

CHAPTER I
INTRODUCTION

1.1.0 INTRODUCTION

Education is a fundamental process encompassing the cultivation, nurturing, and transmission of information, skills, and attitudes. Education should be deemed as a continuous endeavour aiming at enhancing knowledge and skills, while also serving as a fundamental mechanism for fostering personal growth and social growth as well (Reicher, 2010). The report entitled "Learning: The Treasure Within"(1996), authored by the International Commission on Education for the Twenty-first Century led by UNESCO, further asserts the similar perspective regarding the role of education that apart from being a never-ending process for knowledge and skills development, it also substantially acts as a remarkable mechanism for promoting individual development and encouraging relations among people, communities, and countries (Haggstrom, 2014). Unquestionably, the purpose of education is to adequately prepare learners to confidently confront and meet the ever-evolving demands and diverse challenges of the contemporary world which is characterised by the widespread influence of globalisation, extraordinary expansion of knowledge and information & communication technology, as well as the growing culture of innovation and rapidity (Bakhtiari & Shajar, 2006). The pivotal roles of education are that it imparts knowledge, enhances skills & competences, shaping the attitude with a positive outlook and also boosts the self-confidence of citizen. Undoubtedly, education must be the process of empowering the learners by enabling them to identify and explore their hidden potential to develop various skills to the fullest. When the learners master such skills and competencies, they would be better able to carry out their responsibilities and establish themselves as contributing members of the society. Education should act as a vehicle for the advancement of knowledge, attitude and skill, necessary to effectively address today's growing demands and myriad challenges. Schools being the formal institution of education should strive to create a conducive learning environment that facilitates an educative process equipping pupils with essential skills, abilities and knowledge, required to succeed in the modern world of the twenty-first century. As the National Curriculum Framework, 2005 (NCERT) has opined, it is crucial to establish an educational setting where the children can "experience dignity, confidence to learn, develop self-esteem and ethics," that are indispensable for the cultivation of children's skills and competencies such as creativity, problem solving, critical thinking & social skills like how to interact with others, how to work with others cooperatively etc. All these skills can be perceived as empowering instruments which can assist individuals in navigating the complexities of the contemporary world. Thus, one of the important aims of education would

be imbuing the students with certain attitudes and skills so that they are competent enough to effectively utilize them in their daily lives.

It is in this context that the constructivist discourse emerges as an innovative learning orientation to the entire educational process that it can offer fresh perspective on all aspects of the classroom experience, including the roles of students and teachers, the characteristics of classroom setting, and most crucially, nature of the pedagogy itself. The impact of a teacher's role on students' learning is influenced by factors such as instructional methods, the presentation mode in which learning contents are delivered, and level of interaction between the instructor and pupils. Some teachers and educators have just remained "...fossilized in the teacher-centred pedagogies that position the teacher as the sole purveyor of knowledge while the students remain passive recipients of teacher-made knowledge" (Timothy, 2018). The current imperative is to make notice that every child within the classroom setting should experience a sense of importance and inclusion to ensure his/her active engagement in the educational process. Only when this is achieved, school children can develop a genuine enthusiasm and immense interest for the teaching & learning activities. It is the need of the hour to effectually address the evolving classroom dynamics for better learning outcome.

Attempt has to be made by the formal agencies of education to bring forth better ways of educating the students. In this regard, the adoption of the educational theory of constructivism as a novel approach towards the process of teaching learning, might be considered as one of the commendable endeavours. A transition in the prevailing approach to the educational process, which traditionally emphasises on rote memorization and cramming, towards a more constructivist learning approach in the classroom learning scenario that highlights the active involvement of students, has the potential to yield positive outcomes in terms of skill development and knowledge expansion. Constructivism is a theoretical framework rooted in psychology and philosophy, positing that individuals actively participate in the process of constructing and shaping their own knowledge and understanding (Schunk, 1996). The perspective that learners have the ability to independently create the functionality of knowledge and information, is the novel approach in education that comes under the name of Constructivism. It makes the learning process effectively activated as here learners themselves are the makers of meaning and knowledge. Knowledge is constructed from and also shaped by experience. Prior experience serves as a building block for and a moulder of one's knowledge construction process. Therefore, Constructivism believes in the view that learning is nothing but construction of meaning from experience (Prawat & Floden, 1994). In

other words, the educational philosophy of constructivism posits that learning is an ongoing process of interpretation, wherein learners' prior knowledge plays a crucial role in attributing significance to the newly acquired information. The capability of pupils in mastering the process of learning is more important than the actual act of learning itself when constructivist pedagogy is used to foster overall development of the learners (Zhang, 2008).

Twenty first century learning skills are necessary to be developed among learners for their survival into this contemporary world of progress and innovation. Twenty first Century Skills denote those skills which would assist a person to tackle all the challenging conditions of modern society which are very much present everywhere around the globe. It demands from any individual to be creative, communicative, reflective, to be able to work collaboratively, and thereby adaptive in any situation. About twenty first century learning skills, Central Board of Secondary Education of India in its handbook named *21st Century Skills: A Handbook* opines that the theoretical framework of 21st Century learning has brought attention to a set of crucial competences and skills that are deemed needed for achieving success in both professional and personal contexts in the era of twenty-first century. The elements, known as '4Cs' - collaboration, communication, critical thinking, and creativity, are intended to be instructed within the purview of fundamental academic disciplines and contemporary themes of the twenty-first century (CBSE, 2020). According to Chance, critical thinking refers to the cognitive ability to analyse factual information, formulate and structure ideas, provide justifications for viewpoints, establish comparisons, draw logical conclusions, assess the legitimacy of arguments, and effectively resolve convoluted issues (Chance, 1986). The person who uses different modes of thinking for solving a problem is called a critical thinker and the process is called critical thinking. Critical thinking is “an active process in which you think things through yourself, raise questions yourself, find relevant information yourself etc. rather than learning in a passive way from someone else” (Joseph, 2018). Creativity can be defined as the ability to generate something new and distinct, or to use the old to provide a new direction or to shape it in different and novel way (Ubbes et al., 1999). Communication is really important in today's busy world. In this world which is marked by rapidity and speed, one needs to make his/her own pace through skilful communication (Kapur, 2020). Thereby, mere communication is not enough; there is urgent need for effective communication. Effective communicators can lead towards success in a smooth way (Wats & Wats, 2009). In order for developing self-confidence, achieving assistance, and finding inspiration for any work, communication is one of the most important factors. The

metatheoretical framework in the understanding and exploration of human communication is defined by constructivism. For the study of enhancement of social cognitive and communication skills among the learners, constructivism becomes a helpful tool. Collaboration refers to the individual's ability for working with others cooperatively for the benevolence of the entire group (Slater, 2004). Collaborative skill enriched people would take initiative to develop a friendly atmosphere and would be able to create a mutually favourable condition while keeping accountability of their endeavours (Bosworth, 1994; Laal, 2013). All these skills should be nurtured among learner for enabling them to cope with the demanding world of Twenty first century.

The various academic disciplines available at the school level, such as Social Sciences, Science, Languages, Mathematics, and others, aim to provide students with a comprehensive understanding of knowledge, skills, attitudes, and values. Language serves as more than just a means of communication; it also plays a crucial role in promoting several skills such as imagination, creativity, sensitivity, appreciation, collaboration, and emotional development (NCERT, 2012). Indian schools offer a diverse range of language subjects including Hindi, English, Bengali, Assamese, Sanskrit, and others. The study of English as a language subject occupies a significant position within the educational curricula of schools at all levels. Indeed, the English language has assumed a prominent position within the realm of Indian education system. Its significance has been emphasised by different commissions and educationists in India. The Radhakrishnan University Education Commission (1948) highlighted that renunciation of English due to emotional sentiments would result in the disconnection of educational outputs from the continuous flow of knowledge advancement. The Kothari Commission (1964) also acknowledged the English language for its tremendous contribution as a prominent "Library Language." Thus, various educational commissions have championed English language for its pivotal role in every field. It can be said that English language is indeed an essential necessity of every individual. Hence, it should be taught in different stages of education by adopting new, interesting approaches of teaching, expecting that pupils would become active learners (Sharma & Poonam, 2013).

As English language has a great power to communicate with each other, internationally it has been accepted as an official language in different countries. Being a multicultural and multilingual country India has designated English as lingua franca for its crucial role in establishing communication among different groups of people. English is not only stipulated as the official language but it is also employed extensively in both public and private

domains. Proficiency in English language has emerged as a vital aspect in the realm of education, because it is deemed nearly indispensable for attaining academic, professional, and social success. In the context of India, it is frequently observed that the traditional method of teaching English poses obstacles to the acquisition of various language abilities as well as other important skills. Students get to learn English in theoretical approach in which translation-based mode is used and, practicing grammar remains the primary way of learning. Here, the progress of learning the language is measured by assessing their ability of rote learning and their power of memory. Thereby, it is found that a significant proportion of learners show deficiency in their confidence when it comes to utilising the English language in real life situations. The implementation of a constructivist approach to English language acquisition in the context of twenty-first century education holds a promise for facilitating the exploration of new ideas and the development of diverse abilities. The utilisation of English language as a medium can facilitate the development of constructivist-based learning too. It is imperative for students to actively engage in the exploration of the realm of creativity through the use of the English language.

This study makes an attempt to focus on the implications of the theory of constructivism in the context of school education, and also on examining how the adoption of constructivist approach to English subject teaching through the development and application of constructivist approach-based module may facilitate students' acquisition of twenty-first century learning skills. Thus, it is evident that in this study the research problem centres around two substantial discourses-one regards constructivism, and the other concerns the twenty first century learning skills both of which are very relevant in today's educational life.

1.2.0 CONSTRUCTIVISM AS A THEORY

Constructivism due to its extremely novel approach of instruction can be considered as a unique and sincere endeavour to facilitate a radical shift from the conventional approach towards pedagogical practices and learning process focusing on rote memorization, cramming to the constructivist teaching-learning approach emphasizing on the active role of children, may be proven fruitful to develop necessary skills and to expand knowledge. Constructivism is defined as a theory of learning that involves learner-centred approach in which pupils are encouraged to explore actively and then interpret their experience and thereafter, are able to relate that individual experience to the existing knowledge (Scheurs & Dumbraveanu, 2014; Akinbobola & Afolabi, 2010). According to Vannak, when students are able to build a relation or connections to existing knowledge or schema, then they gain "...a

platform for new growth of understanding to develop” (Vannak, 2012). Moreover, the pupils cannot be treated like empty vessels that need to be filled by someone (Mehta, & Whitebread, 2004), instead they should be regarded as active organisms in search of meaning (Driscoll, 2005). The epistemology of constructivism recognises the latent abilities of the inquisitive and creative youngster to build knowledge in a meaningful context. The learner does not possess a completely empty mind (*tabula rasa*), but rather brings prior experiences and cultural influences to a given scenario. Constructivists perceive learning as a contextualised process (Mogashoa, 2014). As Duffy (2006) also suggests that the process of learning entails active engagement within a specific context. In short learning is an activity in context. In accordance with the constructivist view, the acquisition of knowledge is not a passive event, but instead an active construction that occurs through interactions with the experiential domain, rather than as a means of uncovering ontological reality (Hein 2007). Experiential learning, reciprocal learning, shared learning, problem-oriented learning, and inquiry-driven learning are some of the prominent instances of classroom learning experiences that align closely with the fundamental ideas of constructivism (Serafín et al., 2015; Hendry et al., 1999). Constructivism is an educational theory that incorporates various fundamental elements, including culture, context, literacy, language, students' preferences, interests, requirements, demands, their individual experiences, interpretation of reality, and the real-world application of the constructed knowledge. Thus, the discourse of constructivism is dynamic, extensive, and all-encompassing.

1.2.1 HISTORICAL BACKGROUND OF CONSTRUCTIVISM

Developing a comprehensive knowledge of any ism or theory necessitates a keen awareness of its historical roots and foundations. Prior to delving into the intricacies of the constructivist theory, it is essential to possess an understanding of its historical backdrop. The search for the origin of the theory of constructivism takes us back to the history of almost two thousand years when constructivist thought was emerged and started to evolve in the Eastern tradition and then followed by a history of at least three hundred years in the Western tradition. The writings attributed to Gautama Buddha (560–477 BC) provide insights into his perspective on the cognitive and epistemological processes involved in thinking and knowledge acquisition. As Buddha opined “We are what we think. All that we are arises within our thoughts. With our thoughts we make the world”. According to this philosophical perspective of Buddha, it is asserted that thoughts exert an enormous impact on the formation of persons' identity and existence. The complete spectrum of an individual's being originates from the cognitive

processes within his or her mind. His statement reflects the constructivist viewpoint that human beings make the world where they reside. In other words, it can be deciphered from his utterance that people gain the understanding of their surroundings by applying their process of thinking about only what they have observed or experienced by themselves. The emergence of a constructivist-style thinker can be also identified in Lao Tzu, a Chinese legendary and historical figure who is widely recognised as the progenitor of Taoism. He was also a contemporary of Gautama Buddha. His notion of reality and the individual embraces constructivist stand on reality and individual. According to Lao Tzu, reality cannot be fixed or static, rather it is marked by inherent dynamism; it is an entity that is always in a constant state of flux and variability; and thereby, it is bound to be interpreted differently by different individuals (Pritchard & Woollard, 2010).

In the western context, the pathway to constructivism started to flourish in the ancient Greek philosophy of Socrates (469-399 BC). The perception of constructivism finds its roots in classical antiquity, referring to Socrates' dialogues. Socrates employed this conversation method wherein he posed targeted inquiries to his students, leading them to independently recognise the deficiencies and gaps in their own thought processes. Significantly, constructivist teachers and educators continue to consider Socratic dialogue as a valuable instrument for assessing pupils' knowledge and comprehension, as well as for developing novel learning environment that offers learners distinct educational experiences (Mohapatra et al., 2015). Constructivist ideas were seen to be embedded in the writings of Italian philosopher Giambattista Vico (1668–1774). In fact, in 1710 he proposed *verum esse ipsum factum* which refers to mean “the true itself is made” that can be considered as the tenet of constructivist epistemology. This statement champions the constructivist idea that truth cannot be verified by observation as suggested by Descartes, rather if it is about the verification of truth, then it can be conducted only through creation or invention. According to Giambattista Vico, “God knows the world, because He created it, human beings can know only what they themselves have made.” Showing his support to this thought of Giambattista Vico, Glasersfeld (1995) has opined that human mind is able to have the knowledge and meaning only that the human mind has constructed, thus reflecting constructivist viewpoint. Most prominent reflections of the principles of constructivism can be found in the philosophy of the most influential thinker of German, Immanuel Kant (1724-1804). According to Kant's theory, it is through the functioning of human mind that objective experience is actively constructed. It emphasizes on the individuals' ability to create knowledge on their own which

demands from them active functionality of thinking process (Kant, 1787). Similar constructivist viewpoint is also shared by John Dewey who considered human mind as a meaning making organ, relentlessly driven to make sense of the world (Dewey, 1916). Gradually, the rise of Constructivism as a prominent theory got accelerated in the hands of Jean Piaget, Bruner, Ausubel, and Lev Vygotsky who are known as the leading exponents of constructivism theory.

