

REIMAGINING VOCATIONALISATION THROUGH GENERAL EDUCATION: A CRITICAL EXAMINATION OF SOCIAL SCIENCE TEXTBOOK

Khagesh V. Singanjude¹, Dr. Amit Gautam²

¹Research Scholar, ²Associate Professor, NIEPA, New Delhi

Abstract:

The NEP 2020 states that at least 50% of learners through school and higher education should be exposed to vocational education. Vocationalisation has always been perceived as a non-academic course with no career prospects. Similarly, social science education has been treated as insignificant for professional career growth. The paper focuses on reimagining vocationalisation through general education by examining social science textbooks. The broader objective of this paper is to explore the scope of vocational skill development through implementing a constructivist pedagogical approach, addressing learners' needs, and promoting vocationally relevant pedagogical reforms. However, it employs textbook content analysis as a research technique that aids in examining actual content and its features, including words, activities, concepts, themes, phrases, texts, characters, sentences, cultural goods, or non-living data forms. The researcher has social science textbooks, which consisted of four subjects, including geography, political science, history, and economics, and were part of the secondary analysis. The findings revealed that social science concepts have broader linkages with different kinds of subject knowledge within the social science disciplines. This underscores the importance of promoting vocationally responsive pedagogy grounded in textbook knowledge. Various textbook-based activities contribute to developing students' abilities to think, reason, compare, find problems, and critically deliberate. In addition, assessment questions are designed to motivate students to engage, communicate, collaborate, and problematize the concepts taught in the classroom.

Keywords: Textbook analysis, Social science learning, Constructivism, Skill development,

Introduction

In the post-independence era, India began offering technical education, with various engineering degrees and technical training institutes established. Those were around 53 technical training institutes and 38 engineering degree courses (Meto et al., 2025). Even the Kothari Commission has promoted vocational and specialized education through polytechnics, which was planned to integrate in higher secondary level curriculum (Education commission, 1966). On the same line of thought, NCERT has issued a blueprint for vocationalising higher secondary education across India (NCERT, 1976). In 2013, the Higher secondary education program was renamed "vocationalisation of secondary and higher secondary education" and merged into the rashtriya madhyamik shiksha abhiyan (RMSA) (Meto et al., 2025). Also, a key shift under the revised scheme was introducing vocational education beginning in Class IX (GOI, 2014). Revisions on February 12, 2014, aligned this vocational scheme with the national vocational education

qualification framework (NVEQF), which was adopted on September 22, 2012. Further, it expanded vocational education to Class IX through Class XII (GOI, 2014b). The Samagra Shiksha initiative emphasizes early vocational exposure, offering students in Classes VI to VIII opportunities to explore skills relevant to future occupations and make informed educational choices. Recently, the National Education Policy (NEP) 2020 laid the groundwork for integrating vocational training into all mainstream institutions. It aims for at least 50% of students to experience vocational exposure by 2025, ensuring that every child learns at least one vocational skill and explores several others” (NEP, 2020).

The literature reveals a gap between the policy intention and its realization towards skilling youths through curriculum and textbook reforms. It is found that skill development in India has been narrowly framed through vocationalisation which positions vocational education and training (VET) as a parallel and often inferior track to general education. The Mehrotra and Mehrotra, 2017 argued that “the low aspirational value of VET, coupled with weak integration with general education, has constrained its ability to meet twenty-first-century labour market demands.” This serious discontent towards vocationalisation has limited opportunities for integrating 21st-century skills such as problem-solving, communication, creativity, and critical thinking within mainstream schooling. It is found that “vocational education struggles to gain parity with general education despite its developmental significance” (Pilz & Ramasamy, 2022). Moreover, societal perceptions have discouraged students from associating vocational education with academic weakness” (Ete & Hangsing, 2025). However, Farran and Nunez (2025) has positively argued that such limitations could be addressed through integrated curricular models that combine vocational and higher education competencies, emphasizes on collaborative curriculum design and shared learning objectives to enhance employability.

Policy documents such as the NCF 2005 and NEP 2020 acknowledge these challenges, emphasizing flexibility, decentralization, and alignment with learners' social and economic realities. Therefore, the agenda of universalizing secondary education and incorporating twenty-first-century skills requires efforts towards integrating skilling perspectives across subjects, particularly within general education, rather than confining them to vocational streams alone.

Methodology of the Study

This study used a qualitative research method followed by an exploratory research design. For this study, a ninth-grade social science textbook was used as a context variable. In the prevailing system of education, textbooks have acquired widespread legitimacy, and neither the teacher nor the taught can escape their influence (Pathak, 2002). The textbook plays a significant role as an important context variable, one that influences both the occurrence and the relationship-to-outcome of teaching practices (Krammer, 1985). Particularly, this research adopted textbook content analysis as a research technique to examine actual content and its features, which may be words, activities, concepts, themes, phrases, texts, characters, sentences, cultural goods, or non-living data forms. In content analysis, the data exist independently, and the researcher does not modify anything in it, so it follows the naturalistic paradigm (Singh, 2012). The paper also refers to policy documents, including NCF 2005, National Focus Group discussion on curriculum, syllabus, and textbook, NFG in social science, secondary Curriculum, learning Document, and NEP 2020 document.

