar others. One of the students wrote about a family funeral where she mentioned the practice of 'Chinta' and her experience as a kid about it. The students collectively agreed to create a digital story about the ritual as they all had been a part of family funeral and shared similar experiences. Thus, even before the actual digital story was created, the students had participated in aspects of cultural learning and experiential learning through sharing their individual commentary as a contemporary resource of knowledge about an age-old practice. During this process students were closely guided and the discussion was moderated for better integration of their memories in their story. The digital story was thus a collective artefact which embodied memories, literacy skills, collective authorship and a personal archive.

The personal nature of funerals is emotional and highly subjective. However, the rituals and manners of the funeral service is a community-stipulated tradition. Practice of 'Chinta' is a commonplace practice as a sequel to funerals and traditional texts do mention the prevalence of the practice since earlier times. Beyond these local tribal communities, however, not much is known about the ritual or about the tribe of the 'Jhankris' who conduct it. This digital story situates itself in this narrative of flux and provides a contextual understanding of the practice as it is understood in contemporary times. The students documented both the ritual of the 'Chinta' along with their experiences of witnessing the different stages, and aspects of the ritual.

The role of the local shaman within these indigenous communities range from diagnosis and cure of illness to conversations with spirits of the deceased. An archive is essentially always in mobility as archival sources of knowledge, especially cultural artefacts, do require a supplemental inquiry which fills in the contextual gaps related to time. Digital stories as personal archives are best suited to fill in the gap as storytelling allows people to create contextual records of their memories and expressions and digital platform ensures a structured platform to host of such alternative sources of inquiry through assuring longevity of storage, access and distribution. Digital stories thus fill in the gaps of static archival knowledge through supplementing it with contextual inquiries from everyday life.

Conclusion

In the contemporary times of globalisation and hybridisation, cultural economy to a large extent is governed through media networks. Appadurai makes mention of the 'mediascapes' while discussing how media networks is one of the fundamental structures to understand the global cultural economy (1999). This is not to be confused with a technologically determined argument on the lines of Marshal McLuhan or Harold Inn where media becomes the message/massage. The emphasis here is rather on the phenomenon of 'mediatised culture' where the media impacts culture through exponentially changing the dynamics and the flow of its consumption, distribution and even its ownership. In the context of digital archiving, archives are no longer restricted to the privileged few, as archival networking, especially through internet and social media has let the dominant and the counter discourses co-exist.

Personal anecdotes, memories, testimonies etc have been the subject of oral and written literature since the inception of meaningful interaction and

communication. It is through personal texts that age-old traditions and stories percolate into the everyday life through generations. However, personal texts are seldom kept as official records which make these texts susceptible to travails of time, such as forgetfulness, silence and physical damage. Personal texts are mostly not considered as official records as they are not regarded as a legitimate source of information, given the humanistic overtures of bias, prejudice, age and other similar factors. Presently, there is a need to re-imagine the archival structure in the context of the digital which connotes not only the technology but also the information management and flow. Digital technology has made it both easier and affordable to document and preserve these personal texts. Digital stories, documentaries, video games, social media etc are some formats out of the many digital formats which make digital documentation of personal memories possible. In this research, digital stories were explored as digital archiving formats for personal anecdotes and memories through the perspective of pedagogy so as to retain the 'curatorial rigor' of the content generated. This research is an exploration to merge the personal expression with the pedagogical rigour, such that it fosters participation and learning among students and teachers.

Based in the state of Sikkim in North-East India, the research focused on the school-going students, most of whom were first generation media learners. The workshop was conducted with the initial aim of introducing digital stories in a classroom for personal and creative expression. However, over the course of the workshop the stories created by young students revealed an absent archive as they retold the tales of the past through their own personal anecdotes and memories. The stories covered tales both from their own communities which addressed the age old myths and practices along with the topical issues which have been historically present

but seldom voiced within the mainstream discourse such as suicide and climate change. Student-created stories rekindled the dormant archives of indigenous communities, environment, climate and mental health particular to the area of Sikkim. Given the poor library infrastructure in the north eastern part of India, coupled with negligible mainstream representation, digital stories present themselves as a viable format to extend the archival discourse in the mainstream through the use of digital media in the entire region. The authenticity and credibility of the people-made artefacts can be verified through a community elder or a local instructor before adding it to the local bank of YouTube videos or internet blogs or any preferred media platform.

As mentioned above internet in the recent times has challenged the position of archives as a knowledge source. However, the virtual space of the World Wide Web is less efficient for browsing for these archives than a systematically organised archive catalogue. The respective drawbacks of each of the knowledge source could be their meeting point towards the creation of an archival network which involves a greater public participation. While the internet can ensure greater participation, it is also essential that the information hosted on web be regularly updated and about its context technically understood as meta-data. A successful archival network is one which provides a democratic access to a diverse range of information of both official and personal nature. The purpose of an archival network is to create a public memory rather than a collective memory based on the idea of pluralism and inclusivity.

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Chapter IV

Digital Storytelling as a Tool for Nurturing Creativity

"We don't need no education

We don't need no thought control."

(Another Brick in the Wall, Pink Floyd, 1979)

Introduction

In 1979, Pink Floyd -the famous English rock band released their single 'Another Brick in the wall' which was to become iconic in the coming generations not only because of its musicianship but also the stand it took against regressive conditioning in classrooms. The opening lines of the song as quoted above goes on to become a polemical lyrical piece and music video against the then education system. The song rejects out right education and knowledge in favour of creative thought and liberty. Often accused of killing creativity through coercive discipline and treating students as empty vessels, classroom pedagogy has been at odds with creative expression of students if not creativity per se (Gabora, 2017). The songs still resonate in the present times where although pedagogical strategies have developed, they still require students to adhere rigorously to the school curriculum. In contrast to the traditional instructional method of teaching, educators and learners in the 21st century have increasingly studied and forwarded the idea of 'creative pedagogy' (Cremin, Teresa; 2015), which is to integrate the process of learning and creativity in pedagogy. Creativity is a "complex and elusive" phenomenon for study as the process of creativity is both individual and collective and is rooted in the context it is practiced in, which makes it hard to categorise or define in any one particular way.

Thus, to study the inter-subjective process of creativity it needs to be observed or studied around a context from where creative expression extracts its material from.

In the context of this research, creativity was situated for study within the school classrooms in the state of Sikkim in India. Toeing the argument of 'Digital creative pedagogy', digital storytelling workshops were conducted in selected school classrooms with students ranging from 6th grade to 12th grade. Schools were selected from each of the four administrative districts of Sikkim state for the purpose of workshops i.e. North, South, East and West Sikkim. With the exception of the East district, majority of the population in other districts reside in rural areas. According to a Census of Sikkim conducted in 2011, 74.85% of the total population of the state resides in the rural areas. Only East district has majority of its population living in urban areas which amounts to 56.81%, while North (89.38%), South (85.56%) and West (96.15%) accounts for majority of rural population. Special focus was given to the rural districts while selecting schools for workshop with the objective of introducing first time learners to digital technology in the context of learning. Schools situated in rural areas were government run and had either bare minimum or negligible digital infrastructure in classrooms. Thus, the workshops conducted in these schools primarily focused on i) cultivating digital literacy and ii) creative expression through digital storytelling. In the following sections, the chapter will discuss creativity theories in the context of digital learning with special reference to the use of digital storytelling in enhancing creativity in the classrooms of Sikkim.

4.1 Creativity Theories in Learning and Education

Etymologically, creativity comes from the Latin word 'creare' which means 'to make or create'.[42] Creativity can be described as a process which leads to the

formulation of something original and innovative which can be either a physical object or a intangible one. Creativity has been the cornerstone of cultural and social force of civilisations. It has been a subject of study in various disciplines ranging from psychology, philosophy, education, artificial intelligence, business studies, sociology, humanities and cultural studies.[43] In popular culture 'creativity' has become a buzzword for organisational policies, artistic endeavours and media artefacts for describing their vision. The complexity in studying the process of creativity arises from the fact that though it is relatively easier to study the creative process in the context of a particular work or an author, creativity in general resists any sort of classification owing to the high degree of subjectivity involved in any human-oriented process. In the process of assimilation of digital technology in culture, traditions and everyday practices globally in the 21st century, creativity has found another playground within the diverse range of digital virtual landscapes and its interfaces.

Creativity research initiated as a discipline around 1950s and since then it has produced diverse set of studies from varying perspectives. One of the remarkable features of this domain is that in spite of the evident differing perspectives and logical propositions coming about because of the utilization of different definitions, creativity research has utilized an assortment of definitions, hypotheses and evaluation to share a common level of understanding. P.K. Welsch (1980) looked into 22 meanings of creativity and proposed the accompanying definition:

"*Creativity is the process of generating unique products by transformation of existing products. These products, tangible and intangible, must be unique only to the creator, and must meet the criteria of purpose and value established by the creator.*" (Welsch, 1980).

A similar definition yet slightly different on grounds of validation of creative phenomenon, P.E. Vernon (1989) describes creativity as:

"Creativity means a person's capacity to produce new or original ideas, insights, restructurings, inventions, or artistic objects, which are accepted by experts as being of scientific, aesthetic, social, or technological value."(Vernon, 1989, p. 94; cited in Rhyammar and Brolin).

These undercurrents of subtle differences run throughout the domain of creative research owing to the virtue of creativity being a phenomenon which can be contextualised through various socio-political and cultural perspectives. Historically, Rhyammar and Brolin (1999) observes that creativity research can be divided in four different research strands i.e. i) '*Personality aspects'*, ii) '*Cognitive aspects'*, iii) '*Stimulus studies'*, and iv) '*Social-psychological studies*. (1999, p.262).

In the context of education, creativity emerged as a subject of focus during the 1960s when studies were done to differentiate between creativity and intelligence as distinct categories (Runco, 2014). Within the traditional learning structure, intelligence quotient (IQ) of a student is determined through curriculum-based assessments such as examinations, tests and assignments but curriculum knowledge is not indicative of a student's creative potential. Early studies by Getzels and Jackson (1962), Wallach and Kogan (1965), Wallach and Wing 1969, Runco (1987) demonstrated through empirical investigation the difference between creativity and intellect in a classroom setup. The students were assessed through ways of tests which aimed to measure both the creative potential and the intellect. This eventually led to the conceptualisation of convergent and divergent thinking in classrooms. J.P Guilford the founder member of American Psychologists Association (APA) was the

first to propose these two distinct styles of thinking in a series of lectures in 1950. Runco (2014) describes convergent thinking as one which encourages students to use logic to find the correct answer and a single solution to a given problem from a given set of knowledge which encourages students to use imagination to generate a number of ideas and possible solutions to a problem through open ended reasoning. Creativity was seen as a part of divergent thinking as the creative process encompassed all walks of life and most importantly creativity was not conducive to the traditional structure of learning in classrooms based on convergent thinking.

Within creativity research, creativity is identified both as a problem-solving process involving behavioural and cognitive aspects of an individual and also as a unique artefact which has certain distinctive properties over other popular artefacts. The 'Four P' model of creativity of developed by Mel Rhodes (1961) is a widely recognised and adapted model for studying creativity. It broadly dissects creativity according to individual and socio-cultural dimensions in four categories of 'persons, process, press and products.' In context of education, the four – P model addresses creative development of students both as an individual process and also as part of one's socio-cultural context. In 1967, Edward De Bono proposed a third structure for creative problem solving which he named as 'Lateral Thinking'. De Bono's approach incorporated rationale and creative mind for innovative and creative problem solving. De Bono (1992) illustrates how innovativeness can be utilized in reasonable manners "1) For improvement: - finding an enhanced method of accomplishing something, 2) for problem solving - to locate the best and effective solutions, 3) for the future –to predict the outcomes of an activity and to produce further options for thought and 4) for motivation- innovativeness makes individuals intrigued by what they are doing (De Bono, 1992).Models of creativity were significant developments towards building

of creative exercises for students of primary and higher education. In addition to providing advantages to society there are numerous preferences for the individual as well in advancing imaginative and creative faculties. The emphasis of 'lateral thinking' is on both rebuilding the conventional examples of information and in inspiring the making of new thoughts. It urges the students to search for arrangements from both formal, informal, popular, tradition and other vast array of sources. To summarize, creativity has been explored through different meanings, at different times and in different contexts. Generally, creativity has been discussed in terms of its end product- the creative person, the creative process and the creative environment.