The historical trajectory of constructivism within the realm of learning reveals that it was not just development of a theory to be practised; it was a revolt against the traditional teaching learning process which was based on transmissionist or teacher-centred approach. Within the realm of learning theory, the constructivism acted as a movement against the mid-1920s' empiricist-inductivist view of knowledge as well as the stimulus-response model of behaviourism both of which reduced the status of knowledge to a mere transportable commodity and the status of learner to an empty container that needs to be occupied with facts and information by others. The constructivist epistemology challenges the notion of knowledge being constrictive and limiting, as well as the passive and mechanistic role of learners. It severely rejects the idea that school-going children are blank slates and come to class being void of any idea to be refilled by teachers. At the core of constructivism lies the central notion that learners themselves are capable of constructing their own comprehension of the surrounding world through the acquisition of experience as they progress and grow in life. Today the discourse of Constructivism is a major area of attention in the realm of education.

1.2.2 ASSUMPTIONS CONSTRUCTIVISM

The constructivist view of learning, as reinforced by Merrill (1991), Pravat & Floden (1994), Matthews (2002), Yilmaz (2008) and Sharma & Gupta (2013) is based on several common assumptions.

- Learning is essentially a cognitive pursuit aimed at comprehending and interpreting the universe.
- Learning is a dynamic process that involves active engagement and adaptability, wherein learners play a central role in constructing meaning and acquiring knowledge.

- Learning is contingent upon the presence of a contextual framework, and this framework must align with a realistic environment to enable for effective learning to transpire.
- Learning can be understood as an individual's subjective perception or interpretation of the surroundings.
- Knowledge is built upon and moulded by one's own individual experiences. So, learning is basically the process of creating meaning through exposure to new information and events.
- Knowledge is socio-culturally constructed that occurs through collaborative learning.
- Knowledge cannot be inactively absorbed; it should be created by the learner.
- Learning is based on interests, general and specific abilities, attitudes, achievement, aspirations and motivations of students. It offers flexibility, motivation, adaptation, creativity, inventiveness and versatility for both the teacher and the students.

1.2.3 CORE PRINCIPLES OF CONSTRUCTIVISM

- Principle of generating knowledge: Transmission of information and knowledge from instructor or teacher to students is not desirable at all, as it is more effective for students to take part in creating their own knowledge. So, it focuses on knowledge to be constructed instead of knowledge to be transferred (Mondal, 2014).
- Principle of active learning: The process of learning cannot be marked by passivity; rather the learners must involve themselves actively in the entire learning process (Mondal, 2014).
- Principle of connectivity: It implies the importance of establishing connections or linkages between past knowledge and newly learned information as a fundamental requirement for effective learning (Muniyappan, 2019; Board, 2013).
- Principle of purpose: The principle of purpose speculates that learning serves a specific purpose, namely, to empower the learners with the ability to comprehend and organise their immediate surroundings.
- Principle of invention: When a child learns, he or she should invent the concepts or meanings instead of discovering them. Discovery refers to the process of searching for and investigating something that has previously existed but has not been acknowledged. Conversely, invention involves the act of creating or

formulating a completely novel object that has no prior existence, rather designed and developed with original ideas. In addition to the principles of discovery, constructivism advocates for the notion of innovation with equal significance.

- Principle of authenticity: Learning is placed in realistic settings in which authentic activities are being performed (Muniyappan, 2019).
- Principle of plurality: Within the realm of learning, individuals possess distinct experiences and varying cognitive capacities. Naturally, individuals will perceive and interpret their surroundings in different ways. Hence, the concept of reality is not singular, but rather encompasses various facets. The inclusion of multiple viewpoints is encouraged.
- Principle of interactivity: Learning occurs through dialogue or interaction with others. Interaction with one's own self as well as with others is very significant to learn anything. Learners learn knowledge through both individual and social means (Mondal, 2014; Muniyappan, 2019).

1.2.4 TWO MAJOR SCHOOLS OF THOUGHTS OF CONSTRUCTIVISM

While discussing the discourse of Constructivism the names of Jean Piaget and Lev Vygotsky as the developer of constructivist theories are very significant. They are recognised as the originators of two distinct schools of thought under the constructivist paradigm.

i) PIAGET'S COGNITIVE CONSTRUCTIVISM

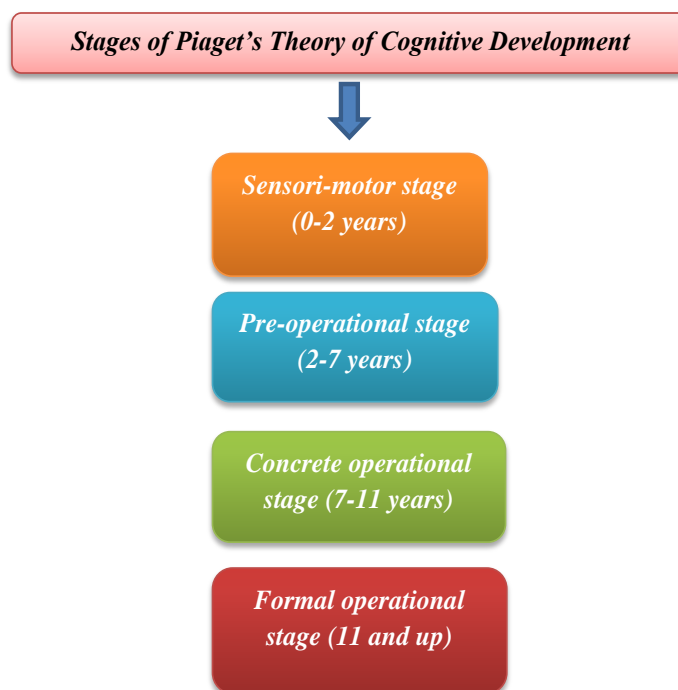
According to Piaget's Cognitive constructivism, learning is viewed as an engaging and interpretive process where learners are actively involved in creating original ideas on the basis of their pre-existing and current knowledge as well as experience (Cannolly & Begg, 2006). It focuses on individual's cognitive development, specifically how they are able to effectively utilise their cognitive abilities in order to generate new knowledge. It views learning principally to be an individualistic enterprise (Rajan, 2010). Noticeably, Piaget's constructivism is also known as Genetic-epistemological or Individual constructivism (Woolfolk, 2004; Gordon, 2009; Jha, 2009).

- **Piaget's Developmental Learning Theory as the foundation of Cognitive Constructivism**

Piaget's constructivist learning theory bases itself primarily on his developmental learning theory (Altun & Büyükduman, 2007). Cognitive Development of a child takes place through a series of stages that are sequential in nature. The first stage which is

called sensori- motor stage is marked by the absence of language and mental representations. In the second stage of pre-operational stage, child acquires some capacities to mentally co- relate objects based on certain characteristics. For example, all male persons are called “Daddy” by him or her. But in the concrete operation stage, the ability to deal with more than single classes or sub classes in the context of larger classes is developed. Now the child possesses logical reasoning ability; and is able to manipulate the concrete objects in physical as well as mental terms. When the child reaches to the last phase termed as formal operational stage, he or she is capable of dealing with abstracts. The child develops reason on hypothesis, hypothetico-deductive thinking (Mahapatra et al., 2015). Thus, his theory of cognitive development exemplifies the constructivist perspective on learning, elucidating the process by which a child actively creates a mental model or cognitive structure of his/her world.

Figure 1.1

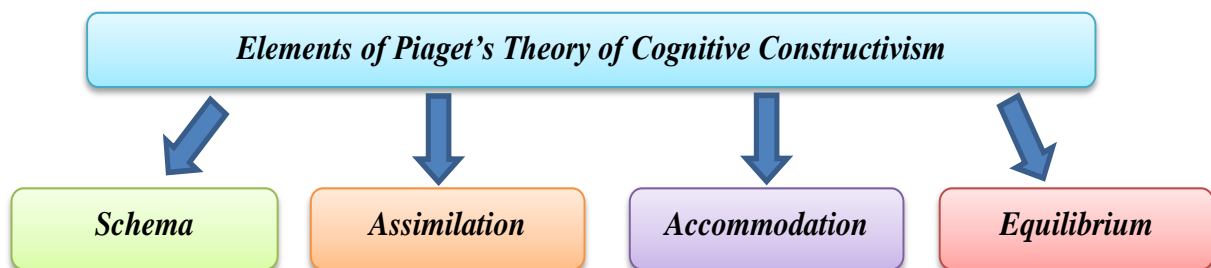


▪ **Component of Piaget's Cognitive Constructivism**

The primary components of Piaget's Cognitive Constructivism theory consist of the Schema, Assimilation, Accommodation, and Equilibrium. (Sharma & Gupta, 2013). According to Piaget, every individual has his own previous knowledge, a very basic mental structure when

he deals with objects, individuals and situations in life. These are termed schemas. Based on these schemas which are a set of linked mental representations of the world, all subsequent knowledge and learning occur. For example, a child may have a schema about a type of bird having characteristics like feather, capacity of flying etc. Assimilation enables the child to integrate newer experiences into older ones. Basically, it refers to the process of adding new information into the existing schema. With accommodation, the child makes adaptation by reframing, modifying the current knowledge in order to fit in new ideas. Piaget opined that all children attempt to establish a balance between assimilation and accommodation. And this state of mental balance is gained through the mechanism called equilibration. (Sharma & Poonam, 2016). According to Piaget, “Continuous interactions among existing schemes, assimilation, accommodation, and equilibrium create new learning” (Ozer, 2004). So, there should be an ongoing interplay between preexisting cognitive structures, assimilation, accommodation, and the attainment of cognitive equilibrium leading to the generating and facilitating of the new knowledge.

Figure 1.2



Piaget's Individual Constructivism is based on its essential tenets of discovery, invention and exploration by using individual cognitive ability. In the opinion of Piaget, it is essential to establish a suitable and conducive classroom setting to effectively foster the development of relevant and purposeful knowledge in children through their own unique meaning-construction capabilities.

ii) LEV VYGOTSKY'S SOCIAL CONSTRUCTIVISM

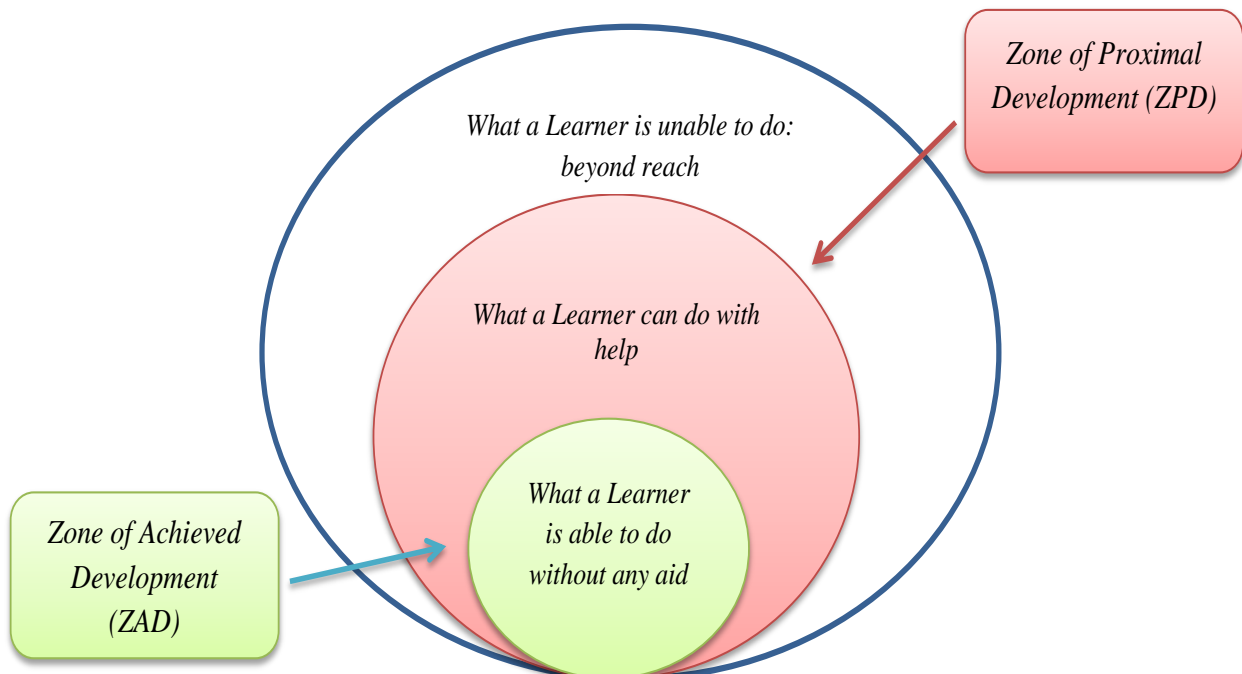
Soviet psychologist Lev Vygotsky's (1896-1934) theory of Social Constructivism places focus on the collaborative nature of knowledge creation, highlighting it as a collective endeavour rather than an individual one. As Vygotsky states, socio-cultural elements perform

role of paramount importance in facilitating learning process, as children acquire knowledge and skills more successfully through social interactions. For Vygotsky socialization becomes a significant factor for facilitating effective learning of children (Vygotsky, 1999). From social experience children learn; in such process of learning they first encounter the social environment on an interpersonal level, and then acquire learning by internalizing that experience (Woolfolk, 2004). Social constructivism believes that the process of individual learning and development is significantly influenced by several elements such as relationships with others, cultural instruments, and cooperative or joint endeavours (Rajan 2013).

- **Concepts Central to Vygotsky’s Theory of Social Constructivism**

Social constructivism asserts that learning occurs in the student's "Zone of Proximal Development" (ZPD) by means of collaborative knowledge generation (Vygotsky, 1986). The learning process gradually transitions from the inter-personal domain to the intrapersonal domain.