Theoretical framework

The objective of the research is to map the skilling perspective through social science textbook analysis. The prominent constructivist learning theory has been used to analyze textbook activities and determine the major contributors to skill development. Lev S. Vygotsky, a Russian psychologist, proposed a constructive approach to learning influenced by social constructivist theory. The basic idea of the constructive approach is that learning is a process where active learners can construct their knowledge based on their previous knowledge and experiences (Fosnot, 2013). Thus, creating knowledge is the main goal of learning, rather than just imparting knowledge. An instructor is supposed to create an environment where student may engage in active constructive learning. It provides an equal opportunity to explore, experience, evaluate, examine, and analyse while engaging into the teaching-learning process. Constructive classroom instructions consist of various creative activities, such as field trips, experiments, films and documentaries, surveys, and projects.

In addition to this, study employs Kolb's experiential learning framework to conduct textbook based assessment activities included in the social science textbook.

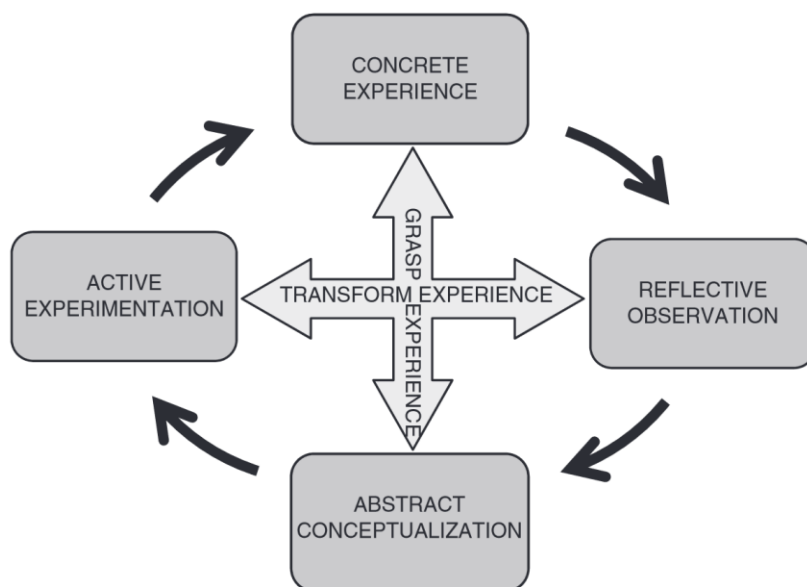


Figure 1: Kolb's experiential learning framework

(Kolb and Kolb 2009, p. 299)

“The Kolb's experiential learning theory model portrays two dialectically related modes of grasping experience—Concrete Experience (CE) and Abstract Conceptualization (AC)—and two dialectically related modes of transforming experience—Reflective Observation (RO) and Active Experimentation (AE). Experiential learning is a process of constructing knowledge that involves a creative tension among the four learning modes.” (Kolb & Kolb, 2009)

Skilling through Social Science Learning

This study attempts to analyze the processes, tools, and artifacts scripted in the NCERT textbook to investigate students' skill development, which makes them employable. The national position paper on social science has provided a foundational logic to the syllabus. First, it promotes the idea of being united as a nation, shaping a sense of homogeneity articulated through the curriculum. Second, textbooks should be used as an instructional tool rather than a suggestive tool, which provides flexibility to learners for understanding concepts in-depth. Third, balancing the following approaches between utilitarian and egalitarian, where utilitarianism was found to be more dominant. Fourth, the change in nomenclature from civics to political science as a subject to get students into the processes of domination and their contestation by social forces. Lastly, textbook to be inclusive in terms of giving forefront to women's struggles and concerns with epistemic shift from the patriarchal nationalist frame.” This provides a generalist view of the approach followed by social science syllabus. In addition, the position paper specifies the plan of curriculum for the secondary stage, which focuses on building a deeper understanding of the social and economic challenges facing the nation and ensures the inclusion of marginalized sections' perspectives. Efforts have been made to relate instructions, including content, to children's everyday lives.

Analysis and Discussion of Social Science Textbook

The social science textbook for secondary education covers four main subjects: history, geography, political science, and economics, focusing on contemporary India. It explores India's social and economic issues from the perspectives of marginalized groups, such as adivasis and dalits, relating the content to students' everyday lives. The history section covers India's freedom struggle and nationalist movement, while the geography section introduces basic concepts, such as physical characteristics and global connections, emphasizing environmental concerns. Political science focuses on the philosophical foundations of the Indian constitution and the democratic values. Economics is introduced through discussions of poverty, unemployment, and economic institutions. This paper has done textbook content analysis in the four NCERT class IX social science textbooks, of India and the contemporary world-I(history), contemporary India-I(geography), democratic politics-I(political science), and economics. An analysis of all learners activities has been conducted through the framework of kolb's experiential learning framework. Each chapter has been scanned and identified activities which includes exercises, projects, map tasks, 'let us discuss' prompts, case studies, field visit suggestions, reflections, etc. In total textbook content analysis identified 38 activities in history, 6 in geography, 17 in political science, and 10 in economics. These activities are coded according to a kolb's experiential learning framework by its key characteristics, and most predominant activities found.