4.2 Creativity and Digital Pedagogy

Creativity in education can be classified broadly into two areas i.e. creative expression and creative problem solving. Subject based curricular emphasises on creative development activities in education can be classified in these two respective areas. Creative expression signifies primary works of art such as storytelling, poetry, sketching and similar activities in which imagination is utilised for the purpose of articulation. Creative problem solving on the other hand involves activities which focus on designing innovative and unique solutions in the context of a particular situation or environment. Subjects of language, literature, art and history employ pedagogical strategies which foster creative expression while subjects of science, social sciences, and computers employ pedagogical strategies that foster creative problem solving. The distinction between these two areas is not exclusive and the inter-disciplinary pursuit of inquiry in present times fundamentally requires permeable domains of knowledge. However, for the purpose of training and skill

acquisition, breaking down the process of creativity into the above-mentioned domains helps in the designing of relevant instructional material and activities.

Creativity as a process involves both the cognitive and behavioural aspects of the students. Hence, the pedagogical strategies designed for creative assessment needs to address the inherent multimodality involved in the imaginative process. Traditional strategies have commonly focused on the creative skills of students through the core skills of reading, writing, reasoning, argumentation, performance and illustration. Digital pedagogical strategies rework the configuration of traditional skills through the process of introducing digital multimodality in the teaching-learning process. In the context of this study, digital storytelling was tested as a pedagogical tool in multilingual classrooms of Sikkim with one of the objectives being to foster the creative engagement between the students and their learning material. Apart from introducing students to digital modalities such as images, sounds, graphics, internet and software programme, the practice of digital storytelling sought to re-configure the conventional two-sided communication model in classrooms through adding collaborative work ethics and multilingual communication to the learning process. The presence of a digital paradigm of communication offers the student an opportunity to work in a networked space (both online and offline) with a larger pool of information, digital tools and assets. Creative development is fostered within digital pedagogies by encouraging both the creation of the original content and the re-mixing of the existing material.

Re-mixing of information to create new meanings has been greatly assisted by the digital paradigm of communication. The presence of the internet, social media platforms, editing software programmes have led to the emergence of alternative

sources of knowledge and entertainment in the popular culture in forms of memes, gifs, video games and advertisements. Learning through re-mixing of information is also one of the fundamental strategies within digital pedagogy. The process of re-mixing information primary involves using existing information in new contexts such that it ascribes new meaning or connotation. For example, Mahatma Gandhi preaching about peace through an English rap song.[44] In the educational context of the schools of Sikkim where this research is situated, digital storytelling as a practice was employed as a bridge between the curriculum-based knowledge and the personal domain of knowledge built through personal experiences and social participation. Students were encouraged to look for real life experiences or anecdotes to represent their classroom learning concepts. For example, in one exercise students were asked to create digital stories only from existing downloaded images based on the proverbs taught in the class. In this process, students actively participated in creating an 'assemblage'[45] which comprised of copyright free downloaded images, self-recorded audio, copyright free background score and their original writing. The practice of re-mixing not only gives student opportunities to create new associations and combinations but is also vital for keeping knowledge relevant.

Creative development is also greatly determined by the social and cultural background of students which plays an important part in developing their identity and develops their outlook towards their environment. In culturally diverse societies, such as in Sikkim, indigenous knowledge of the local tribes and communities along with their native language forms a vital aspect of the vernacular creativity. Most of the schools follow English as the primary language for the purpose of teaching and learning. Digital storytelling workshops were situated within this gap to introduce multilingual instructional framework and indigenous contextual knowledge to

enhance creative thinking and creative problem-solving in the immediate context of the students. Tasked with simple exercises, the students were encouraged to interact and collaborate through the workshop sessions in any language they were comfortable in. Through multilingual interaction, the students were encouraged into a creative thought process by way of informal communication and were later moderated through guidelines of the exercise.

Digital storytelling as a pedagogical tool for fostering creativity also offers a constructive and tangible strategy for creative assessment. As discussed in the previous sections, creativity can be represented through both the process and the artefact. Both the creative process and creative artefact, although two sides of a same coin, represents two different manifestations of creativity. While each individual has its own unique creative process of imagining, combining and associating things, creative artefact on other hand can represent collective creative vision of a group or a society. In context of the workshops conducted in Sikkim, students participated and worked in groups of four. Each group was tasked with creating a digital story based on a particular exercise. The student participation and creativity was assessed through analysing individual student participation in the group, assessment of creative artefact as a collective object and self-assessment through peer review. The details of how these workshops were designed for creative assessment have been discussed in a later section of this chapter.

4.3 Creativity Studies in India

National Curriculum Framework (NCF) of 2005 published by NCERT recommends a revision to the syllabus design in schools through "softening of subject boundaries so that children can get a taste of integrated knowledge and the joy of

understanding." (2005, p.viii). Nonetheless, the present instructive framework and its unreasonable schedules are tiresome for students and their inventive creative mind is stifled and often obstructed by it. The entire focal point of the present instructional pedagogy in schools is based on assessments and grades, with sole priority of transmission of information as opposed to determine meaning (Raina, 1989). A great deal of emphasis is put on logical thinking at the expense of unique reasoning. In India, the instructional and learning pedagogies in schools is generalized due to overemphasis on repetitive learning at the expense of genuine comprehension (Singha, H. S.,1991). Other studies conducted by Rastogi (1967) and Chatterjee (1970), Sehgal (1978), Sultana Ahmed (1980) highlight the sort of school the student goes to is an important factor in development of creative faculties. These studies concluded that in India the students of schools with better infrastructure performed better in creativity tests than students of schools with inadequate infrastructure.

Lack of assessment parameters for creativity is also one of the major drawbacks of existing education system in schools. Though the school curriculum framework allows the space for creative development but in the absence of assessment parameters, creative exercises remain largely restricted to the domain of 'extra' curricular activities which are non-essential for students' passing of grades. Various comparative investigations have been conducted between government and private schools with regard to creative development of students.[46] As per the 2015-16 report by District Information System for Education (DISE), responsible for monitoring the education and infrastructure in primary schools, only 52.4% of primary schools all over India have access to electricity (DISE, 2016). Another glaring feature was the average student classroom ratio and average student ratio which although boasts of healthy national average (DISE, 2016) however crosses the

recommended ratio of 30 students to 1 teacher high in some states above, especially the ones which are densely populated. Adequate teacher training is another important factor to consider while assessing creativity in schools as Chakraborty (1992) cites that little to no attempt is made by the teachers to promote creative thinking in classrooms. An investigation of instructors' perspectives and mentalities in India towards the advancement of inventiveness is critical to give proof to help with advancing change.

Scholars have also observed that school educational plan doesn't offer significance to individual experience of the students and it doesn't help in personality development of students which is helpful for the improvement of the innovative potential (Agarwal 1992). This might be because of ignorance about the significance of imaginative ability or due to insufficient teacher training which might prove to be an obstacle while identifying creative aptitude of students. It is hard to speculate on the utilization of course books and other classroom exercises yet for the most part they work in tandem with the curricular policies and the larger framework of national development which posits more emphasis on the factual knowledge. In India, creativity research has basically centred on the development of creative tests and other co-social investigations of creativity with idea, insight, personality and accomplishment (Reddy, 1999).

4.4 Digital Storytelling and Creativity

Storytelling and creative expression share a symbiotic relationship with each other. Texts since ancient time bear testimony to the creative streak of imagination of numerous writers, philosophers and artists who have captivated generations through their works. The popularity of storytelling rests in its ability to provide its readers and

listeners an alternative narrative domain which could either mirror reality or present fantastical figments of imagination. Thus, the practice of storytelling is often considered as a common outlet for creative expression. Digital storytelling remediates the traditional process of creative imagination and expression through use of digital modalities for visualisation of imagination. Along with the addition of multi-media artefacts, digital technology has also made the structure of storytelling more flexible and dynamic. Owing to these characteristics, digital stories have been utilised for various other purposes other than creative expression such as for cultural documentation, advertisements, language learning etc.

The flexibility of duration, diverse representational modalities and online sharing platforms has re-incarnated the practice of storytelling through the digital paradigm, making it a collaborative and a networked workspace. As a creative tool, digital storytelling provides users with a vast repository of assets and resources which can be utilised towards creating visual story worlds. The format of digital storytelling has also transformed the interaction patterns with stories. Interactive stories which require user participation and input, transformed the conventional method of understanding stories through reading and listening. Current examples of interactive digital stories can be seen on social media platforms such as - Snapchat, TikTok, Instagram, video games, news and entertainment websites, which let users 'play' and manoeuvre the story-world in their own course and speed.

Another feature of contemporary digital stories is its emphasis on linguistic diversity and pluralism. As discussed in the previous sections, the continued popularity of digital stories owes primarily to its creative use of the vernacular, making stories relatable and rich with the nuances and sensibilities of everyday life.

Digital stories act as hybrid models for formal and informal learning where material from diverse walks of life can be organised, structured and re-mixed in creative ways. Digital paradigm of storytelling provides creativity a multimodal platform through which users can form diverse forms of associations, combinations while simultaneously reaching out to like-minded people over the internet through instant sharing, either for feedbacks or further collaboration.

Given the multifarious uses and applications of digital storytelling in contemporary times especially in popular culture, scholars and educators have also supported the inclusion of digital storytelling in the domain of education both for the higher and primary levels of learning. Educators like Robin (2008), Ohler (2010), Burgess (2016) have emphasised the use of digital stories as a gateway to the introduction and learning of 21st century literacy skills. The set of 21st century literacy skills addresses the multicultural milieu of contemporary world which situates creative expression as an integral part of learning and problem-solving. Therefore, in the context of creativity, the practice of digital storytelling is vital, both as a process and as a multimedia artefact. The process of creating digital stories signifies a collective process of imagining, gathering, organising and remixing the information along with the functioning and handling of digital tools. The use of various filters, effects or the choice of visuals can determine aesthetics of a particular story. In the context of the creative process, the creator of a digital story is akin to a film director for making the creative and the critical discussion within a story. As an artefact, a digital story is a hybrid multimedia model which encapsulates the creative, political and social vision of author/s.

In the context of this study conducted in the schools of Sikkim, digital storytelling was employed primarily to introduce students to the multimodality of the digital paradigm. Through images, audios, videos, graphics etc these students were encouraged to creatively mix their imagination with the representational modalities. As discussed above, for the development of 21st century literacy skills, students were introduced to certain characteristics of digital paradigm such as collective and collaborative authoring, digital literacy and most importantly utilising creative imagination for constructively shaping their individual expression in combination with curriculum-based learning concepts and personal memories. Attention was also paid to the vernacular creativity by adhering to a multilingual instructional framework during the course of workshops. Students actively participated in the 'process' of creating a digital story to create a finished composite multimedia artefact representative of their vision. Unlike the conventional written scripts of the students which are generally discarded after evaluation, the finished digital stories are assured of extended interaction through digital platforms and also serve as a valuable assessment artefact for teachers and students alike. Storytelling exercise extends beyond the scope of classrooms and therefore one of the secondary aims of the workshop exercises was also to extend the practice of digital storytelling through students into their own native and indigenous communities such that it spreads digital literacy and provides indigenous communities with a potential medium for self-expression and documentation.

4.5 Designing Digital Storytelling Workshops for Creativity: A Case Study of the classrooms of Sikkim.

Assessment of creativity is as problematic as defining it. Based on how one defines it, diverse parameters of creative assessment can be assigned to explore different facets of creative thinking. As discussed in the previous sections, creativity research grew mainly from the field of psychology. Therefore, early studies which were conducted made use of the psychometric tests to evaluate creativity (Plucker & Makel, 2010). Given the proliferation of perspectives in creativity research, it is safe to say that each methodology of studying and assessing creativity presents a different set of knowledge about the creative phenomenon. The early phase of creativity research is populated by empirical studies based on psychometric tests which assessed the difference between intellect and creativity. Studies conducted by Guilford (1950), Wallace & Rogan (1965), Wallace & King (1969), Torrance (1979), Runco (1999), employed psychometric tests to ascertain students' creative and intelligence skills in a classroom. Traditionally, psychometric tests were supposed to assess students on the parameters of 'Four P's i.e. i) persons, ii) process, iii) press and iv) products (Rhodes, 1961). Based on total of "forty definitions of creativity and sixteen of imagination" (p.307), Rhodes distilled these four concepts or 'strands' which consolidates the multifarious perspectives on creativity. These strands are still fundamental to the development of the parameters for the creative assessment; however, over time developments in the field of creativity research and emergence of modern theories such as system model of creativity (Csikszenthmihalyi, 1990; 1996) and other interdisciplinary approaches, have given access to the alternate paradigms for designing parameters.