Figure 1.3

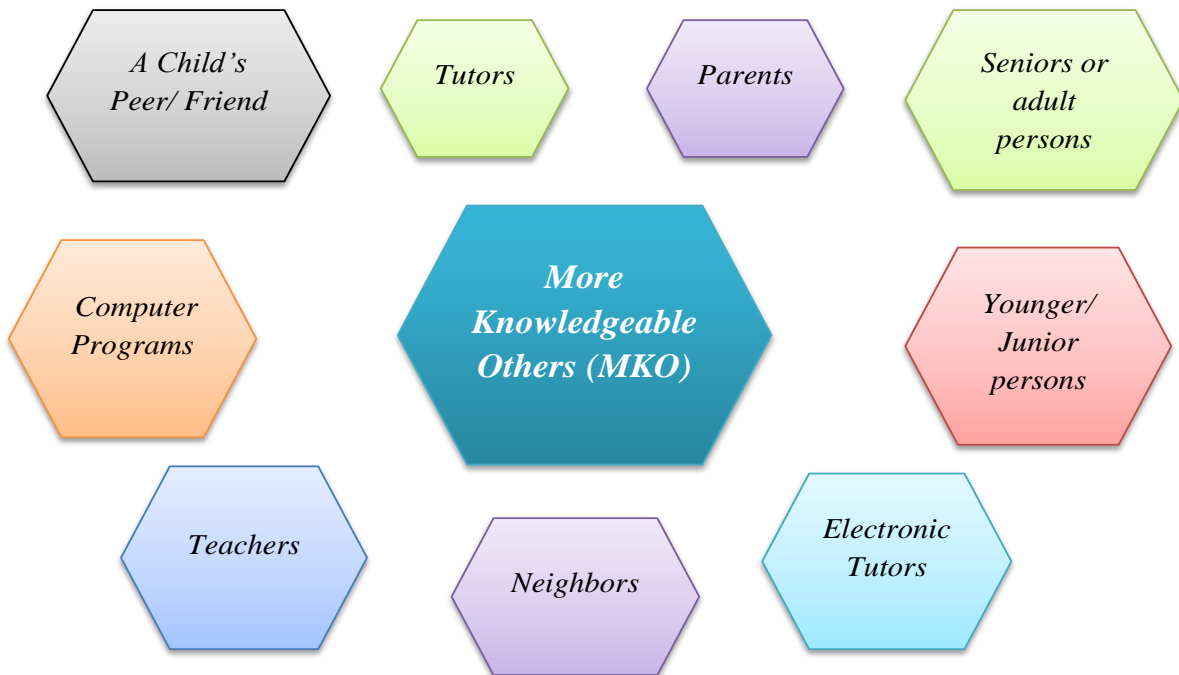


Simply, what Vygotsky defined ZPD as the gap between the exact developmental stage marked by self-governing and non-dependent problem-solving attempts and the possible developmental stage marked by the potential to resolve problems with the assistance or under the guidance of any adult or more proficient peer (Shabani et al., 2010).

Another crucial concept that was put forward by Vygotsky is the notion of More Knowledgeable Others (MKO). The term itself denotes someone who possesses a greater comprehension or superior proficiency compared to the student in relation to a specific task, process, or idea. The significant aspect of MKOs lies in their possession of a greater knowledge and understanding or programmed expertise in the subject matter being acquired, surpassing that of the learner. Noticeably, the peer group, friends, adults, seniors, juniors educators, teachers, parents and other family members all can play the significant role of MKO in the learning process. Indeed, it is not necessary for the MKO to be an individual entity (McLeod, 2014). MKOs also encompass cultural artefacts such as books, diaries, journals, movies, television shows, other forms of videos, computers, iPod, smart phones & other gadgets, the internet, ChatGPT and so on (Stojanov, 2023).

Vygotsky has also introduced the key concept of "scaffolding," which refers to the creation of a conducive and effective learning scenario where a knowledgeable teacher or a more advanced peer provides support to a novice learner. Through this guidance, the novice is able to successfully complete his or her assignment along with acquiring extended knowledge and skills (Damanhour, 2021) Nevertheless, with the help of this scaffolding-process, required and relevant guidance is offered to the learners so that they are enabled to broaden their horizon of understandings; and for that purpose, as Vygotsky states, interactive engagement with MKO is of prime importance in the process of meaningful learning to be taken place.

Figure 1.4



Thus, the main point claimed by constructivism is that children have the inner capacity to construct knowledge, either independently via their individual exploration or collaboratively via working with other people who possess greater expertise, referred to as More Knowledgeable Others. Both Piaget's Cognitive Constructivism and Vygotsky's Social Constructivism place learners at the core of the whole process of learning.

1.2.5 CONSTRUCTIVIST LEARNING MODELS

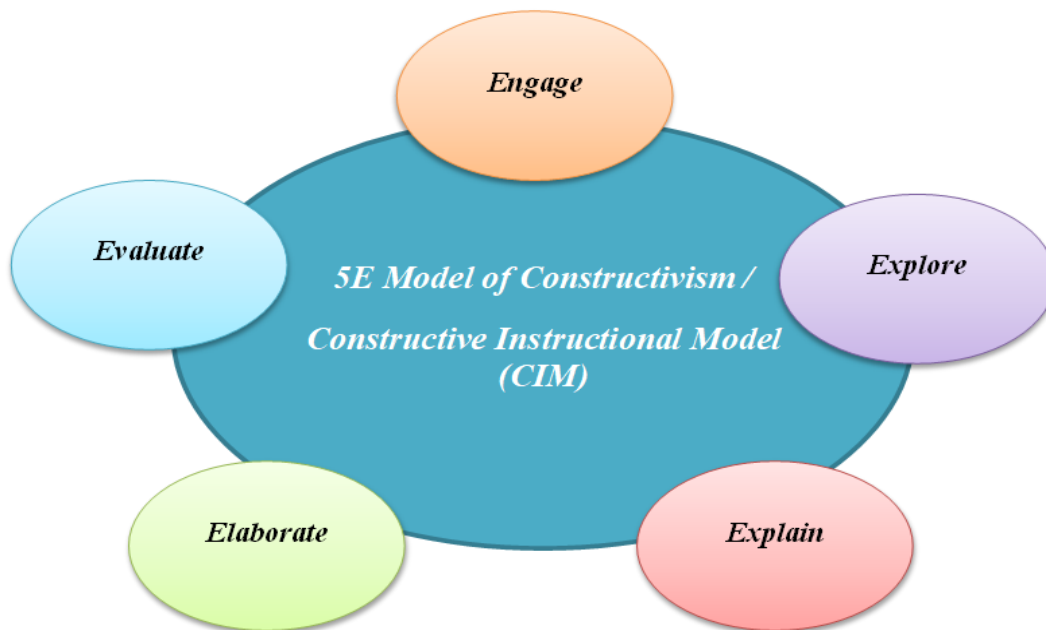
For the successful execution of the constructivist paradigm in the classroom environment, it is imperative to adhere to teaching models that are designed within the constructivist framework. Multiple models of constructivist learning are being suggested by different academics, researchers and professionals. in the field of education. Among those models the four most prevalent ones are briefly discussed below-

- **5E Learning Model (1997):** The constructivist teaching technique, as outlined in this model, is founded upon the acquisition of knowledge through the utilisation of the 5E's framework, which consists of the phases as follows: “Engage, Explore, Explain, Elaborate, and Evaluate” (Singer & Moscovici, 2008). This model under

consideration was established by the research team at the Biological Science Curriculum Study (BSCS), led by investigator Robert Bybee (Mahapatra et al., 2015).

The educational model consists of five interrelated phases. The first phase of the instructional process is known as "Engage." In this phase the endeavour is made to stimulate learners' prior knowledge by making them involved in a problem that has a connection with their past knowledge. In this phase, students are engaged as they are given instructional task by asking a question, defining a problem etc. In the second phase "Explore" students are afforded an opportunity to expand their knowledge base. Students engage in the process of independent thought, generating original ideas, formulating strategies, critically evaluating and structuring gathered data, all through a comprehensive exploration that involves all sensory modalities. Collaborative efforts are undertaken through team-based work. Thus, the initiation of the process of exchanging ideas and engaging in communication with peers occurs. In the third phase "Explain" students are motivated by their teacher to articulate and then explain their findings and discoveries in their distinctive utterances. The teacher seeks an explanation and elaboration from learners for their provided statements. In this way communication does not take place between peers only, but also with the teacher as well as within the learner himself. In the fourth phase "Elaborate" learners get the chance for the enhancement of a deeper understanding by utilizing their learned information. They establish linkages to other related ideas, and are able to implement them in new context or real-life situations. Thus, the more profound comprehension of the knowledge they have acquired, the individuals apply them effectively in novel circumstances and practical scenarios. This final phase "Evaluate" is about assessing and determining whether the students have acquired proper understanding of concepts. Teacher performs the task of ongoing evaluation through many methods, such as posing open-ended questions to students, employing structured observations using checklists, and conducting interviews with students (Sharma & Poonam, 2016).

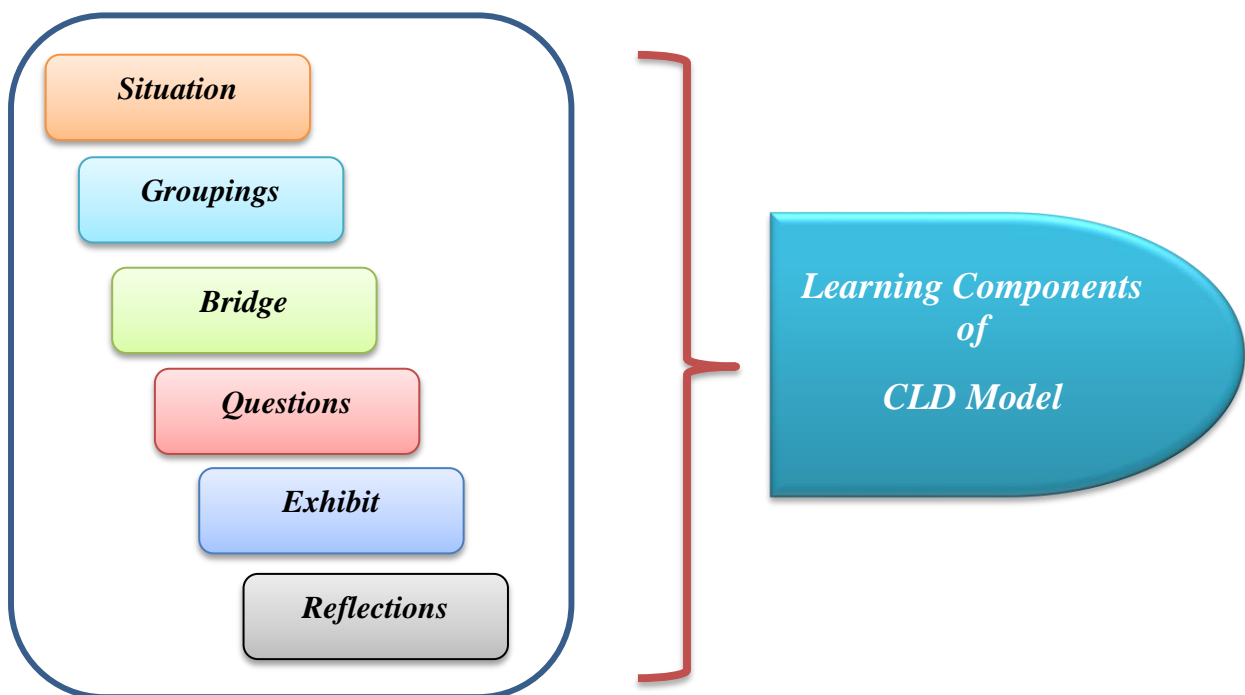
Figure 1.5



- **Constructivist Learning Design Model (2001):** This constructivist instruction model given by Gagnon and Collay aims at enriching the teachers' understanding regarding the constructivist view on the process of organizing classroom events for facilitating student learning. CLD encompasses six distinct learning components. (Mahapatra et al., 2015). They are as follows-i) Situation which is the overall overview of learning episode with the purpose of making pupils aware of the goals, tasks that students need to work upon. Basically, it refers to the comprehensive outline of the learning scenario encompassing the communication of learning objectives and activities that students are required to engage with. ii) Bridge is the second component where the teacher endeavours to assess the pupils' current level of knowledge in order to ascertain the gap between their existing knowledge level and the level where they should reach at the end of learning episode. This is very importance phase in the process of learning. iii) Grouping which is about formation of groups in order to collectively investigate the problem presented by the teacher. When groups are formed it fosters social interaction and cultivates a sense of team spirit. iv) Questions form crucial component of this model. In order to guide students towards their goal, the teacher employs probing questions. Probing questions are strategically crafted inquiries to enhance the depth of knowledge and comprehension on a certain topic

Probing questions serve the purpose of fostering critical thinking and encouraging both the inquirer and the respondent to delve into their ideas on a specific topic. v) Exhibit component is about students' engagement in demonstrating and elucidating their comprehension of the assigned subject matter by the usage of various visual aids such as graphs, charts, posters, models, and audio-visual presentations, and also through various activities like role plays, extempore etc. vi) Reflections: Students are given the chance to express and convey their reflections on the entire process of creating knowledge and understanding. The contemplations of students on their whole learning experience are valuable source of feedback for the teachers as well (Dagar & Yadav, 2016).

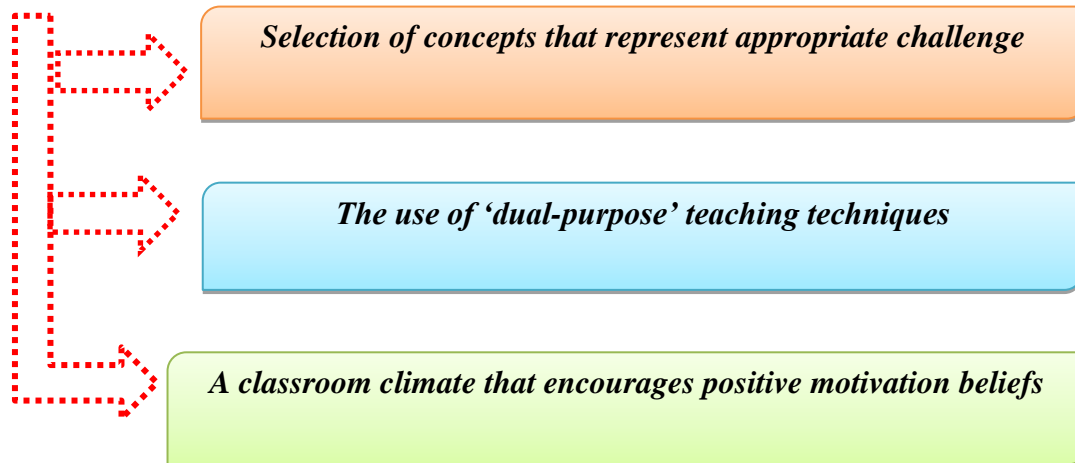
Figure 1.6



- **Motivational Model of Constructivist-informed Teaching (2005):** In 2005 David Palmer introduced this model to incorporate motivation as a facilitator for learning into the domain of teaching strategies and techniques. According to Palmer, motivation plays the crucial role of a catalyst for successful learning in terms of instructional strategies and approaches.