Book/Kolb stage	Concrete experience	Reflective observation	Abstract conceptualisation	Active experimentation	Total activities
India & Contemporary (History)	5	12	18	3	38
Contemporary India- 1	2	1	2	1	6

(Geography)					
Democratic politics-1(Political science)	3	6	4	4	17
Economics	3	4	2	1	10
Overall total	13	23	26	9	71

Table 1: Subject-wise frequency of activities

Kolb's stages	Operational definition	Typical NCERT social science activities	Key characteristics
Concrete experience	Activity provide an opportunity to engage with an authentic or simulated experiences	Visit a village, Interview farmers, Observe landforms, Conduct community survey	Observation, Field visits, Role play, Interview, Survey, Local examples, Photographs
Reflective observation	Activity requires learners to think and interpret an experience critically	What do you observe? Discuss with your classmates? Interpret a cartoon or photograph. Examine the bengal rice production table. Discuss who was most affected by the famine.	Discussion, Reflective questions, Compare experiences, Analyse images or case studies
Abstract conceptualisation	Activity develops constructs concepts, principals, meanings	Explain democracy, Analyse causes of french revolution, Define poverty Whether famine was caused by food shortage.	Reading text, Defining concepts, Explaining causes, Interpreting data, Completing concept-based questions,
Active experimentation	Activity requires an applied knowledge and ability to act accordingly in real life situation.	Prepare a questionnaire, Conduct census, Map exercises, Design awareness campaign. Relate famine to food security policies(PDS, buffer stock)	Objects, Investigations, Map work, Action plans, Presentation, Problem solving

Table 2:- Subject-wise skill mapping through kolb's experiential learning framework

Table 1 & Table 2 represents data about number of activities and its clear categorisation as per Kolb's experiential learning framework. Major textbook activities mapped through textbook are predominantly concentrated in abstract conceptualisation and reflective observation, which focuses on conceptual understanding through reading discussion, and analysis. The foundation of experiential learning remains underrepresented. Subject-wise, history and political science largely promote analytical and reflective learning. However, geography and economics relatively provides more field-based, and inquiry-oriented activities. These activities largely focusing on skilling of students on generic skills. From skilling perspective, this distribution suggests that the textbook prioritise knowledge acquisition over the development of transferable competencies such as problem-solving, collaboration, communication inquiry, and decision-making. Moreover, integration of experiential activities includes field investigations, community engagement, project work, and problem solving would strengthen alignment with NEP 2020's vision of competency-based and experiential learning.

Analysis of assessment-based textbook activities

a) Depicting the picture: The textbook consists of cartoons drawn by famous artists from different countries and timelines. While engaging in such activities, students read, analyze, and discuss the cartoons within the classroom. Going through these learning processes, students have to relate, compare, and differentiate in the context of conceptual knowledge. The idea of being actively engaged in the learning process means "in terms of interactions with real objects and situations or interactions" (Piaget & Inhelder, 1969). Moreover, it is visible as a group constructor. The terms used in the cartoon are associated with students' day-to-day lives. The cartoon depicts 12 prime ministers and the major promises they made in their election campaigns over the past 50 years. It depicts a pictorial representation of the political agendas of different Prime Ministers. Recognizing faces meant to reflect on the visual memory of students, along with the memories collected from political rallies. This leads to inquiries about past histories and discussions with peers. Conversations cultivate the capacity to recollect memories and viewpoints. The ability to apply existing information and correlate it with prior experience is developed through the discussion of this cartoon, which aids in understanding the subject. Students gain conceptual clarity and an in-depth understanding when they comprehend the circumstances or historical context.

The cartoon represents an example that depicts the relationship between leaders and voters. It builds a schema in a more artistic way to explain concepts. The language used in cartoons is more connected to the language spoken in reality. It discusses past and present situations where students reflected on promises made in elections by leaders, the election campaigning style, and how far it benefits the common masses. It also provokes students to reflect on the contemporary scenario of national development. In addition, students were asked questions such as, "Do you think it applies to the Pakistani situation or other countries? In addition, relates to the country to which the student belongs. These types of questions emphasize the development of thinking and critical thinking skills. Democracy is the term at the center, and it is elaborated through events happening all over the world. This learning experience and knowledge can be applied to understand and conceptualize the idea. "Arising from the belief that learning is a social process based on cumulative experience and reflection on that experience, Kolb" (Passarelli & Kolb, 2011), which plays a significant role in building concepts and knowledge construction. Explaining the concept in a constructive manner requires a healthy learning environment that

ensures a strong command on content knowledge, influential instructional strategies, effective classroom management, sufficient instructional hours, healthy teacher-student relationships, and innovative pedagogical approaches. The analysis and discussion of this type of activity conclude that it provides a scope for the students to develop observational skills, critical thinking ability, and visualization skills.