This research situates creativity research in the domain of humanities and focuses on the qualitative aspects of classroom engagement between the student and their surroundings in the shaping of creativity. In conventional humanities pedagogy, especially in the literature and language courses preference is given to written assignments to assess students' language and articulation skills. In primary education too assessment of language is done on the basis of writing and comprehension competency. Though vital, limitations with the written tests are that it has little space for creative assessment. Zemits (2015) observes that humanities instructors are often faced with the 'dilemma' between digital tools of teaching and traditional assessment parameters while evaluating creativity. Crucial thing while designing assessment parameters is to incorporate both forms of formal and informal learning. Paradigms of digital pedagogy are based on a symbiotic relationship between the teacher and the student (Hirsch, 2012) based upon "collectivity and collaboration for pursuit and creation of new knowledge" (p.16). The collaborative paradigm of digital pedagogy allows the assessment parameters to be broader such that it evaluates students' participation and final product not in isolation but as intertwined and overlapping domains. As Csikszenthmihalyi (1996) quips "A genuinely creative invention mostly is never the result of sudden insight", instead it's a long drawn out process based on numerous factors other than the creative self. Systems model of creativity forwarded by Csikszenthmihalyi (1990) propagates a trans-disciplinary approach to creativity which sees creativity as a sum total of three elements i.e. i) domain, ii) field, and iii) individual. The *domain* comprises the knowledge source from where the material for creative expression is drawn which can either be a broad category as culture or as specific as a text. *Individual* signifies the creative self which innovates the existing material in a creative expression. *Field* refers to the 'gatekeepers' or experts who

assess and validate a creative expression as an innovation. This approach emphasises not only on the creative process but also at vitality of creative assessment. It's noteworthy that the value of assessment in Csikszenthmihalyi's system theory of creativity is not exclusive to pedagogy but is seen fundamental for the acceptance of creative expression as a whole within the society.

In workshops conducted as a part of this research, special focus was given to the assessment parameters so that students apart from learning skills also get a constructive feedback on their use and application of new learning tools. Creativity is tied to divergent thinking. Hence, the foremost aim of the workshop was to create an environment where students can freely discuss and interact with each other. In order to foster collaborative work practices students were divided in groups of four. Being from multilingual classrooms, these students were encouraged to write and converse in their native language. They were given the choice to produce their story in the language they felt comfortable in. Practice of storytelling is inherently creative but in a collaborative and multilingual workspace, storytelling became a tool for intercultural learning. Much of what the students brought to classrooms was drawn from their local culture, personal experiences and everyday life. To elicit creativity, tool of digital storytelling was employed through which students could engage actively in creating multilingual narratives inspired by their indigenous culture and academic learning.

The word 'multimodality' signifies multiple literacies available for learning in a 21st century classroom. With each mode having its own semantics, students engage with a broad range of sign systems. In the context of this theses, prior to the digital storytelling workshops, students were exposed only to the semantics of written

language which involved learning through the written word. However, with digital tools students were introduced to new methods of representation and expression through multiple modalities of images, sound effects and digital software. Kress (2003) argues that multi – modality also breaks the spatial and semantic linearity of traditional mono-modal methods of teaching resulting in the complete transformation of the meaning-making process within a classroom. The representational modes of knowledge allow students to attribute images and audios with their own meaning rather than blindly following an arbitrary method of signification of the written language.

Based on paradigms of collaborative participation, multimodality and multilingualism,[47] following parameters were devised to assess creativity in workshops conducted as a part of this research.

    a. Sources and writing

    b. Participation and collaborative work

    c. Visualisation

    d. Vernacular creativity

    e. Utilisation of multi modal tools

    f. Peer review and feedback

a) Sources and writing

Within this evaluative category, digital stories were assessed on the range of sources they have drawn their material from for their story. As most workshops were based on the curriculum-based exercises, students were encouraged to look 'back and forth' between their everyday life, anecdotes and acquired knowledge of classrooms. Students drew upon a range of sources for their stories which they initially wrote as

essays. Writing is another important evaluative component within this category. Apart from traditional assessment of writing skills, special attention was paid to the imaginative faculties of students in story writing. Character building, plot writing and dialogues, were literary devices which were analysed for creative skills. Multilingual collaborative workspace encouraged students to interact with each other in an informal manner or what Piaget (1962) terms as 'playful learning' and this reflected in their writing as well which made use of 'humour' and 'comedy' which otherwise is not present in usual classroom writing.

b) Participation and Collaborative work

Collaborative work is at the centre of digital pedagogy paradigm. Collaboration not only promotes divergent thinking but also fosters intercultural learning. In multilingual classrooms of Sikkim participation and collaboration were a key evaluative component. As participating students had no prior experience of engaging within a collaborative workspace, most of them were hesitant initially after being introduced to digital tools and to workshop objectives. Students took avid interest in operating digital tools to tell their stories. As the workshop was divided into four sessions over the course of two days, participation was evaluated as a process-oriented approach. To observe the exhaustive process of participation and collaboration, workshop sessions were divided into 3 stages of pre-production, production and post-production. Each stage was further subdivided so that the participation could be broken down into observable units that could be correlated with the students' output. Figure 35 illustrates the breakdown of this evaluative component:
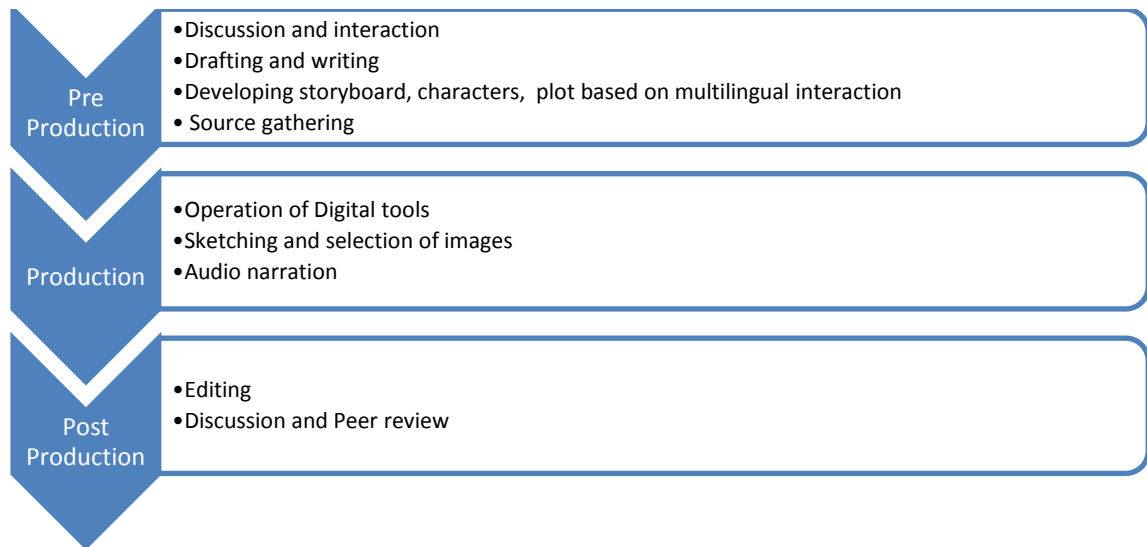
Figure 35: - Breakdown of Participation for Creative assessment during Workshop

Process-oriented approach towards participation helps it break down into smaller goal-bound activities which make it easier for the instructor to assess creative participation of the student. Diary logs and workshop notes were maintained to observe student participation according to aforementioned evaluation categories which at the end of the workshop were discussed with the respective student groups to present a constructive feedback from the exercise.

c) Visualisation

Visualisation as an assessment parameter is generic to all media artefacts. For assessing creativity in digital stories attention was paid to the process of 'visualisation' in both the content and the language. Students engaged in semiotic resources of the written language as well as that of digital modalities. This provided students with a fairly vast canvas to plot their vision through text, images and audio. In digital stories produced by students, attention was paid to the associative meaning making process (Mednick, 1962) through multimodal visualisation apart from content-based sketches, illustrations and downloaded images.

d) Use of the vernacular

Multilingual interaction between students and their application of it in the creation of digital stories was one of the core parameters for assessing creativity in the workshops conducted. The incorporation of vernacular in key stages of brainstorming, storyboarding, recording dialogues was crucial towards advancing a learning style grounded in vernacular language. Burgess (2007) argues that vernacular creativity is a reflection of the everyday rhythm of life. Thus, incorporating vernacular in a digital multimodal text adds context to the learning environment. The vernacular was not just incorporated through dialogues and text but also through the larger framework of the learning process of discussion, reasoning and research.

e) Utilisation of multimodal tools

This parameter assessed students handling and operation of digital tools. For creativity assessment the focus was on how students combined their ideas through multiple modalities of images, audio, text and web. Although, digital storytelling is based on a confluence model where multi modalities converge to tell a story, independent operation of multimodal tools gave learners the autonomy for creating their own multilingual narrative. Multimodal tools enable active participation and creation of knowledge. Creation of digital stories based on curriculum exercises is an example to illustrate how traditional assignments can be remediated through a multimodal project and can encourage multi-faceted creative thinking.

f) Peer review and Feedback

Peer review is one of the key parameters of self-assessment in modern pedagogical practice. It adds value to the collaborative process of creation by adding

the dimension of critical reflection by their peers. Thus, at the end of each workshop, stories created by each group were played for all students and based on that story an interactive discussion would follow between students. Students' questions and comments on each other's works were reflective of the complete learning process over the course of the workshop. It opened up a discursive process of learning and dialogic thinking within a multilingual setup which promoted an intercultural learning. In the next section, the chapter presents an analysis of several examples of digital stories created by students within the multilingual classrooms of Sikkim.

4.5.1 Digital Story- 'The Boy Who Cried Tiger'
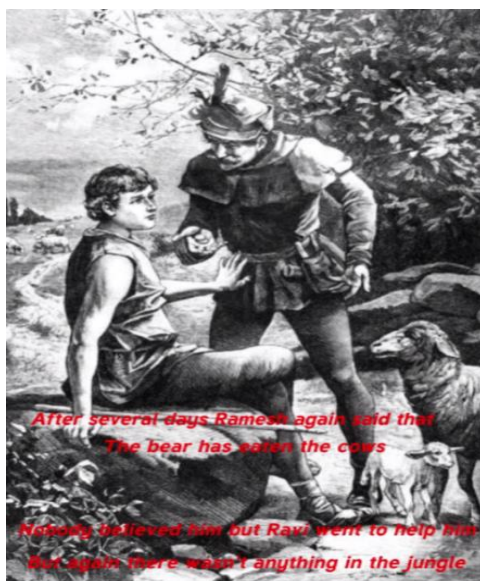
Figure 36: Source- Creative Commons Website

Figure 37: Source- Creative Commons Website

This digital story was created by the Class 9 students of Government Senior Secondary school, Machong, in the East district of Sikkim. The story is a local rendition of one of the popular fables from 'Aesop's Fables' called 'The boy who cried wolf'. The students modified the story into their version of the folk tale passed on to them by their grandparents. The story talks about a shepherd named Ramesh

who enjoyed fooling people. He had a friend who trusted him called Ravi. Ramesh keeps telling the villagers that the tiger has attacked the cattle and every time the villagers came to rescue the animals, they find out that Ramesh was only fooling around with them. Even after the villagers stopped believing him, his friend Ravi believed him and went to help him only to find that Ramesh was again lying to him. Finally, everyone including his good friend Ravi had stopped believing anything said by Ramesh. One day Ramesh's cattle were actually attacked by a tiger and when he asked for help from the villagers none of them believed him and therefore, he did not get any help. Ramesh lost all his cattle that day. It is interesting to observe how the same fable passes through different cultures with subtle modifications and additions. It seamlessly adapts to the local indigenous folk culture. Russian formalist, Vladimir Propp's 'Morphology of Folktales' (1928) provides an extensive analysis of structural unity within folktales irrespective of their social and historical context. His work explores the syntactics of folktales i.e. how the plot and the narrative structure which determines the meaning of the story remains constant despite acculturation of its context and characters.