Figure 1.7

Elements of Motivational Model of Constructivist-informed Teaching

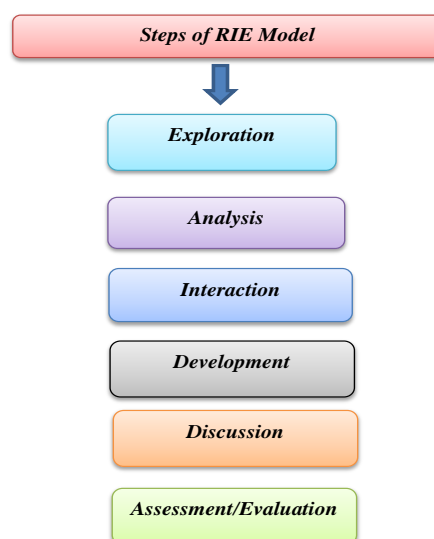


The first component of this paradigm places emphasis on teachers' selection of concepts that possess the capacity to stimulate the learners with tempting challenges in their learning situations. The second component focuses on the nature of the teaching techniques that will be chosen by the teachers. The teachers should embrace instructional strategies that have double purposes: one is facilitating the acquisition and development of logically and scientifically acknowledged ideas, and the other is generating motivation among the learners. This goal can be attained with the help of hands-on activities, computer utilization, activities encouraging application to real life situation. And finally, the last element of this model stresses on the creation of positive motivational beliefs among the learners through the cultivation of a classroom environment that is friendly, amicable, supportive, conducive, interactive and democratic. In such an environment, students are made to feel valued, encouraged and self-assured as they receive praise, compliments, and enthusiasm from their teacher in response to their learning endeavours.

- **RIE Model (2008):** The faculty members of Regional Institute of Education, Bhubaneswar have presented a constructivist teaching model that comprises six distinct steps. They are as follows- i) Exploration: In this step the teacher presents various forms of evidences, learning instances, activities, poses questions, and shows demonstration in order to elicit the learner's understanding and knowledge pertaining

to the relevant subject matter. ii) Analysis: It refers to the systematic process of classification of learning concepts into beneficial/non- beneficial, acceptable/unacceptable categories. iii) Interaction in an academic context pertains to active participation of schoolchildren in the learning practices, as well as their partaking in group discussions and collaborations. Through this process, the concepts that are deemed unhelpful or irrelevant are ignored based on collective decision-making. iv) Development: When the learners are curtailed with acceptable concepts, then they can effectively apply and expand upon these concepts in order to develop the core concepts that need to be taught. v) Discussion: In this step students are given an opportunity to engage in dialogue with unfamiliar, unknown, or novel events, evidence, and other relevant factors. The purpose of this discussion is to facilitate the extension and consolidation of knowledge through overcoming cognitive discrepancy or conflicts, if any exists. vi) The last step is Evaluation which refers to the ongoing, interactive and dynamic process of assessment undertaken by the teacher to determine whether the learners have successfully built knowledge and meaning in alignment with the teacher's intended outcomes. Noticeably, the evaluation process encompasses both formative and summative assessments, which are tailored to address the specific requirements of the learning environment as recognized by the teacher.

Figure 1.8



1.2.6 ROLE OF LEARNERS IN CONSTRUCTIVIST CLASSROOM

The function of learners holds utmost significance within a constructivist classroom setting. Learners are supremely valued in a constructive learning environment where they are not mere receivers of the instruction given by their teachers. Learners are not treated as passive entities as found in an instructivist classroom culture. In constructivist classroom learners are the most engaging participants in the whole educational process as they themselves are active constructor of knowledge and meaning. The primary focus of the learning environment is centred around the learners and their individual requirements, demands, expectations, desires, and interests. They are considered to be the focal point of entire teaching learning process (Porcaro, 2010).

In constructivist learning milieu, pupils possess a clear knowledge and understanding of the rationale behind learning endeavours they undertake. They are cognizant of the goal that underlies their educational pursuits. Students are better prepared to learn when their process of knowledge acquisition is further bolstered by the contextualization of learning experiences, wherein learners are prompted to actively participate in real-life tasks, acquire practical skills, and develop comprehensive understanding. In this way, it is the students who create the meaning and the knowledge. Knowledge is constructed as a result of students' ability to make sense of the world through their own thoughts, reflections, and experiences (Pritchard & Woollard, 2010). Learners should not be regarded as empty receptacles devoid of inherent capacity for knowledge acquisition. Teachers should never treat their students as empty vessels that cannot be filled on its own but entirely relying on others to be filled. Such confined view of learners needs to be strongly discouraged. Because learners do possess intellectual generativity; students are creative thinkers who can come up with their own questions, make their own observations, devise novel approaches to old issues, and build their own bodies of knowledge (Yilmaz, 2008).

1.2.7 ROLE OF TEACHERS IN CONSTRUCTIVIST CLASSROOM

In constructivist classroom setting the educator does not occupy a central role in instruction, nor do they own ultimate authority over the entire instructional process and learning content. In the conventional classroom the image of teacher is that of a very strict and the all-powerful figure who decides what students learn and how they would learn it. On the contrary, in constructivist learning milieu, the contributing role of the educator is often perceived as that of a scaffolder, motivator, and mentor (Porcaro, 2010). The constructivist teacher consistently

prioritises the learners, placing great importance on their own ideas, cognitive processes, and reflective abilities (ACT, 2007). Consequently, he or she creates such a welcoming learning environment that makes the learners feel free, frank and confident to convey and voice their thoughts and to express their uncertainties and inquiries without any hesitation. A constructivist teacher is characterised by their dynamic, reflective, introspective and thoughtful approach to planning their instructional methods. Constructivist educators strive to incorporate learners' prior experiences into their instructional design, aiming to actively engage them in challenging tasks, dialogues, and social interactions. Furthermore, they seek to create learning experiences that empower students to construct knowledge by utilising their own cognitive abilities. Additionally, they endeavour to contextualise learning activities by incorporating real-life examples. The teacher in constructivist classroom also acts as a prompter by redirecting the learners' thoughts and attention towards the desired goal through the use of questioning, if necessary. In a traditional classroom setting, the instructor typically assumes the role of a proficient speaker, focusing on delivering lectures. Conversely, the educator, in a constructivist classroom, adopts role of an exceptional listener, actively engaging in critical listening rather than passively receiving students' response. He or she attentively listens the students' articulations, thoughts, and then offering them appropriate feedback by giving critical comment or constructive criticism in simple and easy way so that students can comprehend in better way. In this way the teacher also serves the role of a simplifier who breaks down the large, complex concept into smaller, easy and more manageable steps. This approach helps to facilitate the learners' comprehension and understanding abilities (Pritchard & Woollard, 2010).

1.2.8 CHARACTERISTICS OF CONSTRUCTIVIST CLASSROOM

Teachers should attempt to design constructivist classrooms environment to foster active learning and prioritise student-centred education. These classrooms are rooted in constructivist learning framework which underscores the key notion that pupils actively build their understanding of the world by engaging in experiences and interactions. There are several notable characteristics that define a constructivist classroom:

1. Pupil-Centered: In constructivist educational setting, the primary emphasis is placed on the students, hence establishing a pupil-centred approach to the teaching learning process in which students are strongly encouraged to assume accountability for their own learning and are vigorously engaged in knowledge formation; and teachers

assume the role of facilitators or guides, as opposed to being mere lecturers. This innovative instructional approach to education entails a shift in emphasis from the teacher to the student, with the ultimate objective of cultivating self-reliant and self-sufficient learners by entrusting them with the responsibility of their own educational journey.

2. **Action-oriented Learning:** Various kinds of hands-on activities, experiments, and projects that allow pupils to actively gain knowledge with the help of direct, firsthand experience, are being emphasised in constructivist classroom.
3. **Collaborative learning:** Collaborative learning is considered a vital aspect of constructivist educational environments. It enables students' increased participation in group activities to collectively address challenges, exchange views, and present their individual viewpoints. Reciprocal teaching can be regarded as most relevant trait of constructivist classroom for emphasising the crucial significance of social dialogue in the cognitive growth process of the students.
4. **Interactive Classroom:** Interaction with fellow classmates and their teacher to have a meaningful discussion on the educational topic is extremely valued in constructivist learning setting. This facilitates interpersonal engagement and the interchange of diverse perspectives as well. Undoubtedly, a constructivist classroom must be communicative classroom.
5. **Active pursuit of knowledge:** In search of new meaning and knowledge learners actively participate by posing inquiries, conducting investigations, and endeavouring to find resolutions to various challenges. A constructivist classroom is marked by the active exploration of the students.
6. **Student Autonomy and Student Ownership:** Another important characteristic of constructivist classroom is that it believes in promoting learner autonomy and independence. Students are afforded the chance to assume ownership of their learning through the establishment of goals, the exercise of decision-making, and the contemplation of their progress. So, students enjoy complete agency in their educational experiences, which include the ability to determine educational objectives, choose subjects based on their own interest, and make decisions regarding the learning strategies to be employed for completing assignments and projects. The provision of autonomy enables students to actively engage in the construction of their knowledge and take accountability for their individual learning process.

7. **Authentic assessment:** Constructivist classrooms employ diverse assessment modalities encompassing portfolios, projects, presentations, and observations, in order to evaluate students' comprehension and academic as well as overall development. All these techniques, thus, surpass the conventional assessment methods such as tests and examinations which are most commonly used in traditional classroom.
8. **Flexible, Adaptable Classroom Setting:** The classrooms aligned with principles of constructivism, are purposefully structured in a manner that caters to various learning styles as well as learning preferences. The flexible approach to classroom organization potentially offers sufficient space areas for carrying out different collaborative activities and also solitary contemplation. This prioritises offering learners a wider range of options, enhanced convenience, and personalised experiences as per their individual needs. Thus, implementation of flexible learning strategies within the classroom setting has been found to contribute significantly to the enhancement of quality of education (Joan, 2013).
9. **Scaffolding** refers to the instructional practise utilised by teachers to provide pupils with assistance, direction and guidance, facilitating their learning process. As students make progress in their ability to engage in autonomous learning, the extent of support offered to them gradually decreases. This pedagogical practice guarantees that students are able to effectively approach and address complex assignments under the supervision and support of their teachers.
10. **Reflection:** Reflection plays a vital role in constructivist learning, serving as a fundamental component. Students receive encouragement to engage in self-reflective thinking (metacognition), reflect on and draw meaning from their experiences, and draw meaningful links between previously learned material and newly acquired learning material.
11. **Inclusive learning Climate:** A constructivist classroom is highly marked by an inclusive learning climate that has equal value and respect for all the children coming to school for education irrespective of their diverse backgrounds and learning capacities. This inclusivity within the learning environment embraces the different opinions and perspectives of student. Constructivist classroom celebrates diversity and practises inclusion.
12. **Real-life applicability:** The significance of real-world relevance in education is evident as educators strive to establish connections between classroom instruction and practical, real-life applications. This pedagogical approach facilitates students'

understanding of the pragmatic significance of their academic pursuits and its potential real-world applications.

13. Access to multiple learning resources: Constructivist classroom provides a learning environment which is enriched with a wide range of educational resources, such as textbooks, literature, journals, newspapers multimedia, videos, websites technology, and real-world artefacts, are accessible to facilitate learners in investigating and exploring the topic of their interest.

All these characteristics collectively establish a stimulating and efficacious learning milieu that fosters active engagement of the students, thereby facilitating more profound comprehension leading to meaningful learning encounters.

1.3.0 ORIGIN OF THE CONCEPT OF TWENTY FIRST CENTURY LAEARNING SKILLS (4Cs LEARNING MODEL)

The emergence of the theory of 4Cs in the domain of education is comprehensively and prominently recognised in the framework proposed by P21. Prior to that, the International Commission on Education for the Twenty-first Century published the Delors Report in 1996, which can be widely credited as the first major publication to highlight the significance of "soft skills" and "life skills." As stated in *21stCenturySkills: A Handbook*, there are numerous establishments and international organisations that formulated frameworks and guidelines in which various skills, competencies were identified as the most relevant and needed skills to be addressed and developed for encountering the difficulties and hurdles of 21st century life. Considering the historical progression, the following significant developments in the context of 21st century learning skills become evident (CBSE,2020).

Delors Report (1996) can be regarded as the first framework that verbalised the key four pillars that serve as the foundation of the education. “Learning to Know, Learning to Do, Learning to Be and Learning to Live Together”- were four pillars that make the entire educative process at work. These pillars outlined in Delors's report titled "Learning: The Treasure Within”, aim to guarantee that education facilitates the comprehensive development of the human personality, hence boosting holistic education. The foundational element of “Learning to Know” pillar encompasses knowledge formation and the skill enhancement concerning the phenomenon of lifelong learning. Next “Learning to Do” pillar encompasses the aptitude to effectively navigate various circumstances by engaging actively into the activity. The concept of "Learning to Live Together" pertains to the cultivation of empathy

and recognition of the interconnectedness among individuals, whereas "Learning to Be" involves the recognition and fulfilment of one's own capabilities, as well as the ability to exercise increased independence and individual accountability. Thus, the insertion of life skills into the curriculum for the complete development of pupils is facilitated by the conceptual framework provided by the four pillars of learning (Hardikar et al., 2020).

The Asia-Pacific Economic Cooperation (APEC) forum as an intergovernmental organisation (1989) for 21 economies in the Pacific Rim, also acknowledged the imperative of fostering the acquisition of twenty-first century capabilities among young individuals as a matter of significant global importance (Wesley, 2003). The competencies referred to in this context incorporate the essential information, skill sets, and attitudes required for individuals to effectively compete in the workforce of the twenty-first century. These competencies are also crucial for individuals to engage effectively in an ever-growing diverse society, to adapt to emerging world of new technological advances, and negotiate the dynamic nature of modern workplaces.

In 1999, the World Health Organisation (WHO) delineated six fundamental domains of life skills. They included i) Decision adoption - Problem-resolution ii) Creative and Critical Thinking iii) Communication-Interpersonal Skills iv) Self-Awareness and Empathy v) Assertiveness and self-control, vi) Resilience and ability to cope with problems. According to WHO (1999), these life skills refer to a set of capabilities that facilitate individuals in exhibiting adaptable and constructive conduct, thereby equipping them with the ability to handle the different demands and obstacles encountered in their daily existence. Life skills empower students to effectively apply their knowledge, attitudes, and beliefs, thereby acquiring functional skills that encompass both the understanding of what has to be done and the proficiency in executing the necessary actions. The detailed and structured teaching of life skills in schools has the potential to inspire children and adolescents, ultimately contributing to the harmonious development of generations to come and addressing concerns over their quality. Thereby, WHO advocated for the widespread adoption of life skills education that should be incorporated into the curricula of numerous educational institutions worldwide. Life Skills Education (LSE) is an innovative initiative that utilises participatory learning techniques such as games, discussions, debates, role plays and simulations, to provide students with essential life skills. LSE serves as a means to foster positive health outcomes and to enhance self-esteem by enabling individuals to make informed choices regarding their values and behaviours (Bharath & Kumar, 2008).

Organisation for Economic Co-operation and Development: OECD’s publication titled "21st Century Skills and Competences for New Millennium Learners in OECD Countries" (2009) provides an overview of the three primary dimensions associated with 21st Century Skills. These factors include: i) Communication, ii) Information, and iii) Ethics and Social Impact.