b) Data Interpretation type: The economics textbook for ninth-grade students covers various activity types, including a focus on factors of production. This is illustrated through a hypothetical village named "Palampur" and the economic activities that occur there. The purpose of this activity was to introduce students to cropping patterns and modern farming methods that could replace traditional practices. Students are encouraged to explore the reasons for adopting these methods based on their affordability, productivity, and sustainability. To help students understand the concept, the author motivates them to examine previous data and analyze the advantages and disadvantages of specific farming techniques. The activity questions are designed to be answered by analyzing a provided dataset, which students are encouraged to present graphically for better comprehension. By collaborating and using peer support to plot graphs, students enhanced their analytical skills. After creating a graphical representation, students are tasked with drawing conclusions based on the data. This process involves rigorous discussions in a healthy learning environment in which students must use strong reasoning to justify their conclusions. Such activities promote logical thinking because reasoning is rooted in knowledge of the subject matter. This activity encourages students to reflect on the questions posed, discuss them, and reach a consensus on their answers. They were asked to investigate issues further and support their reasoning with relevant data. Throughout the activity, the students engaged in various learning processes that strengthened their abilities.

The provided dataset also includes trends and projections that can help in predicting future outcomes. One such issue discussed is the gender disparity in education, particularly why women are less educated than men are. The low literacy rate is an important issue for students to explore and discuss, as they come from diverse socio-cultural backgrounds with their perspectives. This kind of discussion broadens students' thinking, expands their knowledge, or encourages them to consider new ideas (OECD,2016). The activity encourages a multi-step learning process, starting with students identifying conditions and assumptions within the group. Before performing the calculations, students are prompted to reason why production, capital, and surplus are not equal. An obvious answer might be that land and capital are not equally distributed, but students are also encouraged to consider how higher demand and production could increase farmers' surplus value and capital. The chapter further discusses land distribution issues, such as why Dalits are landless and work on others' farms, and which families own little land. These discussions challenge students to think beyond textbooks and analyze problems in greater depth, fostering interdisciplinary learning. By explaining problems graphically and analytically, students can develop critical thinking, reasoning, interpretation, and problem-solving skills.

c) Source-type questions: The activity outlined in the history textbook includes two passages that explore the concept of freedom as it relates to common people. One passage (source G) specifically examines how ideas of freedom were viewed differently according to class and profession. The masses are portrayed in sources that categorize them based on their roles, such as peasants and workers. Students are tasked with understanding these two passages, focusing on the central theme of freedom in each. A key part of this activity is for students to identify the

subject and object in the passages, which is a critical task for the groups. By working with original texts from historical events, students are exposed to firsthand sources, which are written records of the time (Baigrie, 1997). The challenge is for students to analyze these texts and connect them with relevant concepts, content, or significant ideas, which requires critical thinking skills. The sources provide context, historical background, and insights into the issues that students must reflect on. Additionally, students were encouraged to interpret the situation themselves. This type of activity helps develop students' critical thinking skills and their ability to understand historical texts concerning contemporary issues.

d) Narration of Story: The activity represents a story on the factors of production significantly utilized for industrial development and for economic growth. The activity was conducted with a group of students in the classroom. After a discussion, students have to fill in the blanks. The main purpose of conducting this activity is to recapitulate the conceptual understanding of the topics covered previously. The story is structured in three parts, which navigate the concepts of land, labor, and capital. To assess students' conceptual understanding, the parts of the story highlight an issue faced by people in the arrangement and management of factors of production. Issues such as unequal distribution of land, poor conditions of landless laborers, and difficulties faced in adopting modern farming techniques have been discussed in the classroom, where students engage with problems that develop their ability to solve problems. (Brown et al., 1989). Understanding the fact that the story is based on an imaginary situation. Students may find it difficult to objectify problems, as they do not necessarily experience or explore problems in real life. In analyzing this story, the contexts were not found to be interconnected or to flow throughout the story. This implies that the author focuses on ensuring that students acquire knowledge throughout the chapter on certain concepts. It is more about checking the information of students. "Narrating a story is an effective tool to communicate a message, idea, or concept" (Smeda et al., 2014), which develops students' creative abilities and communication skills. The activity does not narrate any story to explain concepts; it is just a plotting of paragraphs with some connection among each to discuss certain concepts. A story without creative language and characters to guide the messages does not fulfill the purpose of initiating activity. It is completely based on revising concepts by asking students to fill in the information acquired through learning. Such activities develop students' memorizing ability, problem-solving skills, and thinking ability.

