

CHAPTER II

REVIEW OF RELATED LITERATURE

2.0.0 INTRODUCTION

The review of related literature is examining the collection of studies conducted on the chosen issue throughout time. It helps in gaining in depth understanding of the subject the investigator wants to explore and discover the existing gaps in it. Thus, reviews assist to establish the foundation for the research to be conducted.

The studies that are relevant to the current topic are briefly reviewed in this chapter. It strengthened the investigator's understanding of the previous research conducted in the domain of enhancing learners' creative thinking skills through teaching of English and helped identify any gaps in the field. The reviews conducted also provided insight into the research methods that the investigator will take up, including the design of the study, sample selection and tools preparation etc.

As Indian schools need a thorough restructuring in order to raise the standard of education by giving emphasis on 21st century skills that include creative thinking, critical thinking, communication and productive thinking in the concepts of teaching among the secondary school students to make themselves competent enough to survive the challenges and to make the classroom a better place for learning. This chapter reviews about various studies dealt in thinking skills and challenges faced in Indian schools and the methods which can be adopted to bring changes to the current education system in India. It deals with the following topics: thinking ability in high schools, creative thinking, activity based programmes, creativity in children, influence of gender on creativity, influence of intelligence on creativity, influence of different type of schools on creativity, achievement in English language, factors inhibiting the achievement, research gap and conclusion.

As English is one of the major subjects in school curriculum, it has always been subject to various researches across the globe. The researches in the field of English teaching-learning help in furnishing a clearer picture of the status of whole teaching-learning process of the language. Thus, the investigator has tried to study the studies conducted in the field of English language with respect to the proposed study.

The chapter throws light on the researches in the area of thinking skills, creative thinking, and English language teaching. The objectives and findings of the studies reviewed, which were closely related to the present study has been taken into consideration. The reviews of the study are categorized as under:

1. Studies conducted in the area of teaching of English
2. Studies conducted in the area of thinking skills
3. Studies conducted in the area of creative thinking

2.1.0 STUDIES RELATED TO TEACHING OF ENGLISH

Joseph (1983) evolved a strategy for teaching of English grammar at high school level. The objectives of the study were a) To evolve a strategy for teaching English Grammar at high school level. b) To find out the relationship between the pupils' attitude towards the multimedia and their achievement in the comprehensive test. The sample selected for the study was 28 students studying in standard IXth of Navrachana Higher Secondary School, Baroda. The tools used for the study were Reaction questionnaire, Attitude scale, Intelligence Test. The major finding of the study was that both the students and the experts have expressed highly positive reaction towards the multimedia instructional strategy.

Ludbe (2002) studied on the impact of creative method on teaching English to VIII standard students from Marathi medium schools. The objectives of the study were 1. To identify the existing teaching learning strategies regarding the development of student learning skills. 2. To develop teaching learning activities based on creativity for the modification of existing strategies. 3. To measure the impact of the creative method regarding development of fourfold skills. The method of the research was survey and experimental in nature. The population of the study was fifty one aided Marathi medium schools in Pune city. The students of standard VIII were selected for the study. Out of 51 aided Marathi medium schools, 17 schools responded to the Questionnaire inquiring the present status thus forming the sample of the study. Out of 17 schools, 6 schools were randomly selected for the experiment forming the sample of the study. A pretest and posttest equivalent group design was used for the study. The tools used for the study were the data collection tools and statistical tools. The findings of the study were 1. There is a positive gain in learning English by the creative method. 2. The students from the experimental group demonstrated a significant progress because of learning by the creative method. 3. The students of the experimental group have shown significant

improvement in the acquisition of fourfold skills of English language. viz. listening, speaking, reading and writing. 4. The creative method helps in improvement of the skills for both the genders.