Wagner (2010) and the Change Leadership Group at Harvard University recognised a further set of essential competences and skills. Based on an extensive collection of interviews conducted with leaders from various sectors including business, non-profit organisations, and education, Wagner emphasises the importance of seven competencies that learners should possess for them to successfully meet the challenges of 21st century world. These competencies include critical thinking, cooperation and leadership, flexibility and adaptation, initiative and entrepreneurial spirit, competent spoken and written communicative ability, information access and analysis, and inquiry and inventiveness (Luna, 2015).

The P21 Framework was developed by an organisation namely Partnership for 21st Century Skills which was based in United States and founded by a coalition of leaders from the corporate and educational sectors. Its purpose was to delineate and elucidate the knowledge, skills, and support systems that are essential for contemporary students to achieve success in their academic pursuits, professional endeavours, and civic responsibilities. P21 (2011) specifies the essential knowledge, competencies and skills that students must acquire in order to enhance their future employability. P21 provides a comprehensive framework consisting of eleven distinct competencies, which are further categorised into three broad skill sets. These skill sets include: “Learning & Innovation Skills”, “Information, Media & Technological Skills”, and also “Life & Career Skills”.

Figure 1.9



Citing source: <https://www.battelleforkids.org/networks/p21>

The foundation of the P21 Framework is largely rooted in the conviction that children require adequate opportunities and pathways to acquire the necessary skills for their future professional endeavours. The framework remains widely utilised by many educators and academic institutions worldwide, since they are committed to prioritising the development of twenty-first century abilities in the learning process (Nair & Ranjan, 2020). The P21 framework ensures that all students participate in 21st-century education by placing a strong emphasis on the four skills such as communication, collaboration, critical thinking, and creativity, together known as the 4Cs, which are necessary for achieving accomplishment in this modern world. Furthermore, it underscores the importance of considering different perspective while implementing the various methods and strategies that incorporate 4Cskills. Integration of twenty first century learning abilities need to be perceived through a different lens for a new outlook. Typically, the domain of 4Cs has been deemed as a Greek discourse as if it has no ties with the core academic studies. But the development of 4Cs should not be a treated as a foreign concept unrelated to scholarly pursuits. Rather the 4Cs should be regarded as a pertinent discourse that exhibits a close connection with essential academic disciplines. Hence, it is imperative that these skills are instilled and cultivated within the framework of core academic disciplines such as social studies, the arts, mathematics, and the contemporary issues of the twenty-first century. As a result, P21 expressed a holistic and upbeat vision of education in the twenty-first century (Yell & Box, 2008). NEP,2020 has also highlighted the need for adopting the integrated and comprehensive vision of 21st century learning articulated by P21. As NEP,2020 recommends, 4Cs should be seen as an important academic dialogue with close relations to fundamental disciplines. This means 4Cs need to be taught and refined in the framework of core disciplines like history, literature, science, and mathematics, as well as the and concerns of the twenty-first century. As holistic development of students has been acknowledged as prime goal of today's education system in National Education Policy 2020, it places major concentration on development of various skills for equipping the next generation of Indians to navigate and thrive in the unpredictable challenges and complexities of 21st-century living. It recognises the significance of instilling essential skills such as analytical and critical thinking, and soft skills like communication, cooperation, teamwork, and resilience. It seeks to facilitate learners in acquiring both academic proficiency and essential 21st century learning skills in a cohesive way.

1.3.1 CONCEPTUALIZATION OF TWENTY-FIRST CENTURY LEARNING SKILLS

In the contemporary educational landscape, it is imperative for learners to possess a repertoire of essential skills, including critical thinking, effective communication, collaborative proficiency, and the ability to engage in creative thinking and problem-solving. The development of critical thinking, creativity, communication and collaborative abilities is crucial for the present-day learners. These four skills are considered indispensable components of twenty first century learning skills.

The process of critical thinking entails looking at problems and challenges from various perspectives and drawing connections across different areas of study. Critical thinking covers the cognitive capacity to engage in rational, methodical, analytical, and scientific modes of thought (P21, 2011). In various academic, professional and personal contexts, individuals are required to engage in the exercise of critical thinking in order to perform better by developing their reasoning abilities. This includes employing both deductive and inductive reasoning as appropriate to the given situation. So, critical thinking is a cognitive process that involves the application of clear, logical, and reflective reasoning in order to make sensible choices regarding beliefs or actions. This entails the act of posing inquisitive inquiries such as, "By what means can we ascertain the veracity of this claim?" or "Does this hold true universally, or solely within the confines of this particular scenario?" The process involves adopting a sceptical stance and critically questioning assumptions, as opposed to mere rote memorization of information or uncritical acceptance of communicated ideas (Pardede, 2020). Furthermore, it enables individuals to make rational judgements and informed decisions by carefully analysing and evaluating various elements, such as claims, evidence, beliefs, arguments, alternative perspectives, and statements. Evidently, enhancement of critical thinking becomes vital so as to generate more effective answers to a wide range of unexpected challenges or to provide better resolution to unacquainted and complicated problems. Students who acquire and cultivate critical thinking skills also have other benefits, including enhanced focus, heightened analytical capacity, and higher cognitive capacity for processing information.

The National Education Association (2012) claims that students will not be adequately prepared to meet the changing demands of society and the workplace if they obtain mere academic degrees without developing the skill to continually create and expand fresh or

unfamiliar concepts. As a cognitive process, creativity entails straying from conventional thinking pattern, and employing divergent thinking in order to produce some new and intriguing results which are outside the box. Creativity is the generation of original ideas and solutions within the context of practical limitations imposed by everyday circumstances. This is achieved by the application of novel concepts and innovative approaches to solutions (Chiruguru, 2020). The identification of problem and resolution of problems are fundamental components of the creative process. The process of creativity is characterised by its unorthodox nature and requires individuals to modify or abandon their preexisting views (Herbig & Jacobs, 1996; Al-Ababneh, 2020). Shalley et al. (2004) propose that creativity can be conceptualised through two distinct dimensions. The initial dimension pertains to the concept of novelty, which is a prevalent phenomenon in everyday existence. Consequently, each individual possesses the potential to engage in creative endeavours, which serve as a vital element in their contributions to many domains such as professional, academic, social, and personal spheres. The second component pertains to the notion of utility, encompassing tangible or practical methodologies for evaluating innovative ideas. Nevertheless, it is indisputable that the concept of creative thinking includes both the principles of originality and practicality (Petrowski, 2000). According to Woolfolk (2001), fostering creativity in the classroom promotes the adoption and use of divergent thinking among students. However, it is important to note that creativity encompasses more than just divergent thinking; it also encompasses convergent and evaluative thinking (Beghetto & Kaufman, 2010). Sir Kenneth Robinson, a well-respected scholar and public speaker on the discourse of creativity, has opined his perspective that creativity is just as important as literacy in the domain of education and thereby, deserves the same consideration. To quote Robinson's utterances, "Creativity is as important in education as literacy and we should treat it with the same status." (Robinson, 2006). According to Howard Gardner, it is imperative to recognise the creative mind as one of the quintessential cognitive faculties that individuals will require in the forthcoming era. He contends that education should include fascinating learning aspects like exploration and discovery, challenging projects, experiential tasks in order to foster a constructive mindset among the young students. The ability to engage in creativity necessitates individuals to possess a willingness to embrace novel ideas and unique perspectives, while also being open to receiving numerous observations, suggestions, recommendations, criticisms and other forms of constructive feedbacks from other people. Individuals who possess critical thinking and creativity skills typically exhibit traits of curiosity and introspection. Individuals possess an inclination for venturing into uncharted

territories and conducting thorough investigations, driven by a desire to acquire knowledge, attain clarity, and devise innovative resolutions.

Instilling collaboration and communication skills among learners of twenty first century world is also pretty essential. Roschelle (1992) views collaboration as a skill for the construction of shared meanings that are result of convergence. Collaboration refers to the reciprocal involvement of individuals in a synchronised endeavour aimed at collectively resolving a shared problem (Roschelle & Teasley 1995). According to Dillenbourg (1999), joint problem solving can be considered as a definite manifestation of collaborative learning. Collaboration involves coordinated activity which aims at building a common conception of a problem and then leading to find out a joint notion of the solution of that problem. The collaborative ability required of individuals involve assuming shared responsibility for cooperative tasks while demonstrating respect, dignity and appreciation for the distinct contributions made by each member of the team (Chiruguru, 2020). Van Boxtel et al. (2000) claim that the implementation of collaborative educational tasks provides learners with an opportunity to articulate and elucidate their understanding, so aiding in the process of elaborating and reorganising their knowledge. The act of engaging in social interaction serves to enhance the development of conceptual knowledge as individuals within a group endeavour to effectively convey their thoughts and ideas. Empirical studies have shown that once students engage in verbal communication to express their conceptual understandings, they have the opportunity to collectively negotiate meaning and ultimately reach a state of convergence, where a shared understanding is achieved. It is important to note that the quality of interactions, particularly the degree of interactiveness, intercommunication, flexibility and negotiability, greatly affects the success of collaboration (Lai, 2011). Lastly, the skill of communication encompasses the ability to effectively articulate ideas through both oral and written means, to convey thoughts, to elucidate perspectives, to present clear instructions, and furthermore, to motivate individuals through the power of speech. Misunderstandings and misinterpretations can be avoided with the help of strong communication skills (Joynes et al., 2019). So, communication is considered as the process through which individuals communicate data, share ideas, or opinions through the utilisation of a shared system of symbols, signals, or actions. The process encompasses the transmission and reception of messages through several channels, including oral, nonverbal, textual, and visual means of communication. The ability to effectively communicate necessitates making use of concise and straightforward language to articulate thoughts, as well as engaging in mindful listening

in order to comprehend the intended message. As Idalberto Chiavenato defines communication as “process of passing information and understanding from one person to another. Therefore, all communication influences at least two people: the one who sends the message and the one who receives it” (Chiavenato, 2006).

1.3.2 NEED FOR TWENTY-FIRST CENTURY LEARNING SKILLS

Demanding necessity for the cultivation and development of twenty first century learning skills in order to boost the overall growth of each learner in today's world, has been highly recognised by NEP, 2020. As per the guidelines outlined in the National Education Policy (NEP), 2020, it is imperative for Indian education system to prioritise comprehensive development of learners and equip them with the essential skill sets required for navigating the myriad challenges and growing demands of the 21st century. Thereby, it has placed greater emphasis on developing essential skills for today's learners. To effectively pursue the objective of optimising individual potential, the National Education Policy (NEP) of 2020 asserts that education should aim to cultivate a comprehensive range of capacities, encompassing not only cognitive abilities such as literacy and numeracy, but also advanced thinking abilities like critical thinking and problem-solving. Additionally, education should also foster the development of social, ethical, and emotional abilities and tendencies. Thus, it recognises the significance of instilling essential capabilities like problem-solving, critical thinking, as well as interpersonal skills like communication, cooperation, teamwork, and resilience that are expected to effectively empower the future generation of Indians in their preparation for life. According to Joynes et al. (2019), in order to thrive in the contemporary global society, it is vital for present-day students to possess proficiencies in communication, collaboration, creativity, and critical thinking.

Every educator and teacher should come forward to acknowledge the significance of 4Cs and encourage the development of those relevant skills among students. All individuals of today's world should have a strong inclination towards critical thinking as it enables them to analyse data critically, to evaluate conflicting viewpoints, and to form educated decisions in life (Chiruguru, 2020). Critical thinkers, thereby, typically demonstrate a propensity for general curiosity about the surroundings and also self-awareness. The cultivation of critical thinking skills is of utmost importance as it empowers individuals for delving into lesser-known domains in their quest for genuine information, elucidation, and innovative concepts. Enriched with critical thinking capacities, learners can analyse and evaluate claims

statements, arguments, and most importantly, discern between factual information and subjective viewpoints, thereby raising pertinent inquiries. According to Priester (2014), individuals possessing critical thinking skill are also able to critically examine their own views as a means of engaging in logical thinking. Therefore, the ability to think critically plays a crucial part in interpreting information and formulating conclusions through a methodical analysis, and also in addressing problems of varying magnitudes, whether they be of a minor or significant nature.

Creativity skill also can be considered a fundamental skill that permeates various facets of human existence and is intricately linked to the development and progression of the human species (San, 1985). As stated by Sternberg & Lubart (1996), Creative capacities make individuals enabled effectively address a specific problem using genuine and original alternatives. Creativity skill teaches how to look at a particular circumstance and problem from multiple points of view. The primary advantages associated with the cultivation of creative thinking encompass a range of outcomes. These include the enhancement of one's self-assurance, self-confidence, self-concept; the ability to address challenges with greater efficiency, the acquisition of respect from others for acknowledging and understanding the different perspectives of others, the capacity to serve as an innovator, the potential to effect meaningful change, and the likelihood of achieving enhanced professional success (Gafour & Gafour, 2020).

Noticeably, the practice of collaborative and communicative activities is also deemed essential within educational settings. This is due to the fact that successful endeavours, resulting in the attainment of desired outcomes, are typically achieved through the collective efforts of teams, rather than by individuals who opt for solitary work (Boskamp, 2023). In the context of the contemporary global society, student- collaboration holds significant importance as it enables groups to generate a greater quantity of information and knowledge (Chiruguru, 2020). Nevertheless, if classroom interaction is not actively promoted, students may encounter challenges in communicating information, expressing their opinions, and addressing their problems and uncertainties. In such cases, even provided with sophisticated technological classroom facility or having highly knowledgeable teachers, the effectiveness of learning is likely to be compromised. In simple terms, the absence of communication results in a lack of acquisition of knowledge. Communication is the essential skill that enables individuals to disseminate knowledge, facilitate the interchange of ideas, foster the sharing of opinions and viewpoints, voice doubts, queries and problems, and ultimately,

propose solutions. The process of communication has a crucial role in building strong connections with individuals from varied contexts enabling effective interaction in multilingual and multicultural environments (Chiruguru,2020). So, it is imperative to ensure that all these four vital skills are executed in in classroom learning situation in an efficient manner.

1.3.3 INCLUSION OF 4Cs IN CLASSROOM PRACTICES

Emphasis should be placed on the incorporation of the "Four Cs" into instructional strategies within the classroom setting to guarantee learners' involvement in substantive and pertinent educational endeavours (National Education Association, 2012). It is imperative to prioritise the implementation of practical techniques that contribute to the realisation of 4Cskills within the academic setting. These innovative learning strategies hold significant importance in enhancing the overall learning environment. However, it is crucial to acknowledge that all four components of 21st century learning skills exhibit interrelatedness. For example, the act of collaboration necessitates the employment of critical thinking, creativity, and communication skills. Consequently, the learning techniques may prioritise the cultivation of one of the 4Cs, while concurrently fostering the development of complementary skills, as the 21st century competencies and abilities often exhibit a close interdependence, and thereby, cannot be easily disentangled from one another. Evidently, there are certain teaching-learning tactics or strategies that can be employed across all levels of education, whereas others are more specifically tailored to secondary school students or individuals pursuing further advanced level education. Hence, it is incumbent upon educators as well as teachers to exercise discernment in selecting classroom activities that yield the greatest advantages for their students.