Story of 'Ravi and Ramesh' created by students is one such example illustrating the syntactical unity of folktales. During discussions in the workshop, students revealed that they had never read the actual story from the Aesop's Fables nor was it a part of their prescribed syllabus. The only version they had heard was from their grandparents who were shepherds themselves and had passed on this generational lore to their younger generation. To work with the creative process, students were encouraged to recall the various instances of when and how this tale was told to them. During the process of recalling, students were also encouraged to

browse the internet for images which they thought best matched their visualisation of the story.

While creativity is an individual process, its growth can be stimulated through skillful training. Studies done by Rastogi (1967), Chatterjee (1970), Sehgal (1978) draws attention to the link between the student's creativity and the school's infrastructure and management. It was concluded that students of private schools were better than those of the government schools, primarily because they were exposed to better tools and stimulants – especially digital technology, for their creative development. To create a more interactive environment for creative learning the students were introduced to digital equipments that they were supposed to operate – a laptop, audio recorder, windows movie maker software and basic internet browsing. As most of these students were brought up in rural areas of Sikkim, they hadn't had much exposure to handling and operation of such equipments. However, after a couple of sessions with hands-on training with the equipment students got attuned to it. They were given the freedom to either use visual images from the internet or to draw their own illustrations. Most of them chose to download images from the internet. Although the internet connectivity wasn't good, they managed to get some pictures downloaded. Even the process of downloading pictures was a learning process for them. These digital tools enabled students to engage and collaborate in the 'creative processes of an expression through forming new associations and combinations with their interactions (Rhodes, 1967).
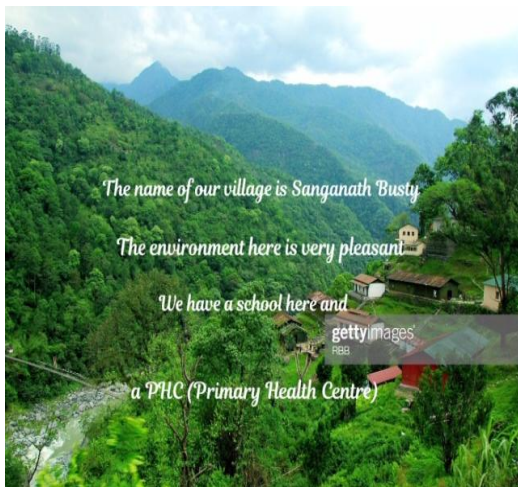
4.5.2 Digital Story- 'Hamro Gaon'

Figure 38: Source- Getty Images

Figure 39: Source- Getty Images

This digital story was created by the class 9 students of Government Secondary School, Sanganath in the southern district of Sikkim. This is a short introduction made by the students of the place they live in. Inspired by the travel videos on YouTube, this group of students decided to create a video of their village or 'Gaon' as an invitation for the viewers of their story to visit their place. Students saw digital tools at their hands as an enabler for voicing out not only their opinions but what they felt represented the sentiments of the whole community.

The workshop exercises for this school were based on the academic curriculum of writing and comprehension classes prescribed for the 9th standard. Conventionally in their writing classes these students were required to write an essay either on their friend, village, school or any personal event or experience. The workshop restructured the paradigms of engagement of conventional writing classroom through introducing practices of digital pedagogy. In the initial session students were shown several autobiographical and anecdotal digital stories. After the screenings of digital stories, students were encouraged to collaborate in groups and

write an essay on the lines of the material they would be required to produce in any conventional class, but this time they would also be visualising their essay.

'Hamro Gaon' or 'Our Village' is one of the several digital stories created by students based on their personal surroundings. Though the students lacked proficiency in handling and operation of the technology, the mere prospect of putting a multi-media text together was an exciting task for them. The particular group of students working on the above mentioned story wrote an essay about their village describing its natural beauty, everyday life and the various harvests they had every year. Once they finished writing, the students were interested in seeing more examples before creating their own digital story. They were then introduced to various travel and environment videos on YouTube – a popular video sharing digital platform. Following which students attempted to create a digital story on template of travel videos. Though the students were well aware of the YouTube website, a proper moderated session of structured browsing introduced better searching and browsing skills.

Given the students' status as first-generation media learners this group of students engaged in the process of associative learning through combining visual with the written – a skill which was sorely seen missing in most of the schools. In the process of creating a digital story in place of a conventional written essay students explored 'assemblages' (Deleuze, 1980) of learning through moderating curiosity with structured internet search and goal-oriented process of creating a digital story. Through incorporating digital stories in writing classroom as a pedagogical tool it was observed that students' involvement in producing an essay was more personalised and

constant feedback through interactive technology fostered creative participation along with the learning of technical skills.

4.5.3 Digital Story- 'Hamro School'

Figure 40: Source- Getty Images

Figure 41: Source- Getty Images

This digital story was also made by the class 9 students of Government Secondary School, Sanganath, in south Sikkim. Like their class mates in the previous example they chose to write about their school and make a digital story on it. These groups of students wrote an essay about their school describing the value and importance of it as being the only school in their village. Not only are these students first generation media learners but some of them are also the first ones from their family to get themselves enrolled to any form of formal education. Thus, school for most of the students was an extremely important place which promised them improved life prospects through literacy.

The objective of introducing digital tools in a classroom of first-generation learners served dual objectives of restructuring the conventional classroom paradigms through techniques of digital pedagogy and as an awareness workshop for the

acquisition of proper knowledge on the use of digital technology. Students were introduced to popular web platforms of Google and YouTube to give them an idea of how information access and sharing functions in a digital world. The persistent curriculum-bound assessment of schools often restricts students' output to the extent of obtaining good grades. However, online learning platforms engage students in collaborative participation irrespective of grades with greater appreciation of student participation. Such participation fosters development of creativity through constructive criticism and feedback. While introducing students to digital learning tools, such as internet, special care was also taken by instructors to introduce efficient methods of searching and saving the material. Given the fact that internet is a contested battle-scape of opinions and 'troll armies', they were advised to use it moderately and constructively.

In 'Hamro School' or 'Our school' students not only describe their school but also discussed the value and importance it has for their village. Digital storytelling as a pedagogical tool fosters creativity through multimodality which makes students engage with a text on multiple levels. In this case, an essay for a writing class transformed into an audio-visual package, which not merely consisted of information but also had virtual personality along with its expression. Thus, a student is in part a creator, part user, part learner and part teacher in the paradigm of digital pedagogy.

4.5.4 Digital Story- 'Nepali Samajh'

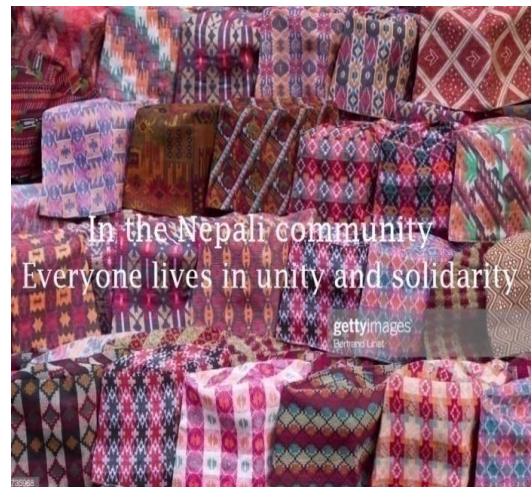*Figure 42: Source- Getty Images*

Figure 43: Source- Getty Images

This digital story was made by the class 10 students of Karjee Secondary School, in the Western district of Sikkim. The story is the description of the Nepali society by the students in the way they want to portray it. The students were made to write essays on fairly easy topics so that their creativity could be channelled towards the understanding of the medium and the use of technology. Karjee is an extremely remote area in the western part of Sikkim where one has to walk for around 30-45 minutes in order to reach this school. It takes around 10 hours to reach the village of Karjee from Gangtok, the capital of Sikkim. As Karjee School was the farthest school where the workshop was conducted there were several limitations faced by both students and instructors. One of the major limitations was the internet connectivity, which was unavailable in the remote village of Karjee. Internet which until now had been a central part of digital workshops for introducing students to web based tools of learning was completely omitted in this particular workshop. The sole emphasis therefore shifted towards using offline digital tools for learning.

Examples of digital stories were downloaded before the workshop for screening, instead of searching on the internet, students worked with downloaded images. Students also learned the handling of an audio recorder in which their dialogues were recorded. The central learning tool in this workshop was the 'windows movie maker' software where students did storyboard for their project. In the previous examples of digital stories, we observed how better infrastructure and interactive tools provided students with greater degree of freedom in choosing material for their creative work. However, in Karjee school the creative process was explored inversely i.e. on how constraints and limited access to foster creative expression. Due to the limited number of stock images, students made the decision to tell their stories mostly through recording their dialogues in the Nepali language. Stock images were only used referentially and at times it didn't completely match with the theme of the story. However, the narration of the story in the vernacular made stories more poignant and original. Through engaging in a creative process of designing a digital story, students not only interacted with the digital tools of learning but also learnt how to create expressions out of their experience, knowledge and opinions.

4.5.5 Digital Story- 'Geeta'

Figure 44: Student's Personal Photo - Kasturba Gandhi Balika Vidhyalaya, Labing

Figure 45: Source - Shutterstock Images

This digital story was created by the class 8 and 9 students of Kasturba Gandhi Balika Vidhyalaya, Labing in the Western district of Sikkim. In this digital story students talked about one of their friends named, Geeta. Geeta unfortunately passed away due to a liver ailment. The students utilised the format of digital storytelling to create a narrative that both memorialises their friend and also creates awareness about the lack of proper medical facilities in their village.

The student creators of this particular story belonged to the native village of Labing in West Sikkim. Being a rural and remote area, the village faces several infrastructural deficiencies such as poorly constructed roads, lack of proper healthcare system etc. One of the major causes of concern is the health facilities in the area of Labing. Although there is a government hospital which treats cases of simple flu and fever, the patients suffering from either advanced or serious illnesses are referred to the central hospital in the capital city of Sikkim, Gangtok. The poor condition of the roads makes it extremely difficult for the patient both physically and financially to

travel to the city of Gangtok for treatment. As a result, people prefer home-made remedies and only in cases of serious illness they take the long and tedious journey to the capital city.

For these students and their families, limited accesses to facilities and services have been a 'normal' way of living. Thus, when these students were introduced to digital tools especially the internet; they decided to take the opportunity to tell a personal story about their school-mate and friend through which they addressed the issue of poor health facilities in the area. Their friend 'Geeta' who was also their classmate lost her life due to liver damage. Students in their story recall the moments they spent with their friend and how her loss not only shook them but also shocked the whole village as Geeta was a young kid and many of them had hoped that Geeta will be cured through use of traditional medicines. Due to lack of awareness about health facilities and also due to lack of availability of medical procedures for serious illnesses in government hospitals, Geeta was unable to get proper medical treatment for her liver ailment. Students looked within their personal and close relationship with Geeta and looked back on not only the moments they spent with her but also the factors which were responsible to take her life.

Their story went through several iterations where the students collectively deliberated upon merging their personal moments with Geeta along with the immediate concern of the lack of medical facilities in the village. Scholars in creative research such as Runco (2008) and Torrance (1964) have emphasised the holistic nurturing of creative skills through connecting academic knowledge with everyday experiences. This kind of development requires a new set of pedagogy rather than the traditional ones and encourages students to look inwards for learning experiences.

Digital storytelling as a tool of digital pedagogy involves students in creating short narratives which are both personal yet informative. As assessment procedure, digital stories are effective artefacts to evaluate both the creative process of the students and also as a creative output resulting from it. Students' decision to rework on their story and its subsequent iterations involved them in the process of creating an original expression forged through their academic knowledge, socially inherited knowledge and personal memories.