Patel (2009) worked on the development and implementation of CAI to teach English grammar to standard VIII students in different modes. The study was aimed 1. To develop the CAI to teach English Grammar to Standard VIII Gujarat Secondary and Higher Secondary Education Board students in different modes. 2. To study the effectiveness of the developed CAI in different modes in terms of students' achievement in English Grammar. 3. To study the effectiveness of the developed CAI in terms of the reactions of students. All the students studying in standard VIII English medium schools of GS&HSEB constituted the population for the study. Sample was selected purposively from the Bright Day School and Kelavani School. 62 students of Bright Day School were selected as the experimental group and 26 students of Kelavani School were selected as the control group. It was a developmental cum experimental study where Quasi Experimental research design was used. Researcher developed achievement test to collect pre-test and post test data. Data was analysed using t-test, Analysis of Co-Variance (ANCOVA), Frequency, Percentage and Intensity Index for quantitative analysis. Findings suggested that the achievement of the students in English grammar taught through CAI was found significantly higher than the traditional method. The teaching of English grammar through CAI is comparatively more effective than the traditional method in terms of the achievement of the students. It was also found that the achievement of the students taught through CAI with discussion was found significantly higher which reflects that it was more effective than the teaching of English grammar with traditional method.

Mussarat (2013) conducted a study of creativity of English medium students in English Language with special reference to standard VIII of Aurangabad District. The main objectives of the study were a) to find out the language awareness of secondary school students b) to test whether students write creative language c) to test the performance of boys and girls separately in language creativity. d) To know the efforts made by the English teachers for improving the quality in language creativity. Out of 2531 students of English medium secondary students studying in std VIII of Aurangabad district, 760 students of standard VIII were taken as sample from Aurangabad district. The researcher selected stratified method of sampling for the study. A standardised "Language creativity test" designed by Dr. S. P. Malhotra and Ms. Sucheta Kumari published by the National Psychological Corporation, Bhargava House, Agra was used to test the language creativity. Normative Survey method was used for collecting the data

through the administration of the questionnaire. The t test, two ways ANOVA for individuals for data analysis. The findings of the study were that students fail to write creative language, there is no significant difference between the performance of boys and girls in language creativity.

Kunvariya (2015) worked on the development and effectiveness of task based strategies for enhancing communication skills of class IX students in English. The major purpose of the study was 1. To study the difficulties faced by the students in task based strategies. 2. To develop a set of task based strategies for enhancing communication skills. 3. To implement the task based strategies in English. 4. To study the effectiveness of task based strategies in English. 5. To study reaction of the students towards the task based strategies implemented. Quasi experimental pre-test- posttest non-equivalent design was used. All the students studying in standard IX following Gujarati medium syllabus of the GSHSEB was considered as the population. Two schools out of 12 secondary schools of Dhrol were selected purposively. All students of one of the sections of standard IX constituted as the experimental group and all the students of one of the sections of standard IX of the other school constituted the control group. Cluster sampling technique was used for selecting the sample from the population. The tools used were observation, pre-test and post-test, task based strategies and reaction scale. The data was analysed by the content analysis, frequency and percentage count, mean, standard deviation, t-test, and chi-square. The findings revealed that 1. At least 50% of the classroom transaction should be done in English during English class. 2. Few instruction and daily spoken English words and phrases should be practised in the classroom. 3. All the written strategies were found effective in the task. 4. It showed positive effect of the task based strategies. 5. Innovative tasks should be carried out to enhance communication skills of the students.

Vaniya (2015) studied on the enhancement of creative writing ability of Std. IX students in English through participatory approach. The objectives of the study were a) To analyse selected poems of English in terms of elements of creative writing. b) To analyse selected essays of English in terms of elements of creative writing. c) To identify the creative writing ability of learners. d) To enhance creative writing ability of learners through participatory approach. e) To study reactions of learners towards the participatory approach. The sample of the study was of one division of std. IX of the Western English Medium School located in Petlad city. The major findings of the study were that the students were able to identify various components of creative writing in the poem. It was also found that the students were able to identify various components of creative writing in the prose.