The integration of critical thinking skills can be effectively included into the instruction of fundamental academic topics through the application of stimulating learning strategies. a) One approach to foster critical thinking among students is to stimulate their cognitive processes by the posing certain insightful inquiries, prompting queries and thought-provoking questions such as "What is the most/least important...?" , "What we can change to make this better?". All these prompting questions should be asked after the students complete their class on any particular subject-topic, hoping to improve the experience for future students. Such questions can also help to generate ideas by encouraging critical thinking (Joseph, 2019). b) Various instructional strategies such as mind mapping (utilising story maps or poem map or

other content/narrative maps), spider diagramming, puzzle-solving, jigsaw activities, quizzes, and brainstorming exercises can be employed to foster students' critical thinking, problem-solving competencies. c) Using self-evaluation, peer assessment strategies, which may help students independently evaluate their own and their peers' progress d) Helping students maximise their usage of technology and inspiring them to conduct research in virtual spaces. They could then practise independent thought, construct and refine arguments, examine and synthesise supporting evidence, detect and address bias and evaluate the efficacy of claims (Pardede, 2020).

There exist several appealing approaches to enhance students' development of creativity skills. a) One such approach involves instructing students to take part in creative writing subsequent to the completion of a unit or lesson. Following this written exercise, students are given the assignment to create a visual representation that accurately depicts their comprehension of the text. Children derive pleasure from exercising their imaginations. One effective method for fostering creativity among students is to assign them the task of crafting inventive narratives. This entails challenging them to construct captivating and thrilling stories that feature original characters, locales, plots, and challenges (Martin, 2017). The realm of creative writing comprises other forms of literary expression, such as the composition of rhymes, poems, and acrostics (Lee, 2019). Additionally, it involves the formulation of dialogues, essays, and screenplays, all of which serve to demonstrate the thematic elements within fictional works. b) Constructing models, charts, and diagrams to illustrate or depict scientific concepts. c) In accordance with Larraz-Rábanos (2021), activities such as engaging in puzzle building, formulating questions, addressing hypothetical scenarios, utilising open-ended inquiries, and employing analogies are employed. d) In accordance with Pardede (2020), students are assigned the responsibility of developing innovative ideas through the utilisation of techniques such as mind mapping. e) Creative brainstorming is an exceedingly potent approach for increasing creative thinking. These learning techniques utilise learners' divergent thinking abilities, which contribute to the cultivation of creativity.

The integration of collaborative skills into learning process can be carried out through various interesting ways, like a) Students engage in collaborative conversation which can be discussions on scientific topics or on literary topics, group discussion on contemporary themes or some burning issues where students are able to effectively employ claims, facts and evidence, and reasoning ability, either through digital means or face-to-face interactions

(Lai, 2011). b) Collaborative assignments, such as group projects, offer students in the field of social studies the opportunity to engage in conducting research pertaining to a current societal matter within small teams. Through this process, students can analyse the historical, socio-cultural political, and economic components of the issue, while also considering various perspectives and potential resolutions. Ultimately, the outcome of these collaborative projects may involve the creation of a concise digital presentation effectively encompassing all facets of the subject matter. c) Group brainstorming can be considered as another alternative method which involves conducting interviews with fellow students and/or teachers to identify a specific issue, such as bullying on the children park or in school. Subsequently, students collaborate to generate innovative solutions for addressing such sensitive problem. d) Allocating pupils to be engaged in collaborative tasks, such as matching, listing, ranking, sorting, and information gap activities, including jigsaw activities and barrier games. e) Involving learners in participatory storytelling activities such as Zoom sessions, stories like grab bag exercises, co-created narratives or stories, role playing for better analysing and interpreting those stories (Pardede,2020). f) Students' involvement in group debates that involves an organised discussion activity on a specific problem or resolution, with the participation of three distinct groups: the affirmative team (supporting the resolution), the negative team (opposing the resolution), and a third group designated as judges (Scannapieco, 1997). The use of such cooperative learning activities across several disciplines has the potential to instil a sense of collective consciousness among the learners.

Notably, the cultivation of these key abilities and competencies among learners can be achieved through the considerable promotion of communication skills within the classroom setting (Khan et al., 2017). Various pragmatic strategies for enhancing communicative proficiency include a) Fostering interactive classroom discussions between teachers and pupils, as well as among the pupils themselves. The instructor should encourage learners to acquire the skills necessary for initiating and concluding dialogues, posing inquiries, and responding to cues and prompts. b) Setting up a game of "Spin the Theme Wheel" c) Telling personal anecdotes (recounting personal situations, describing known events, narrating own experience or factual information about individuals that students can relate to and draw inspiration from), d) Arranging extempore speaking events e) Students-led power point presentation depicting the given learning situation from their unique perspective, and then presenting it to the entire class. e) The utilisation of pronunciation drills that enables language learners to enhance their pronunciation skills by provided exposure to news, speeches, songs,

stories, educational podcasts and easily available online videos in relevant languages such as Bengali, English, Hindi (Pardede,2020). f) Motivating pupils to be involved in some effective learning practices like taking notes, paraphrasing, citing, summing and interpreting; also encouraging them to write essays, journals, diaries and make posters with relevant and innovative captions or rhymes. The aforementioned elements are fundamental constituents of written communication. Students are able to articulate their ideas and views effectually through spoken and written means of communication.

1.3.4 SECONDARY EDUCATION AND TEACHING LEARNING PROCESS WITH RESPECT TO DIFFERENT EDUCATIONAL COMMISSIONS AND POLICES AT THE NATIONAL LEVEL

Since secondary education prepares students for both higher education and the workforce, it is the most fundamental and relevant phase in the educational hierarchy. Various educational commissions as well as national policies on education have played a pivotal role in shaping school education of India today. Let's make a thorough examination of the various recommendations made by different commissions and policies pertaining to the delivery of secondary education.

University Education Commission (1948–1949): In 1948, this was the first education commission established in post-independence period. The University Education Commission's Report is a crucial document that has shaped India's higher education landscape ever since the country gained its independence. Dr. Sarvepalli Radhakrishnan led the capable team of this commission successfully. Also known as Radhakrishnan Commission, it was established to investigate the prerequisites for higher education in India to cultivate unity, peace, and democratic ideals. The primary purpose of this commission's formation was to address problems confronted by colleges and universities (Jeena, & Sabu, 2021). So, it majorly focused on the higher education of India; secondary education was not separately concentrated. Nevertheless, it proposed for the establishment of UGC to facilitate the merging of secondary and postsecondary education.

Mudaliar Commission (1952-53): The Indian government appointed the Mudaliar Commission, subsequently referred to as the Secondary Education Commission. The primary goal of the Mudaliar Commission was to investigate and provide a report on the current state of secondary education in India, covering all its relevant facets. Initial efforts such as opening of the residential schools within every community development block were planned, and

midday meals were suggested for pupils even though the programme was only put into place in 1995. Measures were taken to ensure that the education of the disabled and backward classes is met. The commission identified the primary flaws in the contemporary secondary education system and offered pertinent solutions, including a drastic reorientation and redesigning of the current structure (Navi, 2015). It was suggested that secondary education to be reorganised and improved in terms of its goals, structure, and curriculum in order to establish a rational, sound, and uniform secondary education system that can serve the entire nation's requirements and resources. With respect to the span of secondary education, the recommendation was that pupils should attend secondary school from the age of eleven to seventeen. These seven years of schooling had been split into two sections: (i) a three-year junior high school stage and (ii) a four-year high school stage. The following curriculum modifications for secondary schools had been recommended by the commission. For example, to establish multipurpose schools in response to students' differing needs and areas of interest; to make agriculture, home science as required topic in schools; placing strong emphasis on maths and science; incorporation of work experience in the curriculum etc. It was recommended that the mother tongue or the language of state should be used as the medium of instruction; at the junior high school level children ought to be taught a minimum of two languages. Additionally, the commission suggested that secondary-level pupils should study three languages at a minimum: their native tongue, a regional language, and a foreign language. The committee proposed that the curriculum ought to be based on the demands of society and the interests of the pupils. The way it was set up that ensured that the students' free time is not squandered. According to its suggestions, subjects for lower secondary education in junior high school should include math, science, agriculture, language, social studies, physical education, art, handicrafts and music; for upper secondary education, subjects should include humanities, science, fine arts, industrial subjects, commercial subjects and home science. Thus, Mudaliar Commission endeavoured to improve the existing condition of secondary education in India with its thorough examination and recommendations.

Kothari Commission (1964-1966): The National Education Commission (1964–1966), also referred to as the Kothari Commission was established by the Indian government and chaired by Daulat Singh Kothari who was also the chairman of the University Grants Commission. It looked into all facets of the country's educational system, developing a general educational framework, and offering recommendations & policies for the country's educational growth

and progress. The commission's mandate included advising the government on a standardised national pattern of education in India as well as developing broad principles and standards for the advancement of education from the lowest levels to the highest. The report of the Kothari panel was centred on national development and education. The Commission held the view that education ought to be closely connected to the needs, goals, and lives of the populace in order to accomplish an array of national goals. The Kothari Commission's principal recommendations were as follows: It suggested a common school system that would give children of all ages, regardless of socioeconomic status, equal access to schooling. To guarantee that everyone has access to a basic education, the Commission recommended offering free and mandatory education for children up to the age of 14. It also suggested strongly that the country's educational system should be standardised using the 10+2+3 model (Singh, 1969). The Kothari Commission's three language formula was put forward, according to which the mother tongue or regional language, the state's official language, and English should all be taught to students in schools. The Commission also stressed the value of an adaptable and well-rounded curriculum that would foster students' critical thinking, creativity, overall growth and harmonious development (Poornima, 2020).

The National Policy on Education (1986): In 1986, Prime Minister Rajiv Gandhi unveiled a new National Policy on Education. In particular for Indian women, ST, and SC populations, this plan of action called for a special emphasis on eliminating discrepancies and ensuring equal access to education. In order to strengthen primary schools across the country, the NPE initiated "Operation Blackboard" and advocated for a "paediatric- approach" to the educational process in general with special focus on primary education. It also recognized mother tongue as the medium of instruction at the school stage. Enhancing the school environment, using a child-centred and activity-centred pedagogical approach, evaluating students' progress continuously all year long, eliminating physical punishment of any kind, maintaining the elementary school practice of never failing a student, and setting up basic school supplies - all these ways to improve the quality of school education was emphasised in NPE, 1986 (Jeena, & Sabu, 2021). Navodaya Vidyalaya establishment was another major milestone in the history of education. Common school curricula, minimum learning load, value education, promoting gender equality, the importance of media and education technology, work experience, a major focus on providing instruction in science and mathematics, sports and physical education, and education for international awareness were also the other key components of this policy (Kantha, 2020).

National Educational Policy 2020: The Ministry of Human Resource Development released New Education Policy 2020 (NEP), which intended to update the 34-year-old, outmoded educational policy on school and higher education system of the country. This new policy adopts a more pragmatic approach and is grounded on the educational realities of the nation, emphasising students' personality development and inculcation of skills and competencies like creativity and innovation above test results and superficial knowledge accumulation. This policy, which is based on the fundamental tenets of accessibility, equity, quality, affordability, and accountability, aims at making education in both schools and institutions of higher learning more multidisciplinary, adaptable, comprehensive, integrated, tailored to the demands of the twenty-first century while also highlighting each student's individual abilities (Sharma, 2023). It is also in line with the 2030 Agenda for Sustainable Development.

In this new policy the concept of a 10+2 board examination format has been abandoned, which would lower the percentage of drop out students. Since the foundation of the previous educational system was the outdated 10+2 structure, the new one is a strict system with mere focus on examinations and syllabus completion. The new structure (5+3+3+4) that would be put into operation is innovative and groundbreaking. According to the newly formed policy, learners are going to invest five years in building their foundation, three years in the preparatory stage, next three years in the middle stage, and the remaining four years in the secondary stage. It asserts that at the very beginning of Class 6, the pupils will receive increased exposure to the vocational training. Most interestingly, from classes 8 to 12, pupils are able to choose the courses that most excite them, and this will provide them the opportunity to specialise in those areas. The mother tongue or a local or regional language of the learner shall be utilised as the medium for communication until at least grade five, but preferably until grade eight or beyond. The "three-language formula," wherein two of the three languages are native to India, will still be used in classrooms. The curricula will focus more on experiential learning, reduce bookish and knowledge based curricular content to provide students with the important 21st century skills. The goal is to educate students holistically with the help of a curricular framework that combines particular disciplines with various abilities and skills. For instance, the policy places a strong focus on language competency as well as a variety of competencies, such as problem-solving and evidence-based reasoning. Furthermore, the pedagogies serve to improve teamwork, collaboration, and communication abilities. More the subject alternatives and adaptability will be available to students, it will enable them more to mould their education to their unique interests and

talents. The arts and sciences, extracurricular and curricular activities, and academic and vocational streams will not be strictly divided. The goal is to integrate academic and vocational streams in schools while placing equal focus on all the subjects, including science, social sciences, art, languages, sports, and mathematics. With the relevant characteristics like multidisciplinary education, skill development and choice of subjects, new '5+3+3+4' design, the policy of 2020 strives to reorganise the school curricula and pedagogy in a way that makes school education relevant to the needs and interests of learners belonging to the different developmental stages (Rathee & Swati. 2023).