4.5.6 Digital Story- 'Khushi'

Figure 46: Source- Getty Images

Figure 47: Source- Getty Images

This digital story was created by the class 10 students of Karjee Secondary School. While students engaged in a range of topics this particular group of students decided to talk about their friend who had died by suicide. This story is yet another example illustrating the intersections between the academic and the everyday sources of knowledge and how creativity draws on both types of thinking to create an original expression. Topics related to mental health are seldom discussed in classrooms. With changing paradigms of pedagogical engagement, it's imperative for teachers to talk

with students on topical issues such as depression and suicide but explicit attention towards curriculum learning underscores the value of contextual learning. In this particular case the effort to stimulate the creative process has been the same as discussed in earlier examples. Students were introduced to digital learning tools before they proceed to create their own digital stories. However, once this group of students were made aware of extended interaction and sharing made possible through digital platform, they weren't very comfortable with sharing the details of their friend's story. Through the creation of their digital stories students not only talked about the memory of their friend but also gave voice to her grief.

Suicide, depression and teenage pregnancies are topics that are often avoided in classrooms citing the demoralising effects it can have on the minds of young students. At the most schools conduct workshops on mental health after which they get slipped under the cosh. The direct conversation that is needed to comfort and counsel students at such times is overlooked on grounds of mental wellness being a personal and domestic issue. Digital technology facilitates this conversation through effective mediation between the students and teachers by way of making an online community of like-minded people, such as doctors, students and teachers party to the discussion. This digital story is not only a eulogy but also a message by these students for everyone else who are in need of help for mental wellness.

4.5.7 Digital Story- 'As you sow, so shall you reap'

Figure 48: Source – Shutterstock Images

Figure 49: Source - Shutterstock Images

This digital story was made by class 7 students of the Rateypani Senior Secondary School in South district of Sikkim. In the workshop conducted in this school, students were given an exercise of writing a story based on the proverbs they have learnt in their English language class. The decision to include only English language for the exercise was at the suggestion of language teachers in the school who highlighted English writing and speaking skills as two areas where students needed more training. Taking heed of the suggestion of the teachers, students were first required to write their story based on the chosen proverb. Once they finished writing the story, each student of the group was required to narrate a part of the story which was later used as a voice over for the digital version of the same.

This particular group of students selected the proverb 'As you sow, so shall you reap' as the premise for their story. In the process of creating a fictional story, students exercised their creative skills in designing the plot, characters and narrative for the story. Students discussed various ideas for the story through which they could express the meaning of the proverb as they understood it in their classrooms. Practice

of storytelling encouraged each student to look within their everyday happenstances and interactions in search for the meaning of the proverb. This process can be aptly termed as exploratory; as students were not exactly 'searching' rather they for the first time were connecting their everyday lives with their classroom material. This helped students to expand their learning horizontally rather than vertically i.e. learning concepts along with the context, instead of only specialized learning about a concept. This is not to undermine the value of specialised learning; however in primary classrooms emphasis only on curriculum-based knowledge proves to be detrimental to the development of creative skills. This reinforces the validity of arguments formulated by Guilford (1950), Runco (1987), Torrance (1962) who made a similar distinction between convergent and divergent thinking in the early stages of creativity research.

Students worked on their writing and visualization skills through devising plot and character sketches and associating it with images which they downloaded over the internet. For some scenes where students were not satisfied with the downloaded images, they made their own doodles and sketches. Audio narration and recording enabled students to add another dimension to their story as well as their skill set. The students were given hands on training on portable audio recorder through which they recorded the narration of the story. Students got a chance to work on their fluency as they recorded their assigned parts several times until the workshop instructors deemed fit the flow and fluency of language. Some of the students also tried to be creative with their voices as they attempted voice modulation to enact different characters of the story.

The final product by this group of students was a digital story about a girl who gets ill-treated by her stepmother and younger sister, but gets salvaged later as her ill-treating relatives fall prey to their own misdeeds. Hence, 'As one sows, one shall reap'. In creating this digital story apart from the development of digital and language learning skills, students also got involved in the process of extracting material from their socio-cultural milieu. In the process of drawing out the characters for their story students were also made aware of the gender and cultural stereotypes emanating from their social unconscious and limited knowledge. In the context of this digital story and similar others produced during the course of the workshop, creative expression was explored through the lens of lateral thinking (Bono, 1967) which encouraged students to create fictional worlds through their imagination and populating it with characters and plot lines informed by social, cultural and cognitive aspects of learning.

4.5.8 Digital Story- 'The Black Jacket'

James gave her a lift.
The lady was not feeling well
James asked her name
The lady said her name was Jesse

She was feeling very cold,
so James gave her his black jacket to wear.
The lady said, "You can take it from my house tomorrow."

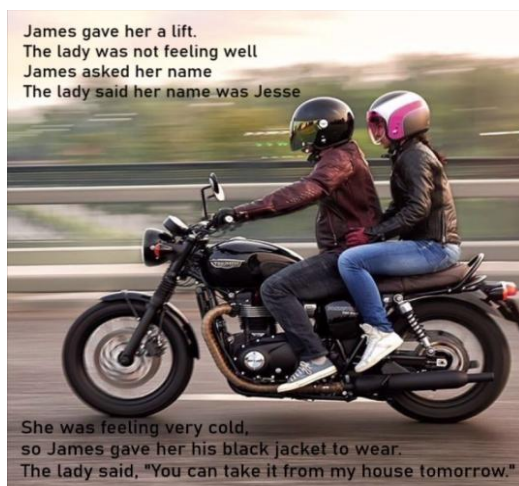He got inside her room and saw his black jacket hanging there.

Figure 50: Source- Google Images   *Figure 51:Source- Getty Images*

'The black jacket' is a digital story produced by the students of Rateypani Senior Secondary School. These students were given an exercise to draft short stories based on their reading of stories from the prescribed textbook in curriculum. As

multilingual interaction was one of the core assessment areas, students were given options to choose stories from English, Hindi or their native language. The story under discussion was created by grade 6 students of Rateypani, Senior Secondary School. This story is also narrated in the English language and talk about an incident between two strangers – James and Jessie – who happen to meet by chance but the plot takes a turn when they decide to meet for the second time and James realizes that Jessie was a ghost. Although there was no sort of ghost or supernatural story within the prescribed textbooks of the students, these groups of students built their idea based on their interest in the supernatural tales narrated to them by their elders. During discussions, students revealed that they wanted to write a ghost story as they had heard numerous versions of supernatural figures such as ghosts, spirits, and witches and they too wanted to create a ghost tale of their own.

Students developed the storyboard, plot, characters from the scratch for this story. In the process of writing a ghost story, students explored new semantics of writing and representation, as working within the genre of horror stories opened up different ways of thinking and associations for these students. The students had long and intense discussions among themselves about different supernatural tales they had heard. Exposure to modalities of image and audio allowed students to relate their imagination with representational icons and symbols. The story itself passed through numerous iterations before being finalized. To generate the 'scary' effect, students were also introduced to the use of special sound effects, such as footsteps, creaking doors, which could add more mood in combination with images and narration. Throughout various stages of creation of this story, students were also introduced to the vocabulary employed in writing of a supernatural or a paranormal piece.

References were also given from popular movies and video games so that students got a bigger canvas to base their representations upon.

Developing a ghost story proved to be a novel assignment for these students. Especially, within classrooms where their curiosities and apprehensions about a forbidden subject were discussed between them and the instructors. In most of the indigenous cultures, talking about ghosts and other supernatural beings is not encouraged lest it might bring misfortune. Student creators of this story had similar experiences in their personal lives which had instilled gendered stereotypes about looks and the behaviour of ghosts. This digital story exercise helped students in broadening their horizons about the same. Through digital tools students could give shape to their own representations and imbue them with their own meaning. Example of this digital story and similar others demonstrate the difference between basing learning on traditional assessment parameters vis-à-vis modern multimodal parameters. Multimodality of digital pedagogy inherently requires a creative spark from students in the form of combining variety of ideas into one narrative. The active participation of students within paradigms of digital pedagogy fosters simultaneous development of both creative and critical thinking skills.

Conclusion

Creative development is a process encompassing both the formal and informal domains of learning of an individual. In the context of classroom teaching, creativity is encouraged but its expression and assessment are not always the main focus of a school curriculum. It is often overlooked in the favour of developing intelligence quotient of the students. This study sought to address the gap between the creative development in the school curriculum by introducing a convergent pedagogical tool

of digital storytelling as a conduit for creative expression and assessment. In continuation to exploring the novel uses of digital storytelling in the classrooms of Sikkim, this chapter observed the use of digital stories in stimulating the creative behaviour and its subsequent expression through the creation of digital stories by the students. In the workshops conducted, digital storytelling was introduced to students both as a process and an artefact, wherein the students could work with a large canvas of material. The students drew upon their material from the multiple sources such as their curriculum, internet, personal experiences and collective memories. Multilingual interactional method further facilitated the dialogue between the students and the teachers, thereby encouraging an inter-personal and inter-cultural information exchange.

The chapter opened with a discussion on the complexity of the creative process. It traced the perception of creativity in popular culture along with the formal study of the creative process within the scientific field of creative research. For the purpose of pedagogical rigor, the practice of digital storytelling was situated within the multimodal framework of digital pedagogy which helped in formulating a working model for the stimulation and assessment of creative skills during the course of the workshop. The multimodal framework of learning further provided opportunities to the students for creative engagement through digital stories. Digital storytelling ensured active participation of students by facilitating creative engagement via modalities of collaboration, writing, argumentation, voice modulation, illustration and internet browsing. Divided into three stages of production, students interacted with the various facets of creative expression from brainstorming of ideas; designing of character sketches and visual elements, dialogue writing and editing timelines of their stories through movie-making software. As a

pedagogical practice, digital storytelling encouraged the students to re-configure the representation and association of existing learning concepts in relation to the new modalities. Digital stories were produced as finished multimedia output, a learning outcome which apart from embodying the creative expression of the students could also be utilized by the teachers for the purpose of creative assessment. Based on the workshop participation, the study devised certain parameters for creative assessment of the digital stories, which were representative of the different stages of production and student engagement pertaining to their involvement in various activities.

The multimedia format of digital stories makes them a dynamic format which can be adapted for various activities of pedagogical concern. Digital stories created by students as a part of the workshop and discussed at the end of the chapter are only sample studies of possible applications of digital storytelling in fostering learning and creativity. Teachers who participated in this workshop identified various modalities involved in digital storytelling useful for personality development of students such as improving language fluency, writing skills and building confidence. One of the methods employed for the review of digital stories was of peer review where all participants were asked to share their insights and comment on each other's works. Apart from creating a dialogue, the aim of the exercise was also to develop critical awareness about the learning process which requires a student-cum-individual to participate equally in the interpretation of existing information as much as in its creation.

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Chapter V

Conclusion

Introduction

The study was conducted among the secondary and higher secondary grade students of the selected schools of Sikkim to observe context-based participation and the response of teachers and students to the use of digital tools and technology in teaching and learning activities. The research employed the practice of digital storytelling as a learning tool to introduce students to a collaborative and a multimodal learning paradigm through technology. Digital storytelling was employed to engage with prescribed curriculum and the exercises of the participating grades. This was done along with merging the cultural aspects of native languages, indigenous knowledge and popular representation. The aim of the thesis was to explore the novel ways of teaching and learning through incorporating digital stories as a tool for bringing about an effective cohesion of pedagogical strategies with technology and contextual learning. The study was inspired by and built on the various policies on digital integration implemented by the state and the central government departments along with initiatives of independent organizations and individuals in Sikkim and other north-eastern states.[48] In the context of education, the State Council of Educational Research and Training (SCERT) which is entrusted with the responsibility of conducting educational research and designing educational material and curriculum for government schools in the state have incorporated digital technology along with bi/multilingual instructional exercises accompanying the lessons. In addition to use of graphic illustrations and visual modality, recent text-

books of government schools can also be 'operated' through 'QR code' technique which links the existing lessons in text-books with other related educational material hosted on the web. With the help of the QR code, the lessons could be accessed anywhere by both the students and the teachers through a mobile or a laptop with a stable internet connection. The digital intervention in this case helps extend the interaction with the learning material beyond the classroom and allows for a greater participation with the social community of the student, involving one's parents, siblings or other members. Building on these initiatives, this research sought to extend the practice of digital integration in education with the introduction of digital storytelling as a teaching-learning tool in the classrooms, aiming to merge curriculum-oriented teaching with the cultural and social praxis of knowledge acquisition. The digital stories created engaged with the 'informal' aspects of contextual everyday life of the students and the teachers of the selected schools of Sikkim, conducted through a multilingual framework of their native and acquired languages.