Maity (2016) studies the effectiveness of open book examination in English for standard VIII in different environments. The objectives of the study are 1.To design and develop an Open Book Environment (OBEn) for standard VIII.2.To implement the developed Open Book Environment (OBEn) for standard VIII students in teaching English. students in teaching English.3.To study the effectiveness of the Open Book Testing (OBT) in a traditional close book environment in terms of content knowledge, logic, divergent thinking, comprehension and overall achievement of standard VIII students in English.4.To study the effectiveness of the Close Book Testing (CBT) in a traditional close book environment in terms of content knowledge, logic, divergent thinking, comprehension and overall achievement of standard VIII students in English.5.To study the effectiveness of the Open Book Examination in terms of the reaction of Students. The researcher conducted an experimental study following the Quasi Experimental design. The samples were selected purposively from the Vadodara city namely New Era school and Ambe school. Students of standard VIII from New Era school and Ambe school were taken as experimental group and control group respectively. 32 students constituted as the sample for the study. The researcher conducted the Raven's Progressive Matrix test which was used as Intelligence test to make the groups equivalent, Open Book Achievement tests and Likert Type five point reaction scale was used. The data was analysed by mean, standard deviation, standard error of mean and Mann Whitney U-test for the quantitative data. Reaction scale was analysed by percentage and Intensity Index, Observation was analysed qualitatively using content analysis and triangulation. Findings reflected that the students taught in a traditional environment scored measurably in all the components of English achievement when tested either through CBT or OBT. It was also found that in an Open Book Environment the result of Close Book Testing and Open Book Testing were found similar in content knowledge, logic, divergent thinking, comprehension and achievement in English. While in a Close Book Testing, Open book environment was found significantly better than the traditional environment in enhancing scores in content knowledge, logic, divergent thinking and achievement. It can be concluded that both Open Book Environment and Open Book Testing were found effective in terms of the reaction of students. Open Book Environment helped students to write answers in a better way in both OBT and CBT.

Jahanshahi (2017) studied on the teaching English Grammar with special reference to the use of prepositions at secondary level in AMU- A Task Based Approach. The objectives of the study were – 1. To find out whether task based instruction is significantly more effective than traditional grammar instruction in teaching English preposition at the secondary level of AMU.

2. How are the grammar exercises represented in the textbooks of the secondary level. 3. What are the recommended methods of teaching grammar of the secondary level according to the students' opinion? 3. To what extent using the Task Based approach in teaching grammar can be effective in the high school classrooms at AMU. The present study was both Qualitative and Quantitative in nature. The participants of this study were 90 students in which 45 male students were chosen from class 9th of Abdullah Girls High Schools at AMU age group of 14 – 16 years who have already had English language instruction from 5- 10 years. The tools used for this study were Pre-test and Post-test and a students' questionnaire for each of the students have been conducted. The findings of the study were that for improvement of learning English grammar at secondary level teachers should change their way of teaching. They also believed that there should be a change in English grammar textbooks and the teachings of grammar should focus on its communicational aspect. A remarkable number of students believed that the grammar textbooks should be changed as this can be due to the traditional way of teaching grammar which is boring and has many flaws and shortcomings while learning which doubts their own talent and ability of learning.

Lakhera (2017) conducted an experimental study on development and implementation of a package for enhancing listening speaking reading and writing LSRW skills in English language among secondary CBSE students. The objective of the study was 1. To develop a package for enhancing LSRW skills in English among secondary CBSE students. 2. To implement the developed package among secondary CBSE students for enhancing their LSRW skills in English. 3. To study the effectiveness of the developed package in terms of improvement in LSRW skills in English among secondary CBSE students. 4. To study the reaction of secondary CBSE students towards the developed package for enhancing LSRW skills. The researcher used quasi experimental design. All the students of standard IX CBSE English medium secondary schools in Gujarat state constituted as the population. 66 students of one CBSE secondary school of Baroda city were selected as the sample for the study. The tools used were Achievement test for Pre-test and Post-test, Reaction scale. The data was analysed and calculated by mean, standard deviation, standard error of mean and Mann Whitney U-test, frequency, percentage and Intensity Index. The results reflected that 1. The developed package was found to be significantly effective in enhancing the listening skill of secondary CBSE students. 2. The developed package was found to be significantly effective in enhancing the speaking skill of secondary CBSE students. 3. The developed package was found to be significantly effective in enhancing the reading skill of secondary CBSE students. 4. The

developed package was found to be significantly effective in enhancing the writing skill of secondary CBSE students.5.The developed package was found to be significantly effective in enhancing the overall communication (LSRW) skill of secondary CBSE students.6.Most of the students also reacted positively towards the activities in the package asserting that the package helped them to enhance their listening, speaking, reading and writing skills in English. They also felt positively towards the activities in the package stating that the package motivated them to develop communicative competence in English.