e) Newspaper reading: This activity explores various news articles that address contemporary issues or themes. Students are expected to discuss these news articles, which primarily focus on weather reports from different cities in India, including disruptions caused by unexpected temperature fluctuations. The weather conditions of the seven cities were covered in the newspaper. In this activity, students must analyze the information provided and the problems that arise from it to develop a solution. By describing and comparing the weather situations of different cities, students are encouraged to conceptualize these phenomena through geographical processes and foster critical thinking. According to Markman & Gentner (2000), cognitive representations are structured, and comparison process operates to align two structures. The psychological sense of analogical relatedness depends on semantic commonalities between the relations in the two compared domains (p. 501). This instructional approach uses various exercises to help learners recognize patterns, make connections, and categorize items or concepts by identifying their common characteristics. It also involves making inferences and

interpretations based on these comparisons. By comparing two experiences or ideas using a common underlying structure, students form metaphors. Analogies, as another method, assist in recognizing similarities and making comparisons. These techniques support the brain in processing new information, recalling past knowledge, and learning by mapping familiar patterns onto unfamiliar ones to identify their similarities and differences (Roediger 1980). Through such activities, students gain valuable experience and insights into phenomena or concepts. They also reflect on past events and experiences related to contemporary issues, which play a significant role in developing critical thinking and problem-solving skills. (Dourish, 2004).

f) Painting Description: This activity was conducted individually, where students identified political symbols that represent specific ideological positions. They must gather background information and explore the meanings of these symbols. Additionally, students will engage in abstract conceptualization by examining the term "equality" in the Charter of the Declaration of Rights. With this information, students will write a description of a picture, which involves identifying objects, visuals, and symbols, gathering contextual information, interpreting the image, and concluding with an analysis of the image. Through this process, students develop skills in observation, investigation, interpretation, and creativity. According to Byrne (1980), "pictures can stimulate students' discussion and interpretation of the topic." Pictorial representations often encourage students to think critically and use their prior knowledge to contextualize the concepts presented in the image. This approach also helps them to grasp broader related ideas. The picture in question depicts women marching to Versailles and bringing the king back to Paris, symbolizing their fight for rights such as access to education, jobs, fair wages, and a better life. The image illustrates a complex issue that cannot be fully understood without analyzing and discussing the actions, symbols, and objects portrayed. Such analyses foster communication within the group as well as engagement with the text and its characters. Historical images such as this reveal interconnected stories, prompting students to reflect on and share their views on women's struggles. This context and history can be further explored by recording people's experiences, opinions, and reflections on reality. However, the meaning of an artwork is shaped by the artist's perspective during its creation. Reflecting on and interpreting the artists' perspective enriches students' thinking and imagination. Thornbury (2004) states that "visualizing pictures is one of the best ways to present a new world or link an abstract world with some mental stimuli," which is precisely what this activity does for the students. Students from diverse socio-geographical backgrounds will bring unique perspectives and enrich their prior knowledge, ultimately contributing to the creation of new insights and fostering critical thinking (McKenney & Reeves, 2018). During this activity, students will benefit from the teacher's intellectual guidance to help them think deeply about the various elements of the painting

g) Situation-based activity: This is a group activity designed to foster student engagement through inquire, dialogue, and interrogation around the theme of situation. The story features a dialogue between two villagers, both poor and landless farmers, discussing the key questions: "Why do people migrate?" and "Why are farm laborers poor?". The conversation highlights the plight of farm laborers, touching on the declining demand for farm labor due to the increasing use of machinery in farming. Students have been asked to describe a hypothetical situation and speculate on the reasons behind people's migration. It describes conditions of farmers, poverty, and changing scenario in the occupation of farming. The main learning outcome of this activity are for students to describe the situation and know reasons behind labor migration (La hera et al.,

2021). The content explains conditions of farmers and laborers through the dialogue happens between dala and ramkali on poor conditions of farmers. Such dialogues may provoke students to inquire and reflect on situations through their own ontological position with an embodied subjective experiences and perception around the situation. The story provides holistic perspective around rural livelihoods, and realities which serve as a pedagogical inquiry through which students explore social, economic, and structural conditions shaping lives of poor households. The key narrative involves comparison of livelihood situation across different rural contexts, debating the implications of agricultural mechanisation for employment, role of policies in expanding rural economic opportunities.

Students continues learning without being familiar with an abstract definitions of labour, production, and mechanisation of farming, moreover they gain more understanding through lived realities of people, their own experiences, and local realities. Thereafter students collaboratively construct meaning that integrate disciplinary concepts with everyday life (Cazden, 2001). An ideal imagination of classroom environment governed by physical, digital, and symbolic features exist within four wall of classroom. In general, environment has been understood through constructivist model that refers to the realities which co-exist within an experience and it's eternity (Fosnot,2013). It can be then expressed as per an individuals cognitive abilities and interpretivity. On the other classroom teaching encompasses a process of learning where learners engage with prior experiences through dialogue, reflection, and collaborative inquiry (Bruner, 1996). It promotes active participation of teachers and students to stimulate purposeful interaction, construct knowledge, and builds conceptual understanding (Vygotsky, 1978).