This study was also a step towards adapting, adjusting and appropriating the broad-ranging and largely west-oriented practice and concepts of digital pedagogy to the culture and the infrastructure present in Sikkim. The insights gathered from this study were divided into three chapters which explored the application of digital storytelling in different contexts within the classrooms of Sikkim. As Reason & Bradbury (2001) stated "action without reflection and understanding is blind, just like theory without action" (p.2). Therefore, the subsequent sections of this concluding chapter will present a consolidated summary of the chapters, followed by discussion of the limitations and implications gathered from the study.

5.1 Chapter Summary

Chapter 1 titled 'Introduction' presents the research problem, research statement, the aims and objectives, followed by the scope of study. Based in the state of Sikkim, the initial chapter furnished a cultural background of the state highlighting the multi-cultural history and its multilingual population composition within which the study is situated. The study drew upon an inter-disciplinary canvas of literature ranging from studies on media, culture, education, library science, psychology and humanities. Relevant debates and concepts from these areas were presented in the contextual literature review which provided a theoretical and methodological framework for the study. In the review of literature, attempt has been made to show the trajectory of research in the field of digital storytelling and identify the research gap from which stems the topic of this research, thereby situating the study in the contemporary context of digitization. The chapter concluded with a detailed description on the research methodology adopted for the study. As the study was an action-based research, student engagement and participation were key components of the workshop. To assure effective student participation, the study designed strategies for interaction of the students with their teachers as well as with their curriculum. This was done by employing various research tools which this section elucidates.

Chapter 2 'Digital Storytelling as a Teaching-Learning Tool' discussed the use of digital storytelling primarily in the context of school classrooms in the state of Sikkim. The chapter presented an overview of traditional and modern pedagogical approaches before situating digital storytelling as a pedagogical tool within the framework of modern literacy approaches, such as TPCK model, Multiliteracies and Digital humanities. Discussions on digital pedagogy in the Indian context have

number of regional parameters to consider, especially with regard to infrastructure and adoption of digital technology in its different regions. Based on this, the study presented an overview of multilingual demographic and digital diffusion in the state of Sikkim, based on the official census reports of the state. The chapter further went on to describe existing literacy practices in Sikkim and also the recent initiatives being adopted by the state government and independent bodies for implementing the use of ICTs in education and other sectors. Building on these initiatives, the chapter proposed incorporation of digital storytelling as a pedagogical tool in classrooms of Sikkim which can merge the academic, cultural and creative knowledge domains and yield a better representation and expression of multicultural student composition of school classrooms of Sikkim. Following the TPCK model of digital pedagogy, the practice of digital storytelling was employed as a teaching-learning tool in classrooms of Sikkim. Through case study of student-created digital stories, the chapter analyzed how use of digital storytelling can enrich and modify the traditional teaching-learning process.

Chapter 3 'Digital Storytelling as an Archival Tool for the Preservation of Language and Culture' presents the use of digital stories as personal archives, which alongside learning can also be utilized for visual documentation. The chapter opens with an introduction to archives and its politics and stresses on how certain narratives and discourses are marginalized in favour of others. It further presents a review of the public archives and library networks in the north eastern region of India with special focus on Sikkim. The chapter also highlights the gap between the institutional archives of Sikkim, housed in the national and public libraries and modern-day documentation in the form of cinema and textbooks, which re-imagines and re-tells the cultural history of Sikkim for the contemporary era. Digital storytelling as a

practice of preservation and learning in schools is situated at the intervening space between the two practices. Through the collaborative involvement of student and teachers, the study curated personal anecdotes and memories of students as visual documents whose veracity was checked through the pedagogical rigor of assessment and cross-checking. Student-created digital stories might not always be considered as texts of authority. However, they do capture the everyday interaction and interpretation of culture and rituals across time and in this manner it stands as dynamic resources of supplemental information to the static texts of institutional archives.

Chapter 4 'Digital Storytelling as a Tool for Nurturing Creativity' presents the use of digital stories in nurturing and measuring creativity in the context of school classrooms of Sikkim. The chapter introduces the scientific field of 'creativity research' and discusses how the perception of creativity has evolved for the academic community with time. The next section outlines the study of creativity research in India and comes to the conclusion that although creativity is seen as a desirable trait in a student, lack of assessment strategy hinders formal training of creative skills and creative expression. The chapter then discussed the assessment strategies adopted by the study for nurturing and measuring creativity during the course of the digital storytelling workshops. Analysis of student-created digital stories at the end of the chapter provides in-depth information on how these digital stories were assessed as both part of a creative process and a creative artefact.

5.2 Findings

i). Adds Context to Learning

The practice of creating digital stories was introduced to teachers and students in the workshops as a supplemental exercise to their curriculum-based lessons. Making the students and some of their teachers participate in the active process of creating stories the exercise aimed to initiate dialogue between students and their immediate surrounding and cultural setting. For instance, an exercise on listing the environmental issues in one's area was remodelled into a narrative exercise where students were encouraged to recall examples of environmental pollution from their immediate surroundings and create a dialogue amongst themselves on how they think it impacts the environment and how can they present their message through a digital story. Adding the practice of storytelling to the conventional exercise assisted in creating a reflexive framework where students could engage with anecdotes from personal and cultural memory and relate it to the larger concepts of learning. Similar to the above example, exercises prescribed in textbooks of different subjects such as English, Nepali, Science and Social Science were remodelled to facilitate the creation of digital stories through participating in the narrative exercise of storytelling, student-created contextual artefacts in forms of digital stories. This aided them in identifying and associating the academic material with the contextual knowledge domain of everyday life, history and culture of an individual. Multilingual instructional framework also assisted students with providing additional context to the creation of stories by supplying the student with the vocabulary of the oral and cultural domain of knowledge. Thus, digital storytelling was employed as a practice and an artefact

which supplemented the formal knowledge of the students with the local and contextual knowledge they derived from their surroundings.

ii). Diversification of Learning Content

Curriculum diversification has been encouraged within the modern-day literacy approaches which lay emphasis on diversity of both the learning content and the learning strategies for better understanding and representation of the diverse and complex social milieu of the modern world. Diversification of learning content can be designed and achieved through different strategies. In context of this study, digital storytelling was utilized for diversifying the learning process of the students. Preparation of digital stories required students to interact with multiple modalities, such as narratives, images, audio, internet and editing software, apart from the traditional modalities of text and verbal communication. The text-based lessons and exercises of the curriculum were adapted by the students for their digital stories. In this process students partook in the process of acquiring diverse skills, such as adaptation, translation and operation of digital tools. Student-created digital stories are evidence of how academic learning concepts can be diversified and re-imagined in respect to the local context. Moreover, students also supplemented these learning concepts with their indigenous knowledge of their respective communities. The use of digital learning tools and interaction with audio-visual modalities encouraged students to engage with the learning concepts from different perspectives.

iii). Mono to Multilingual setup

Given the multi-ethnic and multilingual composition of Sikkim, multilingual medium of instruction was maintained throughout all the workshop sessions, so that

the students could interact and present in the language of their choice. In contrast to the conventional mono-lingual method of instruction in classroom, this study employed a multilingual method of interaction among students. The vernacular and narratives were utilized by students to give voice to their individual experiences, rooted in their everyday life and community participation. The use of native language for inter-personal communication helped students in bringing out the cultural nuances by drawing upon their personal experiences and memories. Multilingual framework resists appropriation and reductivist tendencies of a mono-lingual method, especially while teaching academic concepts in relation to the local context. The multilingual vocabulary helps in capturing the sensibilities of the local and native cultures and aids in making the learning content more relatable to the immediate surroundings of the learner. Multilingual digital storytelling encourages self-learning and collaboration, thereby providing opportunities for students to work individually and in a group. Students were able to explore and develop their own individual interests and, at the same time, evaluate and share feedback on the abilities and works of others.

iv). Collaborative and Interactive Paradigm

Introduction of digital technology for the purpose of learning and communication within classrooms also transformed the mode of interaction and participation in classrooms. In the workshop sessions, students were divided into groups and collaborative work practices were adopted, which were facilitated through multilingual instructional framework. Collaboration encouraged students to have a dialogue with their classmates, teachers and instructors and actively participate in different yet complementary aspects of learning and meaning-making. In the process of creating digital stories, student groups divided different activities among

themselves, such as of writing dialogues, recording audio, drawing illustrations, which they ultimately put together through movie making software. A collaborative work paradigm led towards synthesis of different ideas through brainstorming sessions and peer review of the work by other classmates. This enabled students to actively participate not only in the creation of their digital stories but also that of others through participation in peer review and feedback sessions.

v). Inter-cultural Learning

Inter-cultural learning signifies the understanding of values and principles of different cultures, such that individuals from different cultures can interact with each other with mutual respect towards each other's sensibilities. Multilingual digital storytelling as employed in these workshops was instrumental in bringing out the cultural nuances, myths and folklores from one's cultural knowledge. In merging academic exercises with contextual knowledge, students took recourse to the history of their family, religion and community, which they deemed fit for the exercise. At the end of each workshop student groups were required to present their digital stories to the rest of the students. The stories created by them displayed influence of the native vocabulary and also of the collective cultural memory. Both students and teachers were encouraged to facilitate inter-cultural and multilingual dialogue. Initiating dialogue between them helped them know about each other's cultural background. Such exercises also help in remedying unconscious biases, prejudice and stereotypes, which mostly creep up due to ignorance and popular misconceptions.

vi). Digital Storytelling fosters the creation of Personal Archives

Pedagogical tools and strategies are primarily not supposed to do the work of preservation or archiving. However, the practice of digital storytelling offered an opportunity to merge the practice of learning and preservation in the school classrooms of Sikkim. Outside the pedagogical realm, digital stories are popular formats for creating individual narratives as part of entertainment and personal video documentation. In the context of learning, multilingual digital stories created by school students of Sikkim captured information about several events, phenomena and personalities, which are native to particular cultures. As opposed to the institutional archives, which preserves the canonical, digital stories capture the everyday rhythm of the culture where these myths and folklores are situated. Digital stories also allow efficient sharing and unrestricted access to its content, unlike the institutional archives, which only provide limited access. Visual documentation through digital stories in classrooms of Sikkim posits themselves as supplementary information to that of institutional archive. Digital stories created by students of Sikkim are evident of the fact that digital stories produced with proper rigour and assessment procedures, are not only useful for cultural learning but also have the potential to fill in the vast dearth of knowledge and rectify the gross misrepresentation existing in the mainstream media about Northeast India and Sikkim.

vii). Digital Storytelling fosters Creative and Critical Thinking Skills

Practice of storytelling has been a cornerstone of creative expression since ancient times. However, within a learning context of classroom, nurturing and measuring creativity requires a rigorous framework for assessment with the purpose of providing constructive feedback and assist development of Higher order thinking

skills (HOTS) in students. Multilingual digital storytelling, which was introduced to students through this workshop, was instrumental as both a practice and as an artefact for measuring creativity. Multimodal learning environment helped students in breaking their text-based lessons into smaller modalities of images, dialogues, sound effects, which they later re-assembled together as a whole through the movie making software.