Yogita (2017) studied on the Teaching Language Skills and Materials Production through video clips, film segments and songs. The tools adopted were Quantitative as well as Qualitative in approach. She had collected data of seven hundred Indian and Foreign adult learners from English Language Teaching Institute of Symbiosis by the qualitative approach making observation having interaction and conducted questionnaire from students as well as teachers. The major findings of the present study showed that the language learning does not solely depend on textbook teaching or learning through textbooks. Language learning takes place when students practically use the language. To provide students with such real life situations in the classrooms, teachers should make use of audio visual authentic materials. Various activities based on songs, video songs, audio visuals aids, videos and films changed the outlook of the students. Students developed a positive outlook towards the language learning. The students when taught with using songs, film segments and video clips were actively involved in the process of learning. They enthusiastically participated in various language activities conducted by teachers during the present study.

Vanguri (2017) conducted a study of teaching and learning of English at secondary schools of Andhra Pradesh. The main objectives of the study were-1. To study the Transactional process of Teaching and Learning of English in the classroom.2. To study the Problems faced by the Students in learning of English Language. 3. To study the Attitude of the Students towards learning English Language. The total sample of students was 800 (Boy students 400 and Girl students 400). All the English teachers of selected schools were constituted as sample of the study. A total of 94 English teachers were considered as sample of the study. The tools used were Observation schedule, Questionnaire for English teachers, Questionnaire for students, Likert type perception scale, Interview schedule for English teachers, Attitude scale. Data analysis was done with content analysis, frequency and percentage count. The findings of the study were 1.The study revealed that majority of the teachers (60.63%) was found using project work for evaluating students learning in English language.5.Majority of

the students responded that English teachers were motivating them by using techniques of asking questions (95.32%), and storytelling (64%) to learn English in the class.6. Majority of the students expressed that they had been suggested by the teachers to read English newspaper (72%) and story books (69%) as reading material for learning English.7. It was found from the study that more than half of the students (57%) expressed that they were facing difficulties in comprehending the content of English subject.

Shah (2022) researched on the development and implementation of a program of teaching English poetry through constructivist approach for standard IX. The sample of the study was 30 students of standard IX in the control and experimental group. Tools for the study used were Worksheets, Pre-test and Post-test, Feedback form and Observation Report. The data analysis was done with content analysis and Mann Whitney U-test. The finding of the study was that the 7E constructivist program for the students of Standard IX has been found effective as evident through the significant difference between the mean achievement scores of Pre-tests and Post-tests.

Vaghela (2022) Developing an ICT based strategy for teaching English as a Second Language at Secondary school level in Gujarat in India. To develop ICT based strategy to teach English as a Second Language for standard IX students of Gujarati medium school. 2. To implement the developed ICT based strategy to teach English as a Second Language for standard IX students of Gujarati medium school. 3. To study the effectiveness of the implemented ICT based strategy to teach English as a Second Language for standard IX students of Gujarati medium school. Standard IX Vidut Board Vidyalaya Gujarati Medium School in Vadodara formed the sample. Tools Scholastic Achievement test and Opinionnaire. Data analysis percentage, mean, SD, degrees of freedom, t-value, and P-Value. 1. As discussed in the preceding chapter, the experimental group scored higher on all formative and summative tests than the control group. This demonstrates that the researcher's ICT-based strategy to teach ESL to Standard IX Gujarati medium school students was significantly effective. Experimental group's scholastic achievement scores were much higher than the control group. In addition, these scholastic achievement scores of units 2, 3, and 1 were higher than the scholastic achievement scores in the rest of the formative tests of units 4, 5, 6, 7, 8, and 9.

2.2.0 STUDIES RELATED TO THINKING SKILLS

Meghani (1999) studied of the effectiveness of a teaching learning strategy for developing critical thinking in students of std. XI using psychology subject as content. Objectives were a) to evolve a strategy for teaching learning critical thinking in students of std. XI using the subject psychology as the content, b) to develop a tool, measuring critical thinking in students of std. XI, c) to find the effectiveness of the evolved strategy for teaching learning critical thinking. The study is developmental in nature. The subjects for the study were 12 students –all who had opted for Arts stream at the Higher Secondary level and also had psychology as one of their subjects. Methods used for infusing critical thinking were Case study method and Socratic questioning method. Major findings of the study were students demonstrated their ability to think independently through logical reasoning and justification. Also most of the students not only were able to apply knowledge in a new situation but also showed improvement on their ability to think reflectively.