National Curriculum Framework for School Education-2023: The educational landscape finds itself at an important crossroads in a constantly changing world fueled by innovation and shifting societal needs. With the release of the National Curriculum Framework 2023, the National Council for Education, Research, and Training (NCERT) has once again made a revolutionary advancement. The National Education Policy (NEP) 2020 in India is set to be implemented with the guidance of this innovative framework (Kumar, 2023). The new National Curriculum Framework (NCF) and State Curriculum Frameworks (SCFs) are developed in response to NEP 2020 in an effort to revolutionise education in schools (Sharma, 2023). The goal of the new curricula is to develop individuals who are well-rounded being morally upright, imaginative, creative, and compassionate citizens (Rathee & Swati. 2023). The educational system should make sure that the curriculum, methodology, setting, and culture in schools should all be close aligned with those personal and societal goals of education. School education curriculum reformation in NCF 2023 is put into practice as it strengthens the 5+3+3+4 structure of school education that is in line with NEP 2020. It further continues to adopt the three-language formula for effective learning in schools, stressing on the urgent need of skills development. Moreover, an additional objective is included to support the cultivation of appreciative spirit for India's literary heritage. This new curriculum encourages for the usage of play based and exploration-oriented learning for acquiring perceptual and practical knowledge, as learners get the chance to enhance their capacities, skills when they are involved in observation, survey and exercise of motor skills. But it also prefers theoretical methods of inquiry for deepening the subject-specific understanding. Specifically, for teaching the social sciences in schools the teachers should adopt the thematic approach which integrates various disciplines like history, geography, political science, economics, along with associated fields such as psychology, philosophy, anthropology, and sociology. Social science, along with history, geography, political science,

and economics will be taught as distinct disciplines upon entering class 9. In classes 9 and 10, there will be an emphasis on broad curriculum areas including science, social science, and humanities. The suggested modifications in the assessment pattern include separating exam design from curriculum development, offering board examinations twice a year for flexibility, and aligning assessments with curriculum-defined competencies. It also recognises that due to their practical components vocational, artistic, and physical education require specialised assessment. For students in the secondary and senior secondary phases, NCF 2023 offers a higher level of choice-based learning. This gives students the opportunity to explore their interests and follow their passions and grow in their skill set (Bashir & Jan, 2024). It highlights the necessity of shifting away from a focus on memorization and blind accumulation of information to making the room for the development of values and abilities. It underscores the importance of adopting a learning-centred strategy that fosters comprehensive development and equips pupils for life after school. Additionally, it addresses the vital role that educators, parents, and the community have in fostering a conducive learning environment. Nevertheless, NCF 2023 represents a significant shift in education towards a flexible, student-driven, and inclusive model of learning.

It is obvious that the committees and commissions monitoring the entire education system of India have been instrumental in directing the educational advancement and development of the country. They have made a substantial contribution to raising the standard, relevance, and accessibility of educational process of the nation with their suggestions, initiatives, and reforms. It is crucial that the stakeholders from various sectors stay in touch with these organisations going ahead, making use of their knowledge and perceptions to tackle new problems and grasp chances for advancement and expansion. As per the suggestions made by the new educational policy the present education system of India is focusing on the promotion of cooperation, transparency, openness, and inclusivity, and thereby, it is on the way of becoming resilient, dynamic, and receptive to the changing demands of society.

1.3.5 DEVELOPMENT OF SECONDARY LEVEL EDUCATION IN WEST BENGAL

Following the country's independence in 1947, it became abundantly clear that state and local governments should bear a great deal of their accountability for education, particularly when it came to educating the populace of its wide range of diversity. According to Article 45 of our Constitution, the State is required to make every effort to offer free and obligatory education for all children until the age of 14. Then Constitution's 83rd Amendment

recognised education as an essential right (Wasiq, 2023). Better-quality elementary and secondary education was also guaranteed under the National Policy on Education, 1986, which is both free and mandatory. However, in West Bengal, schools are currently managed by either the state government or private groups. West Bengal has few secondary schools that are run by the State Government. The vast majority of WBBSE's schools are aided yet non-government institutions. There are very few state Government running Secondary schools in West Bengal. West Bengal is the highest population density state in the nation, with 904 people per square kilometre, according to the 2001 census (Anisujjaman, 2015). West Bengal has made great strides in school education and literacy despite the strain of population growth. The struggle for universal literacy and education for every child has made this possible overall in order to realise the vision of "education for all." West Bengal's educational system works to guarantee education for every child, and to lower the dropout rate, and deliver high-quality instruction.

Secondary school performs a crucial function as a bridge between elementary and higher education (Bhunia, 2017). However, to understand the Secondary schooling in the state of West Bengal, it is necessary to know about the Board that operates secondary level education there. The West Bengal Secondary Education Act, 1963, which was periodically revised, established the West Bengal Board of Secondary Education (Acharya, 1989). The Board is an independent, state-run organisation with the authority to advise the state government on any issue pertaining to secondary education and to establish the overall guidelines for the growth of secondary education in the entire region. The Board's primary activities include:

- Conducting the Madhyamik Pariksha, the Tenth standard examination, and publishing the merit list on the basis of the results
- Deciding whether to grant institutions or not.
- Creating and reviewing the syllabus.
- Textbook publication for classes VI through X.
- To set up secondary school teachers' orientation and in-service training.
- To designate expert committees to provide guidance on instructional curricula for various study programmes.
- To design the study programme based on the expert committees' suggestions.
- To assemble panels of moderators, examiners, head examiners, scrutinizers, and question setters.

Everyone understands the basic necessity of education since it provides countless opportunities for the nation's potential citizens. A greater understanding of human rights, legal privileges and protection, democratic rights, job opportunities, health concerns, and issues related sexuality and gender, gender equality etc. are raised and addressed when education is beneficial, productive and effective. One of the most important elements that

directly affects a nation's development is its level of education. Though the enrolment ratios and dropout rates have improved in West Bengal, but the participation rates at all educational levels are still minimal and need to be considerably boosted. Looking into the current scenario of secondary education, it can be said that secondary school facilities have undergone substantial improvements over time, there are still some aspects that are required to be addressed (Sahoo, 2024). Children in West Bengal are mostly seen to be forced to engage themselves in rote learning due to the immense pressure of securing better grades on secondary and higher secondary board exams in order to gain admission to one or more reputed colleges for higher education. The problem of quality in secondary education still exists, and it takes many forms, including the need to provide sufficient infrastructure and physical amenities, as well as sufficient teachers who can meet the necessary standards, the efficiency of instruction procedures; student achievement levels, etc. It is challenging for West Bengal agencies to efficiently oversee all of the policies and programmes related to education because of the state's enormous population size, and socioeconomic diversity. A paradigm change is still required in the field of secondary education in order to address those challenges.

1.3.6 DEVELOPMENT OF SECONDARY EDUCATION CURRICULUM IN WEST BENGAL

The National Policy on Education, 1986 mandated that state governments in India should adhere national criteria for creating appropriate curriculum and syllabi for the various educational levels (Khaparde, 2002). The main principles of the national pattern were appropriately taken into account in West Bengal as well. The challenge of establishing a unified core curriculum without compromising the country's diversified identity was given top attention in the National Policy on Education, 1986. After that NCF played a vital role in this context. Learning without Burden (1993) was given a lot of weight in the National Curriculum Framework (NCF) of 2005, which was implemented at a time when most students in the nation were obviously having difficulty keeping up with their extensive academic course load (Yadav, 2011). They asserted that until we move past the custom of utilising textbooks as the foundation for examinations and alter our view of the child as mere knowledge recipient, learning at school would not be a pleasurable experience. Rabindranath Tagore was quoted by NCF as he highlighted the importance of a "creative spirit" and "generous joy" in the process of learning (Mitra, 2020). The curricula of the West Bengal

Board for secondary education have gone through revisions for implementing the guidelines as best as possible.

Noticeably, curriculum is not restricted to the syllabus form only, rather it consists of other crucial learning elements like the educational objectives and aims, teaching methods, learning experience, nature of classroom activities, assessment procedures. Learning contents are selected as per the need, interests and mental abilities of the learners while taking care of the social aspiration factor (Smith, 2000). However, at present the subjects taught in class 9 include First language - Bengali, Second language - English, Mathematics, Science, Geography, History, Health, and Physical education. The subjects for West Bengal Madhyamik Exam for class 10 students include mandatory subjects of English (First Language)/Bengali (First Language)/ Hindi (First Language), English (Second Language), Mathematics, Physical Science, Life Science, Geography and Environment, History; while the optional elective subjects include Pathamalika-I (B-Level Languages), Computer Prayog (Bengali Version), Sanskrit Sahitya Sangraha, Persian Selection. As stated already, the WBBSE is in authority for Classes 6 through 10, and establishes all regulations and criteria for their examinations in the state of West Bengal. In accordance with the Board's proposals, presently the schools conduct both types of assessment-Formative and the Summative ones from Classes 6 to 10. Both summative and the formative assessments are conducted thrice a year (April, August, December) for all the subjects. The total marks of the Formative Assessments and the Summative Assessment are 170. While the Summative Assessments consist of Written tests; the Formative Assessments include the evaluation of the students based on parameters like participation, cooperation, question and experimentation, interpretation and application, creative and aesthetic application.

Table-1.1. Grading System of Secondary Education in West Bengal

Grading System of the Summative Assessment	Grading System of Formative Assessment
90%-100% - A+ Grade	75%- 100% A Grade
80%- 89% A Grade	50% - 74% B Grade
70%-79% B+ Grade	25%-49% C Grade
60%- 69% B Grade	Below 25% D Grade
45%-59% C+ Grade	
25%-44% C Grade	
Below 25% D Grade	

While the marking scheme framed by the West Bengal Board of Secondary Education for 10th Board is like each subject contains 100 marks which are further divided as 90 marks for the final exam and 10 marks for internal evaluation. The total of all subjects is 800 for those candidates who have opted for an additional subject and it is 700 for those who haven't opted for any additional subject. Nevertheless, the curriculum development by WBBSE also undergoes certain criticisms (Sarkar & Naskar, 2020). There has long been claims that the West Bengal Board syllabus is weak and light while the content of the syllabus used by the centrally regulated Boards—and particularly the CBSE—is superior. One more general scrutiny on the comparison between the state Board and the national boards shows that the state board's curriculum is not as innovative as it could be. For example, a significant portion of the CISCE curriculum is dedicated to projects, surveys, and model construction. The State Board curriculum, in comparison, appears less activity-oriented while remaining more theoretical. However, offering some degree of curriculum flexibility to allow learners to thrive in areas related to their core skills could be another innovative approach to curriculum construction (Natarajan & Ragavan, 2023), and giving more importance to vocational education as having potential for excellence can lead to strengthening the existing curricula of secondary education in West Bengal.

1.3.7 EXISTING STATUS OF CONSTRUCTIVISM AND TWENTY FIRST CENTURY LEARNING SKILLS IN SECONDARY LEVEL EDUCATION IN WEST BENGAL

The mission of State School Education Department, West Bengal is to guarantee that pupils receive the most advanced quality of education possible (Bhunia, 2016). It diligently strives to make certain that learners acquire the relevant abilities and skills that are necessary to effectively navigate different obstacles in their social and personal lives (Kay & Greenhill, 2010). To actualize this vision, it understands the need for making a paradigm shift in the teaching learning process by embracing innovative approach to the educative process running in the West Bengal schools. The ability to think differently and outside the box, to produce something unique from what already exists, is what is meant by innovative approach. For example, the conventional teaching technique, often known as the lecture method, is frequently used by teachers in schools (Biswas, 2018). It requires students to communicate mechanically and does not encourage pupils to think constructively and independently. As highlighted in NEP 2020 and NCF2023, the modern educational trends have changed the educational landscape by adopting constructivism into the world of learning (Sharma, 2023).

Firstly, constructivism encourages collaboration and idea sharing in the classroom which helps students to develop their social and communication skills (Nyikos & Hashimoto, 1997). In a constructivist classroom, students learn to ask questions and use their innate curiosity to explore the environment. Secondly, to meet the needs of the job market and encourage entrepreneurship, initiatives are being undertaken to link academic subject education with skill acquisition. Deeper understanding of subjects is fostered when students are encouraged to develop critical thinking, problem solving, reasoning, creativity, cooperation, collaboration, communication and other life skills while learning the core subjects. Noticeably, interdisciplinary methodologies and hands-on learning motivate students to use their knowledge in authentic settings. Placing more emphasis on skills than rote learning makes students ready for their future as it equips them with various significant skills that they need to succeed in the dynamic workforce of the twenty-first century world (Maity, 2023). But these trends of constructivism and twenty first century learning skills development are very new to the educators, teachers of high school in West Bengal. Understanding and awareness of these concepts, and most importantly, having a favourable attitude towards them are still in the process. The outdated syllabus, typical pedagogical approach, monotonous classroom activities, teacher dominated classroom communication, assessment of learners' progress through the scores of summative tests- all these are currently going through modifications as NEP 2020 and NCF2023 have revealed that the urgent need to rethink, reorganise, reorient the entire educational process as per the contemporary needs of the society and obviously, the interests and the demands of the learners. The change in approach is gradually happening in the schools of West Bengal. Initially, most of the teachers were not even familiar with the concept of constructivism, if some were familiar, then they were unwilling to accept the change. So, it took time to make the educators understand the importance of the constructivist education, and that of 21st century skills education. In the present scenario teachers are showing positive attitude towards constructivist approach in teaching (Paul & Guha, 2014). But it is also the reality that despite having a strong theoretical understanding of constructivism, teachers are clueless on putting the theory's principles into practice in actual classroom settings. Another important observation would be that teachers of West Bengal largely focusing on skill development but treating it as a separate subject like value education. Be it values or skills, as NEP 2020 suggests, they should be inculcated among the young learners in an integrated way. Various skills and competencies should not be isolated as alien topic, rather the teachers need to develop them among students while teaching the main subjects like Bengali, English, Geography. Innovative learning activities

should be applied to facilitate the 21st century skill acquisition and development. But the hindrance that the teachers are again facing- How to do it? Therefore, to sum up, in order to make the constructivist method and Skill education a true success in teaching and learning process for optimising the learning outcomes of the students, the West Bengal Government should concentrate on organising teachers training, and seminars and workshops to provide the educators with the profound knowledge as well as the expertise for the effective implementation of these contemporary educational theories. Not only that the educators, researchers, policy makers, curriculum developers and teachers should also work together and actively engage in researching different modes of operation that would enhance the skill development process and delivery of constructivist approach-based education across various disciplines.

1.3.8 CONSTRUCTIVIST APPROACH TO 4CS DEVELOPMENT IN ENGLISH CLASSROOM SCENARIO

Franklin D. Roosevelt eloquently once articulated, “We cannot build the future for our youth—but we can build our youth for the future.” This statement implies the notion that while it may be beyond individuals’ capacity to construct the future on behalf of the younger generation, but they do possess the ability to cultivate and prepare the younger generation to effectively navigate and contribute to the future. So, it is incumbent upon teachers and educators to exert utmost efforts in facilitating the connection of learning with real-world experiences for their students, while equipping them with the essential competencies required to ensure their future accomplishments (National Education Association, 2012). It is widely held that it is important for every child to acquire an adequate basis of subject knowledge, alongside the development of "Four Cs". Constructivist approach to education should be adopted as a great medium to fulfil this aforementioned objective.

In the Indian educational context, there has been a longstanding emphasis on a mechanised and rote approach to learning, mostly focused on exam preparation. This conventional approach entails rigorous memorising, copious note-taking, and blind adherence to the narrow syllabus (Hardikar et al., 2020). Such limited and life less approach to education aiming to assist learners in acquiring academic expertise only, should be severely challenged. The perpetuation of a transmissionist model of education, characterised by teachers assuming the role of authoritative figures who enforce compliance with their teachings without any room for inquiry or scepticism, inherently fails to create an optimal and productive learning

environment that fosters genuine educational experiences (Goodwin, 1997). Innovative approach to education that is in line with the tenets of constructivism, should be applied to provide students with ample support for developing essential 21st century learning abilities along with acquiring academic proficiency. Moreover, the integration of 4Cs, which are critical thinking, communication, collaboration, and creativity, into constructivist instructional methods greatly contributes to a more meaningful and relevant learning experience. Additionally, it fosters a sense of joy and relatability in the entire learning process. Additionally, the four 21st century skills are interconnected and mutually reliant, further emphasising their significance in achieving English linguistic competence (Ahmed, 2022).