5.3 Limitations

i). Terrain and Network

The geographical location of Sikkim is one of the biggest hurdles towards establishing of a reliable digital infrastructure. Situated along-side the eastern Himalayan range, the state of Sikkim includes some of the most beautiful yet arduous terrains. Marked by inclement weather conditions, seasonal environment calamities and limited connectivity to remote places, digital towers and cable lines have been hard to setup in the region of Sikkim. Though the capital city of Sikkim, Gangtok and its other neighbouring towns in Eastern district of Sikkim, enjoy relatively good internet speed and signal strength, same cannot be said of faraway and remote villages, such as Lachung, Lachen, Karjee etc. Another limitation faced during the course of the research was travelling to schools in the remote areas of Sikkim. In most of these routes only private cars or reserved cabs plied which made travelling to and from these places a costly option.

ii). Time and resources

This study was conducted for the fulfilment of PhD program which is a time-bound activity. This restricted the number of times a workshop or a similar session

could be conducted in those schools. Moreover, as the PhD research is supposed to be completed by the scholar itself, the study could not involve more people in the execution stage of the research. Given the vast distance of some of the schools and unpredictable weather conditions, couple of times the workshop had to be re-scheduled and in one scenario had to be cancelled due to prolonged poor weather conditions. The researcher carried 2 laptops, 2 audio recorders, 2 subscriptions of movie making software and 2 internet dongles. In some schools which already had computer labs and projectors it was relatively easy to engage students while in others where there were no computers, it was challenging to engage 25 students on 2 laptops.

iii). Sample and choice of school

The study could have further benefitted with a wider sample size of both students and schools. However, due to the research being conducted by a single person the targets had to be kept realistic and achievable. Initially, the study was supposed to be conducted entirely in government schools of Sikkim but due to last minute unforeseen circumstances couple of schools had to cancel the appointment. The study couldn't replace it with another government school as the permission to conduct workshops in government schools had to be sought from education director of HRDD (Human Resource Development Department), Sikkim and last-minute change made it unfeasible. Therefore, to maintain a consistent sample size of students, the researcher approached private schools to fill the missing slot.

iv). Student-teacher/instructor ratio

Workshops conducted as a part of this study were conducted by an instructor-cum-facilitator who supervised 25 participants during the course of a single

workshop. This strength was more than half of the average strength of a single classroom. Average student strength in classrooms across all schools ranged between 35-40. The workshops were conducted for a two-day long period during which the workshop instructor was also assisted by the teachers. In the context of regular classroom teaching, introducing digital tools and technology to new learners can prove to be an exhaustive process, especially with large student groups. Moreover, digital storytelling also requires additional skills of writing, sketching, recording and editing, which demands regular feedback and moderation from the teachers. The exhaustive nature of the whole process might prove strenuous for one single teacher. Hence, within a bigger classroom a teacher accompanied by a couple of facilitators might help in better resource management. Moreover, the multilingual framework of these exercises might also crop up as a limitation in certain cases where with a single teacher the students may face the problem of language barrier. Presence of more than one teacher will assist in collaborative problem solving and assist in turning linguistic roadblocks into learning exercises.

v). Follow up of activities

Given the paucity of time, the distance of participating schools and abrupt onset of the Corona-virus pandemic, the researcher wasn't able to follow up further with the participating schools, students and teachers. During the course of the workshops, participants were introduced to various types of digital stories and how these stories could be shared with other people online and also within community. Some teachers had also identified digital stories as an effective tool and assessment strategies for their respective subjects. The researcher had planned to further interact with teachers on how did they further apply the practice of digital storytelling, and if

not, then what were the limitations faced during actual classroom teaching with large student groups. Another reason to follow up with this activity was to interact with students and know if they introduced digital storytelling within their community or family. Efficacy of digital storytelling as a pedagogical tool could have been understood in greater depth through observing the extended interaction with the practice beyond the student and their academic community.

5.5 Implications

The findings from this research were contextual to Sikkim, although they cannot be generalized; they certainly have implications for further research and policy making.

i). Theoretical implication

Introduction and working with digital stories in school classrooms of Sikkim proved to be a useful exercise in adapting the international concepts of digital pedagogy and digital humanities to the ground realities of Sikkim. Although the state has relatively less developed technological infrastructure compared to other Indian states, nevertheless, digital literacy is still being promoted in schools and universities across Sikkim. Technological integration sometimes is often misconstrued as the mere use of computing machines. However, in the context of education and learning it is vital to imbue this understanding with the values and sensibilities such that the scope of digital literacy extends beyond just the knowledge of the technology. Digital literacy is based on the paradigm of connectivity and networked-ness. It is this paradigm shift which marks the modern-day processes of digitization. Working with digital stories in the context of education and learning in classrooms of Sikkim led

towards a collaborative work paradigm. This was characterized by a converging of the formal and informal process of learning, contextual and academic learning, open access to information, inter-textuality and dialogical learning, moderated through the help of digital technology and a digital instructor.

ii). Practical Implication

To implement the use and application of ICTs in school classrooms, digital training is vital for the teachers of primary and secondary level. Sikkim division of SCERT is entrusted with the responsibility of conducting training sessions which it has been conducting regularly. The method of digital storytelling differs from other approaches of digital learning as it emphasizes more on the narrative and the humanistic aspects of learning concepts. Storytelling as a method of teaching and learning can be adopted for various subjects and are especially useful for teaching subjects of language and social sciences as was done during the workshop sessions. Digital storytelling is also a highly flexible format which can be utilized by teachers in various other activities of student and community development. Digital storytelling workshops conducted as a part of this research can prove to be useful examples of how to utilize digital storytelling in areas with low or negligible network connectivity as some of the workshops conducted during the course of this research were conducted in a totally offline environment.

iii). Policy Implication

One of the primary reasons for undertaking this study was to test the viability of multilingual digital storytelling as a pedagogical tool. Student composition in government schools of Sikkim is mostly multi-ethnic and multilingual with many

students belonging to different indigenous communities, especially in the schools located in remote villages. Interaction with students during the course of workshops revealed that most of them had only limited exposure to the English language through cinema and music. It cannot be denied that English has occupied a globally hegemonic status and learning the language has become imperative in modern day education. Nevertheless, making it a compulsory medium of instruction among its non-native speakers hinders a holistic development of students as a new learner is unable to relate his/her immediate surroundings with the vocabulary of a new language. Therefore, educational institutions could experiment with a multilingual or bilingual instructional method through which students can relate to their immediate surroundings and also learn new words to enrich their vocabulary.

5.6 Future Scope

Digital storytelling is an emerging field of study globally and in the context of India, holds immense potential pertaining to its application in different sectors. Internationally, nations such as USA, UK, and EU have created special funds for research in digital humanities. Digital storytelling as a tool has been explored in various sectors such as health, education and cultural communication. In India while digital storytelling is not an alien concept, systematic research into its possible application within various sectors is largely warranted. At the time this study was conducted only a couple of sporadic studies existed on digital storytelling.

This particular study conducted was a small step towards filling the vast research gap on the application of digital humanities in education within the country. Digital Humanities is a novel concept in India which needs to be merged with the cultural and technical practicalities in its different states. For this purpose, the

research followed an action-based design and focused only on the schools in the state of Sikkim so as to generate field-based insights and develop a contextual understanding of the theories involved. The study also addressed the monomodal and monolingual instructional methods followed in most schools across India.

Results from this study cannot be generalised for the whole nation but the method can be replicated for conducting similar studies in different states. Indian states hold vast diversity in terms of cultural practices and languages. Digital storytelling as a pedagogical tool has vast potential in re-configuring the education in the Indian schools through merging the cultural context with curricular knowledge. However, to ascertain its efficiency and effectiveness more action-based studies are needed which develop case-based insights into the application of digital stories within everyday class room interaction. Furthermore, existing studies like this can also be supplemented by future researches through extending the purview of the study by increasing student participation, allowing greater involvement of teachers and involving the local indigenous communities in the production of digital stories.

Towards the completion of this study the Government of India replaced the existing education policy of the country with a new National Education Policy (NEP) in 2020. The NEP 2020 has been passed by the Union cabinet and awaits implementation. Its policy statement can be accessed from the official site of Ministry of Human Resource Development (MHRD).[49] The new education policy replaces the existing one formulated in 1986 after a gap of 34 years. Interestingly, present Sikkim Chief Minister, Mr. Prem Singh Tamang, has become one of the first Heads of states in India to endorse it publicly and to draft the new state education policy in line with the NEP 2020.[50]As per the policy statement new education policy proposes to make

structural changes to the existing academic structure of schools and universities, which might see regulatory bodies like UGC and AICTE getting scrapped. Ministry of Human Resource Development (MHRD) has already been renamed as Ministry of Education (MOE) on 18th August, 2020. In the context of school education existing structure of two-stage division of student development i.e. 10+2 is set to be replaced by four-stage structure which will be of 5+3+3+4 design comprising of Foundational, Preparatory, Middle and Secondary stages. Apart from structural changes the new policy also emphasises reconfiguring the pedagogy and curriculum of school classrooms to promote "holistic, experiential, inquiry-driven and learner-centred" teaching. Some of the key points pertaining to changes in pedagogy and curriculum of school classrooms are its emphasis on mother tongue or native tongue for learning process during foundational stages of student development, replacing the traditional emphasis on the use of English as the instructional medium. Another key point is the inclusion of technical education and activities such as coding in the core school curriculum, especially in middle and secondary classes. The policy also proposes setting up of National Educational Technology Forum (NETF) which will be an autonomous body responsible for facilitating technological methods of "learning, assessment, planning and administration, for both school and higher education." (NEP, 2020; p.56)

In the context of this research, the New Education Policy of 2020 might render obsolete the existing academic structures within which this research was conducted. However, the proposition forwarded by new education policy pertaining to addition of multilingual instructional methods and technological integration with existing pedagogic practices reinforces the validity of its research problem and scope. The findings and observations from this study hopes to forward an action-based model of

integrating technology in education via digital storytelling conducted in relevant and immediate contexts of multilingual socio-cultural milieu and available digital infrastructure in the state for the residing students and teachers. The pedagogic possibilities of digital storytelling are many and continue to grow with the advancement and proliferation of digital technology. Thus, as a significant paradigm of engagement and an effective pedagogic strategy, as a three-pronged tool-pedagogical, archival and a tool to nurture creativity- in a multilingual society like that of Sikkim, digital storytelling has made and will continue to make an enduring contribution to the growing field of pedagogy.

The present research has in many ways anticipated some of the fundamental and foundational principles and objectives of the NEP which in turn accords it a topical significance and relevance. The historic shift from monolingual mode of pedagogy with mainly English as the preferred medium of instruction in schools to a multilingual and pluralist mode which presupposes stress on the use of the mother-tongue, the use of technology in school classrooms, focus on the local/native culture and folklores, holistic and student-centred pedagogy, nurturing of creativity, critical thinking and spirit of enquiry in students, are some of the features which are common to this research and the NEP, thereby bolstering the claims and findings of this research.

End Notes

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[1]Characteristics of digital media have been identified by numerous scholars such as Manovich (2001), Montfort (2003), Dovey et al (2003). Although different scholars have enumerated different characteristics, the features of interactivity, fragmentation and non-linearity remain fundamental in extending the discourse of digital paradigm of engagement vis-à-vis traditional ones.

[2]Joseph Niepce is widely recognised as father of photography for producing the first ever image available to world through the photographic process. However, alongside him inventions by his contemporaries such as Jacques Daguerre, William Henry Fox Talbot were to prove highly influential for evolution of camera photography. During the same time as Niepce, Jacques Daguerre, who was also his collaborator invented a new technique for photography also called as Daguerreotype in 1839. In England, Talbot invented the process of 'Calotype' in 1941 for capturing and printing camera photographs.

[3]Lumiere Brothers are often credited with invention of first movie camera. In fact the invention of movie camera cannot be attributed to any one single person as around 19th century several inventors and professionals were working upon the technology of motion camera. Thomas Edison, Eadward Muybridge, William Kennedy Laurie Dickson all played vital roles in development of first cinema camera.

[4] Storytelling was recognised as a useful pedagogical strategy in some disciplines if not in general classroom teaching. Works of Sylvia Ashton-Warner (1963), Elwyn Richardson (1964), Deniston-Trochta (1998) shows effectiveness of storytelling as pedagogy in art classrooms. Stucky (1995) and Castillo & Perch (2001) works observes utility of storytelling in learning and creation of general knowledge.

[5] Works of Vyogtsky (1934), Dewey (1938), Piaget (1962), Bono (1970) were among the first to advocate an interactive paradigm of engagement which focused on active participation of students. Concepts formulated in their work later proved to be fundamental in establishing of digital pedagogy. Some of their concepts have been discussed in later sections of chapter 2 and 4 of this thesis.