While teaching social science teacher may face pedagogical challenge to engage students belongs to diverse socio-spatial segregations which reflects degree of spatiality among different socio-economic and demographic groups, including ethnicity, birth place, income, education, and housing (Liao et al., 2025). As Bruner (1996), argues that learning is situated within socio-cultural background, which further helps to co-construct meaning through peer interaction and exchange of ideas through innovative pedagogies. Prior to this innovation, students experiences and knowledge shall be acknowledged by educators (Alameddine, 2021). For example, students belong to rural and urban background may interpret situation differently and accordingly make meaning around concept. Such pedagogical challenge can be addressed by applying vygotsky's social construction theory, which argues that higher order thinking abilities may develop through peer interaction, and collaborative inquiry before becoming internalised by individuals. Situation-based classroom learning is not mere visualisation of fictional narrative, rather it consists of empirical knowledge, historical evidences, contemprrory issues, which shows conceptual alignment with the core concept to be taught. Most commonly, peer interaction carries multiple connotations such as, learner-learner interaction, learner-instructor interaction, and learner-content interaction(Bernard et al., 2009). All three types of interaction has pedagogical influence on learning, and creating conducive learning environment. Following an approach of learning through peer interaction where student becomes the agent, and subject of dialogue (Gray,2019). In the digital age, technology has taken a place to mediate instructions, also as a means to facilitate learning strategies, and enhance creativity(Wagner, 1994). Such intervention provides more learning opportunities of dialogue, disuss, debate, explain, explore, and analyse which builds on the topic taught. The accompanied example of bengal famine depicts severe crisis of inflation, starvation, malaria, and other diseases. Moreover, it has witnessed social breakdown which completely destructs rural societal structures. Such historical events stimulates critical abilities, problem-posing capacity, and factual knowledge through

collaborative inquiry. As this example is completely unknown for students coming from both rural and urban background. Whereas, it implies situated learning which is an

“important feature of practice theory and for information literacy, emphasizing learning, not as an internalized and individualistic practice but as a socially situated practice where ‘agent, activity and the world mutually constitute each other’ (Lave and Wenger, 1991).

To conclude discussion, teaching a class by using situation-based activity needs training to practice collaborative inquiry, child-centered approach, and constructivist learning theory. Subsequently, teaching-learning process would entail an empiricist form of inquiry by acknowledging students’ knowledge, perceptions, personal biases, and cognitive abilities. It is justified through the discussion that social science learning has pedagogical potential to encourage students to think, communicate, collaborate, and apply with the support of constructivist pedagogical approach. Which further develops students critical abilities, conceptual understanding, creativity, and problem solving skills.

h) Puzzle: This activity can be performed individually or in groups. Students must find the names of peaks, passes, ranges, plateaus, hills, and duns hidden in the puzzle. Puzzle-solving is a mindful activity that requires students to have prior knowledge of geographical features. Remembering all the names can be challenging, but the goal is not to memorize them by rote learning. Instead, students can use clues to help them recall and locate names in the puzzle. This activity encourages friendly competition as students strive to quickly identify names. Solving puzzles helps students internalize knowledge, sparks interest in the subject, and improves logical reasoning skills. As Qian & Clark (2016) state that, "Game-based teaching activities can inspire learners’ explorative abilities, enhance their attitudes toward learning, capture their attention to problems, and improve problem-solving skills." Playing puzzles engages multiple cognitive processes, such as thinking, recalling, logical reasoning, remembering, and observing. The activity moves towards more complex tasks by combining content and concepts. In this case, students use their background knowledge of rivers and seas, such as their origins, tributaries, and currents, to solve the puzzle. This type of knowledge is acquired through repeated concept revisions. These activities help develop logical reasoning and the ability to make informed predictions. It can be difficult to retain all factual information; therefore, geography can be taught by providing related background information, significant events, and unique features of rivers and seas. Teachers should connect different geographical features with water bodies. One of the main challenges students face is memorising the features while teaching those topics in the classroom. Geography can be better taught by integrating it with economics and history to create connections with larger phenomena and concepts.

Conclusion:

In conclusion, the above activities promote a constructivist approach to teaching-learning that emphasizes a learner-centered curriculum, syllabus, and textbook. Every activity proposed in the textbook encourages active learning in the classroom. Those efforts need to be made collaboratively. Thus, despite having subject knowledge, teachers need to apply their pedagogical expertise in practice. This will help create a healthy learning environment where peers will contribute to the learning process. Activities cannot be performed in an isolated space, as the activity has been designed such that students have to engage, explore, explain, elaborate, and evaluate with peer groups. These 5-E instructional strategies are informed by a constructivist