The utilisation of the constructivist approach to 4Cs development in the context of English language acquisition has been found to yield significant advantages for students across various age groups and levels of proficiency. This novel approach is in accordance with the major tenets of constructivism has the potential to greatly augment the efficacy of the amalgamation of 4Cs education and English language education. Teachers and educators should believe in the constructivist method of teaching English as it assists to improve the quality of ESL classes along with facilitating the essential skills enhancement.

Firstly, the development of 4C skills through effective implementation of constructivist learning framework has the potential to promote the English fundamental learning itself. The constructivist method of English language acquisition emphasises the importance of learners absorbing the language on their own through exposure to and engagement with the language. Through engaging in relevant activities, presentations, writing exercises, debates, discussion, dialogues and direct experiences, students get the chance to actively create their English language subject based knowledge. Learners become driven to employ English in authentic contexts, so enhancing the relevance and practicality of English language study. It is important to consider that process of acquiring a language encompasses more than mere cramming of vocabulary and grammar principles. Constructivist English learning offers a holistic and extensive approach to English language acquisition, surpassing mere rote memorization and grammatical drills. Mainly learning English is about developing one's communication skills. Learning to communicate effectively in a variety of real-world situations is a top priority in constructivist pedagogies. Constructivist techniques place a high emphasis on the cultivation of speaking, listening, reading, and writing abilities within genuine settings. The constructivist perspective on English language learning posits that the

acquisition of language is a perpetual and continuing endeavour. Learners are encouraged to engage in a continual process of enhancing their language skills. They are prompted to consider the implications of linguistic and cultural choices. Noticeably, English serves as a globally utilised language throughout diverse cultural contexts. Culture and language are inextricably linked. The pedagogical approach of constructivism facilitates learners in their exploration of various cultures, other viewpoints and linguistic intricacies that are fundamental to the English language. Thus, constructivist approach integrates cultural elements into the teaching learning process that helps to promote cultural understanding and awareness among individuals attempting to learn English language. English being the widely spoken language worldwide, facilitates communication across borders. English provides individuals with a plethora of educational and professional prospects upon attaining mastery in the language. The educational theory of constructivism fosters the acquisition of essential competencies required for individuals to effectively traverse this interconnected globalised society, thus opens up the path of global opportunities for the learners. However, learning English through a constructivist approach encourages critical thinking, problem-solving analytical thinking skills and so on. In Indian schools, it is mostly found that English language learners frequently confront many challenges and barriers during their language learning process. The constructivist approach can provide solution to this by enabling students to effectively address communication challenges they encounter while learning English and overcome those language hurdles. Further, the implementation of constructivist methodologies has the potential to enhance learner motivation. Learners exhibit higher levels of motivation when they perceive the practical applicability of the subject matter being taught and when they possess a feeling of autonomy in relation to their learning journey. English learning is effectively boosted by the means of constructivist learning techniques. Learning English within the context of constructivist approach is beneficial for the learners to gain the ability to become successful communicators, independent thinkers, and lifelong learners of English language. Nevertheless, usage of constructivist English subject learning fosters deep appreciation for continuous language education throughout one's lifetime. The constructivist approach to English learning emphasises the need of consistent exercise and complete immersion in the English language, which leads to enhanced fluency and a greater sense of ease in using the language. In essence, the significance of the constructivist approach to the English learning lies in its alignment with the key tenets of active, relevance-based and context-sensitive learning. The integration of these four vital abilities into Constructivist English learning is essential for fostering decent language proficiency and successful

acquisition of knowledge within educational settings, and also enabling them to effectively deal with the demands of the modern world (Ahmed, 2022), and so ensuring that learners can thrive in an environment characterised by constant change and ongoing knowledge attainment (Ross, 2017).

1.4.0 RATIONALE OF THE STUDY

There exists an urgent need to address the escalating requirements and demands of 21st century India to focus on the nature of the learning approach that would be that most suitable for the present-day educational environment. The prioritisation of cultivating 21st century learning skills should be regarded as a fundamental objective within the realm of education. But the problem arises from the manner in which the education system operates in most of the places in India, particularly at the school level. Mostly, the instructional methods employed in the academic institutions of India often hinder the development of these relevant skills among students. Development of 4C learning skills should be major part of the hidden curriculum of the institution. In the contemporary day, the absence of these proficiencies poses significant challenges to one's ability to navigate, survive and thrive within society. Students who lack these skills they have to encounter hurdles and hindrances almost in every step in their lives, including academia, professional endeavours, and social life. Thereby, while teaching any core subject, the teachers should attempt to develop and enhance those skills among students. Hence, the investigator has shown a strong inclination towards the study of the development of the 4Cs. It is very important for all the students to be capable of practicing and nurturing these skills right at the secondary stage as this time period serves as a critical juncture for establishing a robust educational groundwork prior to advancing to the higher secondary stage. If at this secondary stage they are enriched with these skills it will surely facilitate their learning in their subsequent higher studies. Depending on what level of 4C skills that the learners possess, the teaching- learning situations are also needed to be modified accordingly. In a regular classroom much importance is not given for the development of the 'skills,' especially at the school level, because teachers are often interested on the completion of the textual part of the syllabus. This research will thus explore the level at which the secondary students stand in terms of their ability to acquire 4Cs.

English is an academic discipline that encompasses a detailed study of the English language, including its grammatical structures, literary texts such as poetry, rhymes, short tales, novels, drama and essays, as well as various forms of written expression such as paragraph

construction, letter composition, and narrative development. It can be said that it is not just a necessity but also an extremely fascinating subject. English language has the potential to link one with the world outside. The study of English as a subject has a vast world to explore. English acts as an official language in India, hence facilitating the mitigation of linguistic barriers among individuals who speak different languages. English is widely utilised as a global means of communication across various regions worldwide. Therefore, in present time, it is very essential to master over the language. This is why English is considered as a mandatory subject in Indian schools. Here the researcher, who identifies with an English background, has selected the field of English subject as her area of critical inquiry. Through this research study, she aims to make a valuable contribution to the process of English learning.

As it is a common scenario in Indian classrooms where teachers are using traditional lecture methods without encouraging any involvement of the pupils, and consequently, the students have to resort to cram words without even realising the underlying meaning or the concept, it becomes imperative for the English teachers to gain insight into effective learning strategies for their students. While conventional approach of teaching fails to address individuality and uniqueness of students, English teacher needs to be receptive to embracing new and improved teaching techniques that prioritise and promote active student participation. With consideration of these various factors the investigator intends to study how constructivism can be implemented in English class for effective English learning with the prime objective of enhancing 4Cs among learners. Undoubtedly, the learning theory of Constructivism is increasingly garnering considerable attention. Therefore, it is necessary for the investigation to examine important aspects such as constructivism as a learning theory, its implementation in the teaching of the English subject, constructivist strategies for classroom utilisation, and the necessity and significance of 21st Century Learning Skills among secondary level students, particularly in relation to the English subject. This study has the potential to suggest recommendations on how teachers can implement constructivist strategies to strengthen the teaching-learning process for inculcating 4Cs among learners. It is to be identified how far the inclusion of constructive strategies will assist the English students to be learners equipped with 21st century learning skill.

1.5.0 STATEMENT OF THE PROBLEM

This study would serve as a sincere endeavour to prepare Constructivist module on the selected units from the English book for secondary class to teach them the content in the constructive way instead of traditional method of teaching with the aim of enhancement of the most important four skills. The 4C skills are needed to be inculcated among learners for effectively adapting to the contemporary environment characterised by advancements, dynamism, speed, and the prominence of science and technology. The problem may be more precisely articulated as “EFFECTIVENESS OF CONSTRUCTIVIST APPROACH BASED MODULE ON THE ENHANCEMENT OF TWENTY FIRST CENTURY LEARNING SKILLS IN ENGLISH SUBJECT AMONG THE SECONDARY SCHOOL STUDENTS IN WEST BENGAL”.

The problem as outlined above pertains to two facets of the research, namely, the development of the Constructivist Approach Based Module and its subsequent experimental validation. So, the two primary components encompassed in the study are as follows: 1. The formulation of Constructive Approach Based Module. 2. Empirical validation of the programme.

1.6.0 OPERATIONAL DEFINITIONS OF THE TERMS USED

Constructivist Approach Based Module: Constructivist approach-based module in English subject refers to the adoption of a learner-driven approach to module development in the field of English as an academic subject. In this study constructivist approach denotes a series of learning experiences (learning content, learning activities etc.) that were designed within constructivist framework in the form of a module by the researcher herself to attain the predetermined objective which is enhancement of twenty first century learning skills within a specific period of time. This constructivist approach-based module, briefly termed as CAM, was developed from the selected units of the English textbook Bliss for students of class IX under West Bengal Board of Secondary Education (WBBSE) in accordance with the core principles of constructivism learning theory, and embraced certain identified innovative classroom strategies and activities that had the potential to involve the learners dynamically in their process of English learning. Here constructivist approach-based module was assessed by taking into consideration its effectiveness as an instructional pedagogy for the development of 4C skills.

Twenty first century learning skills: In the current study twenty first century learning skills denote four crucial abilities or competencies, namely the skill of critical thinking, creativity, collaboration and communication which are imperative to be inculcated among young learners to cope up with on-going changes, growing demands, myriad challenges of twenty first century world of progress and rapidity. Notably, the efficacy of constructivist approach on twenty first century learning skills among secondary learners was assessed in this study.

Secondary School Students: In the present research study secondary school students denote those students who were studying in class IX in West Bengal.

Gender: It refers to the binary gender identities of learners as male students/female students studying in class IX in West Bengal.

Locality of institution: It refers to the area in which the school is situated in West Bengal. It can be located in rural and in urban area.

1.7.0 OBJECTIVES OF THE STUDY

- 1.To develop a constructivist approach-based module from the selected units of the English Textbook for students of class IX in order to enhance twenty first century learning skills in English subject
- 2.To study the effect of the constructivist approach-based module (CAM) over traditional lecture method (TLM) on the enhancement of overall Twenty first century learning skills in English subject with regard to the pre-test and post-test scores.
- 3.To study the effect of CAM over TLM on the enhancement of component wise Twenty first learning skills in English subject with regard to the pre-test and post-test scores
- 4.To study the effect of Group, Gender and their interaction on overall Twenty first century learning skills by considering the pre-test as covariate
- 5.To study the effect of Group, Gender and their interaction on component wise Twenty first learning skills by considering their representative components at pre-test level as covariates
- 6.To study the effect of Group, Locale of Schools and their interaction on overall Twenty first century learning skills by considering pre-test as covariate

7.To study the effect of Group, Locale of Schools and their interaction on component wise Twenty first century learning skills by considering their representative components at pre-test level as covariates

1.8.0 HYPOTHESES OF THE STUDY

H₀1. There is no significant difference between the mean scores of overall Twenty first century learning skills developed through CAM and the mean scores of overall Twenty first century learning skills developed through TLM in English subject with regard to pre-test and post-test scores.

H₀2. There is no significant difference between the mean scores of component wise Twenty first century learning skills developed through CAM and the mean scores of component wise Twenty first century learning skills developed through TLM in English subject with regard to pre-test and post-test scores.

a. There is no significant difference between the mean scores of critical thinking skill developed through CAM and the mean scores of critical thinking skill developed through TLM in English subject with regard to pre-test and post-test scores.

b. There is no significant difference between the mean scores of creativity skill developed through CAM and the mean scores of creativity skill developed through TLM in English subject with regard to pre-test and post-test scores.

c. There is no significant difference between the mean scores of collaboration skill developed through CAM and the mean scores of collaboration skill developed through TLM in English subject with regard to pre-test and post-test scores.

d. There is no significant difference between the mean scores of communication skill developed through CAM and the mean scores of communication skill developed through TLM in English subject with regard to pre-test and post-test scores.

H₀3. There is no significant effect of Group, Gender and their interaction on overall 21st century learning Skills students by considering their pre- twenty first century learning skills test as covariate.

H₀4. There is no significant effect of Group, Gender and their interaction on component wise 21st century learning Skills students by considering their pre- twenty first century learning skills test as covariate.

a. There is no significant effect of Group, Gender and their interaction on critical thinking skill by considering their pre-critical thinking test as covariate

b. There is no significant effect of Group, Gender and their interaction on creativity skill by considering their pre-creativity test as covariate

c. There is no significant effect of Group, Gender and their interaction on collaboration skill by considering their pre-collaboration test as covariate

d. There is no significant effect of Group, Gender and their interaction on communication skill by considering their pre-communication test as covariate

H₀5. There is no significant effect of Group, Locale of Schools and their interaction on overall Twenty first century learning Skills students by considering their pre- twenty first century learning skills test as covariate

H₀6. There is no significant effect of Group, Locale of Schools and their interaction on component wise Twenty first century learning Skills students by considering their pre- twenty first century learning skills test as covariate

a. There is no significant effect of Group, Locale of Schools and their interaction on critical thinking skill by considering their pre-critical thinking test as covariate

b. There is no significant effect of Group, Locale of Schools and their interaction on creativity skill by considering their pre-creativity test as covariate

c. There is no significant effect of Group, Locale of Schools and their interaction on collaboration skill by considering their pre-collaboration test as covariate

d. There is no significant effect of Group, Locale of Schools and their interaction on communication skill by considering their pre-communication test as covariate

1.9.0 DELIMITATIONS

Delimitations refer to the specific aspects and variables that have been intentionally excluded from consideration in the study. Delimitations serve as a means for the researcher to define

and to specify the boundaries of the research scope by delineating exclusions. This process of narrowing down the scope of investigation enhances the study's manageability and relevance.

This research study was delimited to the subsequent points:

- a) The study was delimited to the school going learners of West Bengal studying only in class IX.
- b) The current study was delimited to one district of West Bengal.
- c) The current study was delimited to co-educational schools.
- d) The current study was delimited to two Governmental high schools.
- e) The current study was delimited to Bengali medium schools affiliated to West Bengal Board of Secondary Education (WBBSE).

1.10.0 ORGANISATION OF THE THESIS

This research study is structured into six distinct sections. The first chapter offers introduction of the research problem by delving into its various facets to provide a theoretical framework along with rationale, objectives, hypothesis, delimitations of the study. The second chapter presents an overview of the existing literature pertaining to the research problem under study. The third chapter covers a brief description of the research methodology employed in the current study. The next chapter of this study systematically presents the analysis & interpretation of the research findings. The fifth chapter provides implications, recommendations of this research study, and finally the sixth chapter concludes the investigation by offering a comprehensive summarization of the entire research endeavour.