[6] Language as a structural and post-structural construct has been a persistent subject of debate in domain of humanities and sociology. Works of eminent structuralist Saussure (1916), Russian formalists and linguists Shklovosky (1917) and Jakobson (1960) saw language as a socio-scientific construct which carries arbitrary signification but can be classified and understood through use of a particular syntax. Poststructuralists such as Derrida (1976), Barthes (1972), Deleuze (1980), Baudrillard (1994) pointed out the redundancy of a structure and emphasised more towards the contexts it creates. Work of semioticians and philosophers such as Pierce (1931), Foucault (1961), Eco (1980) sheds light on how signs operate in different contexts to produce meaning and culture.

[7]'Chogyal' was a title which was given to the Buddhist rulers which meant 'Dharma king' or guardian of the religion and righteousness. This title was conferred to rulers from Namgyal dynasty who ruled lands of Sikkim and Ladakh during ancient times.

[8]Sikkim was frequented by foreign travellers since early times. One of the famous travellers to visit Sikkim was Joseph Dalton Hooker, who was a botanist and close friend of Charles Darwin. He is credited for documenting of vast specimen of Himalayan biodiversity in Sikkim region which earlier remained unknown to the rest of the world. He is also credited for drawing the first ever map of kingdom of Sikkim. His findings and explorations in Himalayan regions of Sikkim and Darjeeling have been documented in 'Himalayan Journals' published in 1854.

[9]Accessed from the official census of state conducted in 2011. After Hinduism, Buddhism is the second most followed religion with 27.39% of population of the state following it.https://www.census2011.co.in/data/religion/state/11-sikkim.html

[10]Kingdom of Sikkim was invaded several times by Gorkha kingdom of Nepal, Bhutanese kingdom and there are also records of it being controlled by Qing dynasty of China.

[11]Accessed from BBC news report of 7th November, 2011. https://www.bbc.com/news/world-asia-15626993

[12]Ibid

[13]Ibid

[14]Nanook of the North (1922) directed by Robert J. Flaherty is considered as the first ever documentary film which depicted the life of Indigenous Inuit community of Canada.

[15]'Re-mediation' means transforming the functionality and aesthetics of older media into digital one. The concept has been central to understanding of digital media technologies as continuation of the existing ones rather than stipulating an inconsistent binary of old and new media. The concept of re-mediation has been discussed in context of this research in subsequent chapters of this thesis. For further information, their book on the same can be referred- '*Remediation: Understanding New Media*', Jay David Bolter & Richard Grusin (1998).

[16]Ramayana and Mahabharata are ancient Indian epics which consist of rich and various storytelling traditions to narrate tales of moral, spiritual and social learning.

Arthashastra was a political and economic treatise written by Chanakya during 2nd century BC. These works provide vivid illustrations of education and knowledge dissemination in ancient India.

[17]Works of ancient Greek philosophers was fundamental in developing the model of western intellectualism. Classified in various groups such as 'Stoics', 'Skecptics', 'Sophists' works of ancient Greek philosophers discussed wide range of subjects from philosophy to mathematics which shifted the paradigm towards rational and logical way of thinking. Internet Encyclopaedia of Philosophy provides a comprehensive account about the works of these thinkers. https://www.iep.utm.edu/greekphi/

[18]Pestalozzi, Froebel, Herbert and Maria Montessori worked extensively in field of children education. Their findings and experiments with young learners led to establishment of modern day schools and classrooms all over Europe and United States of America. Maria Montessori extensively toured around the world propagating her philosophy of learning devised which subsequently led to creation of Montessori schools worldwide including Asian and African countries. For further information on these thinkers and their works can be found on online encyclopaedias such as Britannica and Stanford Encyclopaedia of Philosophy. https://www.britannica.com; https://plato.stanford.edu

[19]John Dewey (1859-1952) is considered to be an important philosopher from USA whose works propagated a progressive outlook towards education and problem solving, His philosophy of 'pragmatism' became a cornerstone for 'Progressive education movement' in America which led to establishment of public schools in the country. Lev Vyogtsky (1896-1934) was a Soviet psychologist who advanced the theory of 'social constructivism' which marked a social and cultural intervention in learning process. New London Group's (1990) concept of 'Multiliteracies' was one of the first theories of literacy which emphasised upon a multilingual mode of instruction and multimodal form of representation.

[20]In 1965 USA established 'National Endowment of Humanities' (NEH) followed by establishment of 'Association for Computers and the Humanities' (ACH) in 1978 which became first official dedicated agency to support research in digital humanities.

[21]Manuel Castells work on the characteristics and features of Information Age have been influential in humanities and social sciences. Compiled as a trilogy, Castells explores the transition and revamp of traditional institutions -of identity, society and culture due to onset of digital paradigm of knowledge-in his book 'The Information Age: Economy, Society and Culture'(1998).

[22] As of March 2020, as per TRAI's monthly report India's telephone subscribers stood at 1177.97 million and internet subscribers stood at 687.44 million with 55.83%

of the user base being urban subscribers and 44.27% of the users being rural subscribers.

[23] According to Census of India, 2011 out of 150 crore Indians more than 80 crores reside in rural areas while only 37 crore reside in urban cities. For further reference on census and detailed breakdown of population - http://censusindia.gov.in/2011census/population_enumeration.html

[24]MHRD has its comprehensive policy on integration of ICT in school education which it keeps revising on a regular basis. An updated and detailed policy document on ICT can be accessed from MHRD's website https://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/revised_policy%20document%20ofICT.pdf

[25]Accessed from District census handbook of Sikkim, 2011 http://censusindia.gov.in/2011census/dchb/1100_PART_A_DCHB_SIKKIM.PDF

[26]The detailed works and publications of SCERT, Sikkim can be accessed from their website which also describes their vision and policy statement in detail. http://www.scertsikkim.in/index.php

27Accessed from HRD section on website of Sikkim government https://sikkim.gov.in/departments/human-resource-development-department/teaching-of-languages-in-sikkim

28Accessed from official twitter handle of Government of Sikkim on 25th April , 2020 https://twitter.com/sikkimgovt/status/1254085942601801728

29Work of contemporary semioticians such as Barthes, Pierce and Danesi have been valuable in understanding the operation of signs and symbols in visual language and the politics of representation in visual media.

30 The discipline of humanities as we understand it today is a combination of trans-disciplinary perspectives of history, languages, philosophy, language, art, politics, and other related pursuits which sought to interrogate the modality and association of human being with the environment around. Thus the general aim of any humanities classroom is to foster individual and collective understanding of humans in context of the diverse and plural backgrounds around the globe.

31Students were introduced to three language dictionaries over internet.

For English language: *Oxford Learner's Dictionaries*https://www.oxfordlearnersdictionaries.com/

For Nepali language: *Lexilogos Multilingual Dictionary*https://www.lexilogos.com/english/nepali_dictionary.htm

For Limbu language: *Limbu Dictionary*https://limbudictionary.com/

[32]For copyright free images: *Pexels*https://www.pexels.com/; *Creative Commons Image Search*https://search.creativecommons.org/. For copyright free sound effects and background music: *Bensound*https://www.bensound.com/;*Soundbible*https://soundbible.com/

[33]Politics of archive have been a persistent subject of debate in humanities, social sciences and cultural studies. In this study, only foundational works of authors such as Derrida, Foucualt and Agamben have been discussed. Recent perspectives on politics of archive have been presented by Hito Stereyl (2008), S. Pell (2015), P. Severson (2018). M. Esajas (2019).

[34]Agamben's concept of 'testimony' draws from his work on Holocaust archives (1999). In his works Agamben discusses archives and archival process of events of Holocaust. He argues that in an apocalyptic scenario such that of Holocaust where people were coerced to death, only 'testimony' can exist as an authentic narrative of the survivor.

[35]Though the origin of the word 'born-digital' remains unattributed, the term has been quite precisely defined by national archives of various countries to include media artefacts native to digital technology. Website of United Kingdom archives present an exhaustive explanation of born digital records and metadatahttps://www.nationalarchives.gov.uk/information-management/manage-information/digital-records-transfer/what-are-born-digital-records/

[36]MLA website hosts an online and open access scholarship repository for interdisciplinary studies and research in humanities. https://mla.hcommons.org/core/. Apart from that it also hosts an online open peer review for its new publications. The publication 'Digital Pedagogy in the Humanities' referred to in this study can be accessed at https://digitalpedagogy.mla.hcommons.org/

[37]Website of Sikkim State Archives can be accessed at http://sikkimarchives.gov.in/. The Website hosts only selective content from its repository on its website and the detailed catalogue can only be accessed by physically visiting the place.

[38]'Sikkim' documentary is now available to watch on YouTube, an online video sharing platform, as the government laws of censorship doesn't apply on OTT platforms as of yet. Following is a watchable link of the movie https://www.youtube.com/watch?v=pWe067r5X-s. Accessed on 5th April, 2020.

[39] J.R. Subba is one of the most prominent figures in Sikkim academia. His range of works includes study on various aspects of Sikkim's history, culture and tribes. Some of his notable works are *'History, Culture and Customs of Sikkim'* (2008), *'Mythology of the People of Sikkim'* (2009), *'The Limboos of the Eastern Himalayas'* (1999).

[40]T.B. Subba is an anthropologist and was also the second Vice Chancellor of Sikkim University. Some of his notable works are *'Politics of Culture'* (1999), *'Flight and Adaptation: Tibetan Refugees in the Darjeeling-Sikkim Himalaya'* (1990), *'Religion and Society in the Himalayas'* (1991).

[41]Sikkim: A Traveller's Guide (Roy, 2001); Sikkim: Requiem for a Himalayan Dream (Duff, 2015); Sikkim: Dawn of Democracy (Sidhu, 2018).

[42]The Latin word 'creare' signifies various activities of creation which bring objects and life-forms into existence from making a simple tool to procreation of life in nature. Thus, creativity in educational context essentially signifies the act of bringing original ideas in existence.

[43]The process of creativity has invited trans-disciplinary perspectives of inquiry since its institutionalisation of the concept as a subject of inquiry in formal research around 1950s. Apart from the psychological, educational and humanistic perspectives of creativity which have been discussed in the subsequent pages of these chapters, other insights have been documented by scholars in fields of sociology (Buber, 1992; Chan, 2011), cultural studies (Gardener, 1988; Glaveanu, 2017), artificial intelligence (Boden, 1998; Pereira, 2007)

[44]Popular YouTube channel 'Epic Rap Battles' (ERB) had produced a video of a rap battle between Mahatma Gandhi and Martin Luther King Jr. played by the iconic comedy duo of Keegan-Michael Key and Jordan Peele. Following is the link to the video: https://www.youtube.com/watch?v=-6G6CZT7h4k

[45]Assemblage is an art form which uses found objects for creating its at work. In philosophy, assemblage suggests an ontological network which signifies fluidity and multiple functions of knowledge. In both the senses, assemblage is a construct formed through seemingly disparate elements.

[46]In Indian context several scholars have done a comparative study between government and private schools on creative development of students. For further details woks of following authors can be referred to (Mahender

Reddy Sarsani, 2006), (Surendra Kumar Sahu, 2009), (Tasaduq & Azam, 2012), (Sesadeba Pany, 2014).

[47]Collaboration, multimodality and multilingualism have been at the core of modern-day pedagogies emerging out of contemporary digital socio-political landscape. Various writers have emphasised on re-imagination of existing and creation of new evaluation tools and assessment strategies in digital classrooms. Some important works in this regard are Heide & Henderson; 2001; Sadik, 2008; Jennifer Howell, 2012; Iantorno, 2014.

[48]Indian based Independent NGO 'Acoustic Traditional' has been working with the tribal communities residing in hills of Sikkim, Darjeeling and Kalimpong to revive and preserve their tales and rituals. There are also international based independent NGOs such as 'Cultural Survival' and 'IWIGA' (International Work Group for Indigenous Affairs) working towards the welfare of indigenous communities in India.

[49]Policy statement of new National Education Policy of India introduced in August 2020 can be accessed from MHRD official website.https://www.mhrd.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

[50]Extracted from News clip published in Hindustan Times on 16th August, 2020 and reported by Press Trust of India (PTI).

https://www.hindustantimes.com/education/sikkim-to-set-up-education-reform-commission-cm/story-XFdY5Y9hTT84HvHYR3cqpL.html

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