approach to learning. It applies to every activity mapped through textbook analysis. The analysis of these activities shows that textbook activities envisage the inculcation of generic skills through the processes followed while conducting an activity. The processes executed throughout the activities are responsible for developing students' generic employability skills. Actions such as observation, interpretation, communication, analysis, depiction of pictures, reasoning, discussion, and inferencing influence students' holistic development. These actions are experienced implicitly throughout the journey, which is reflected after a certain period. This impacts the development of larger skill sets, such as problem-solving, communication, critical thinking, and creative abilities. The findings of the study reveal that major components of textbooks, such as concept structuring, brainstorming questions, assessment questions, pictures, and examples, play dynamic roles in enhancing thinking ability, interpretive skills, questioning ability, and comprehension ability. Moreover, teachers need help to conduct activities effectively within a given timeframe. In addition, students need help participating in constructive classroom activities and competitions because of their unaffordability. Pedagogical transformation requires extensive in-service teacher training and focused investment.

Recommendations

- Teachers should receive orientation in vocationally relevant pedagogy and integrate it effectively into lesson plans.
- The school curriculum should introduce a separate guide to help students practice project-based pedagogy to promote 21st-century skills.
- Educational leaders should train teachers to integrate an interdisciplinary approach in curriculum design and its implementation.

References

- Baigrie, B. S. (1997). Picturing knowledge: Historical and philosophical problems concerning the use of art in science. *Choice Reviews Online*, 34(06), 34–3280. <https://doi.org/10.5860/choice.34-3280>
- Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). *A meta-analysis of three types of interaction treatments in distance education*. *Review of Educational Research*, 79(3), 1243–1289. <https://doi.org/10.3102/0034654309333844>
- Brown, J. S., Collins, A., and Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32–42. <https://doi.org/10.3102/0013189x018001032>
- Bruner, J. (1996). *The culture of education*. Harvard University Press.
- Byrne, D. (1980). *English teaching perspectives*. Longman.

Carlson, H.L. (1999). From Practice to Theory: A social constructivist approach to teacher education. *Teachers and Teaching*, 5, 203-218.

Cazden, C. B. (2001). *Classroom discourse: The language of teaching and learning* (2nd ed.). Heinemann.

Chemistry: Textbook for Class XI, 2 Parts. New Delhi: National Council of Education Research and Training, 2006.

Dourish, P. (2004). What we talk about when we talk about the context. *Personal and Ubiquitous Computing*, 8(1), 19–30. <https://doi.org/10.1007/s00779-003-0253-8>

Education Commission. (1966). *Education and national development: Report of the Education Commission (1964–66)*. Ministry of Education, Government of India.

Ete, M., & Hangsing, E. (2025). *Perception towards vocational education: A study on the undergraduate students and the trainees of Industrial Training Institutes of Arunachal Pradesh. National Journal of Education*, 23(2), 35–52.

Fosnot, C. T. (2013). *Constructivism: Theory, perspectives, and practice* (2nd ed.). Teachers College Press.

GoI. (2006 b). National Focus Group on Teaching of Social Science, Position Paper, National Curriculum Framework 2005, New Delhi: National Council of Educational Research and Training

GoI. (2006 c). National Focus Group on Curriculum, Syllabus and Textbooks, Position Paper, National Curriculum Framework 2005, New Delhi: National Council of Educational Research and Training

GoI. (2006 d): National Curriculum Framework 2005, New Delhi: National Council of Educational Research and Training

Gol. (1954). Report of the Secondary Education Commission, 1952-53. Ministry of Education, Government of India, New Delhi

Government of India. (2020). National Education Policy 2020. Ministry of Education.

Hausfather, S. (1996). Vygotsky and Schooling: Creating a Social Context for Learning. *Action in teacher education*, 18, 1-10

Organisation for Economic Co-operation and Development. (2016). *Innovating education and educating for innovation: The power of digital technologies and skills*. OECD Publishing. <https://doi.org/10.1787/9789264265097-en>

Kolb, A. Y., & Kolb, D. A. (2009). The learning way: Meta-cognitive aspects of experiential learning. *Simulation & Gaming*, 40(3), 297–327. <https://doi.org/10.1177/1046878108325713>

Krammer, H. P. M. (1985). The textbook as a classroom context variable. *Teaching and Teacher Education*. 1(4), 273–278. doi:10.1016/0742-051x(85)90015-0

La Hera, T., Jansz, J., Raessens, J., & Schouten, B. (2021). Persuasive gaming in context. In Amsterdam University Press eBooks. <https://doi.org/10.5117/9789463728805>

Lavalle, Pamela I, and Mark Briesmaster. “The Study of the Use of Picture Descriptions in Enhancing Communication Skills among the 8th-Grade Students—Learners of English as a Foreign Language,” 2017.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511815355>

Madar, M. J. (2015). Impact of participatory teaching on students’ generic skills in tertiary education. *African Educational Research Journal*, 190-197.

Markman, A. B., & Gentner, D. (2000). Structure mapping in the comparison process. *The American Journal of Psychology*, 113(4), 501–538. <https://doi.org/10.2307/1423470>

McKenney, S., & Reeves, T. C. (2018). Conducting educational-design research. In Routledge eBooks. <https://doi.org/10.4324/9781315105642>

Mehrotra, S., & Mehrotra, V. S. (2017). Challenges Beyond Schooling: Innovative Models for Youth Skills Development in India. *Transitions to Post-School Life*, 13–34. [doi:10.1007/978-981-10-6476-0_2](https://doi.org/10.1007/978-981-10-6476-0_2)

Meto, M., Jomyang, N., Tok, B. R., & Sankar, C. S. (2025). *Vocational education in India: Challenges and opportunities in the 21st century*. *International Journal of Science and Research Archive*, 16(2), 1461–1469. <https://doi.org/10.30574/ijrsra.2025.16.2.2491>

Mishra, P. (2020). Book Review: Avijit Pathak, Ten Lectures on Education: Pedagogic and Sociological Sensibilities. *Contemporary Education Dialogue*, 17(1), 96-100. <https://doi.org/10.1177/0973184919890461>

Moll L.C. L.S. (2014). *Vygotsky and Education*. New York: Routledge, 173 p

National Council of Educational Research and Training. (2005). *National curriculum framework 2005*. NCERT.

National Council of Educational Research and Training. (1976). *Higher secondary education and its vocationalisation*. NCERT.

National Council of Educational Research and Training. (2018). *Employability skills* (Class IX). NCERT.

Passarelli, A.M., & Kolb, D.A. (2011). *The Learning Way: Learning from Experience as the Path to Lifelong Learning and Development*.

Pathak, A. (2002). *Social implications of schooling: Knowledge, pedagogy, and consciousness*. Rainbow Publishers.

Piaget, J., & Inhelder, B. (1969). *The psychology of the child* (H. Weaver, Trans.). Basic Books. (Original work published 1966)

Pilz, M., & Ramasamy, M. (2022). Attractiveness of vocational education and training in India: Perspectives of different actors with a special focus on employers. In S. Billett, B. E. Stalder, V. Aarkrog, S. Choy, S. Hodge, & A. H. Le (Eds.), *The standing of vocational education and the occupations it serves: Current concerns and strategies for enhancing that standing* (pp. 177–199). Springer. https://doi.org/10.1007/978-3-030-96237-1_9

Qian, M., & Clark, K. R. (2016). Game-based learning and 21st century skills: A review of recent research. *Computers in Human Behavior*, 63, 50–58. <https://doi.org/10.1016/j.chb.2016.05.023>

Rehm, M. (1989). Emancipatory vocational education: Pedagogy for the work of Individuals and Society. *Journal of Education*

Resnick, L. B. (1989). Introduction. In L. B. Resnick (Ed.), *Knowing, learning, and instruction*. Hillsdale, NJ: Lawrence Erlbaum Associates

Robert Gray (2019) Meaningful interaction: toward a new theoretical approach to online instruction, *Technology, Pedagogy and Education*, 28:4, 473-484, DOI: 10.1080/1475939X.2019.1635519

Roediger, H. L. (1980). Memory metaphors in cognitive psychology. *Memory & Cognition*, 8(3), 231–246. <https://doi.org/10.3758/bf03197611>

Singh, D. S. (2012). *Innovative Secondary education for skills enhancement (ISESE)*. New Delhi: Results for Development Institute.

Smeda, N., Dakich, E., & Sharda, N. (2014). The effectiveness of digital storytelling in the classrooms: a comprehensive study. *Smart Learning Environments*, 1(1). <https://doi.org/10.1186/s40561-014-0006-3>

Thapar, Romila, (2005). *National Curriculum Framework and the Social Sciences*. The Hindu, editorial

Thornbury, S. (2004). *Natural grammar: The keywords of English and how they work*. Oxford University Press

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Wagner, E. D. (1994). In support of a functional view of interaction. *The American Journal of Distance Education*, 8(2), 6–29.

Yadav, A. (2021). A Comparative Study of Academic Achievement and Vocational Aspirations of Hindi and English Medium Secondary School Students. Institute of Education & Research. https://itpd.ncert.gov.in/pluginfile.php/1538939/mod_label/intro/9_23_eng_vocationalisation_of_secondary%20education_under_samagra%20shiksha_transcript.pdf, Date of retrieval 4-8-20

Bibliography

National Council of Educational Research and Training. (2024). *Contemporary India–I: Textbook in geography for Class IX*. NCERT. <https://ncert.nic.in/textbook.php?iess1=0-6>

National Council of Educational Research and Training. (2024). *Democratic politics–I: Textbook in political science for Class IX*. NCERT. <https://ncert.nic.in/textbook.php?iess3=0-6>

National Council of Educational Research and Training. (2024). *Economics: Textbook for Class IX*. NCERT. <https://ncert.nic.in/textbook.php?iess4=0-6>

National Council of Educational Research and Training. (2024). *India and the contemporary world–I: Textbook in history for Class IX*. NCERT. <https://ncert.nic.in/textbook.php?iess2=0-6>