Paily (1999) carried out a descriptive comparative study on the growth of critical thinking in secondary school children in connection to a few psycho environmental variables was conducted by. The principal goals were: 1. To set standards for the critical thinking proficiency of Goan secondary school pupils. 2. To research the critical thinking proficiency of secondary school pupils. 3. Researching the relationships between critical thinking and intellect as well as critical thinking and socioeconomic standing. 4. To what degree secondary school educators employ different strategies to help their pupils develop critical thinking skills. In the academic year 1997–98, Goa secondary schools produced 918 pupils in the X standard and 209 randomly chosen instructors. The Watson-Glaser critical thinking appraisal (1994), the Culture Fair Intelligence Scale-III by Cattell et al., the Critical Thinking Teacher Behavior Inventory, and the Home Background Data Sheet were the instruments used by the investigator to conduct the survey. Findings showed that pupils in the X standard had an average critical thinking level. Additionally, it was noted that a relatively small proportion of educators employed critical thinking techniques in their instruction.

Lakshmi (2007) studied on developing critical thinking skills through strategy training- A Task Based Approach. The objectives of the study were 1. To augment the language proficiency of the learners by developing critical thinking skills in the learners which include creative thinking, reasoning and logic and problem solving. 2. To improve the learners abilities of application of knowledge in new contexts. 3. To help learners become autonomous in the

process of learning. The tools used were the case study, written response think aloud verbal reports Questionnaire, interviews, materials. The findings of the study were 1. Learners' autonomy and the application of skills, new context would help enhance language skills and the cycle continues. 2. Developing critical thinking skills in the second language learners enhanced their language and general learning abilities. 3. Motivation levels of the learners augmented automatically. 4. Metacognitive strategies best help the learners to enhance their thinking and learning abilities.

Seeja (2012) studied on the influence of active learning strategies on critical thinking, thinking styles and achievement in Physics among secondary school students. The objectives of the study were 1. To study the influence of active learning strategies on critical thinking of secondary schools students. 2. To study the influence of Active learning strategies on the thinking styles of secondary school students. 3. To study the influence of Active learning strategies on the secondary school students' achievement in physics. The present study adopted non-equivalent control group Quasi experimental design wherein a control group and an experimental group was employed. The pre-test and post-test were administered to the two non-equivalent samples in the form of intact groups of class IX of two different schools. The sample is drawn through purposive sampling technique as the study was experimental in nature. The sample for the study was with 41 students in the experimental group as well as the control group. Thus, the total sample consisted of 82 students, 41 each from both experimental and control group. The tools used for the study were Raven's Progressive Matrices to measure the intelligence, achievement test in physics, critical thinking disposition scale prepared by the investigator, thinking styles inventory of Sternberg- Wagner was employed. The findings of the study were 1. The Active learning strategies were effective in improving the critical thinking skills of the secondary school students when the pre test score of critical thinking skills and intelligence were taken as covariate. 2. The Active learning strategies were effective in improving the critical thinking dispositions of the secondary school students when the pre test score of the critical thinking dispositions and intelligence were taken as covariate.

Kumari (2014) worked on the Effectiveness of six thinking hats strategy on the development of parallel thinking, lateral thinking and general creativity in high school students The objectives of the study were- 1. To study the effect of six thinking hat strategy on general creativity of high school students. 2. To study the effect of six thinking hats strategy on parallel thinking of high school students. Out of 452 students in the school studying in IXth standard, under eight sections, 20 students were selected randomly from each section making for 160

students in all. The measuring tools used were the parallel thinking test, the lateral thinking test, Baqer Mehdi's Verbal test of creative thinking, the Infante and Rancer's Argumentativeness scale, the Raven's Progressive Matrices and the Kalia and Sahu's Socio-Economic Status scale. The findings of the study revealed that the general creativity of the high school students is enhanced when taught through six thinking hats strategy. The parallel thinking, lateral thinking, and creative thinking are very close to each other.

Vijayalakshmi (2016) conducted an experimental study on using task based teaching to develop critical thinking among secondary level ESL learners. The objectives of the study were 1. Do the traditional teaching methods help learners in developing critical thinking skills? 2. Will task based language teaching help learners develop critical thinking skills? 3. Does critical thinking enhance language learning? The tools used for the study were Questionnaire, classroom observations, Pre test post test, and intervention programme. It was an experimental study. The sample of the study was the total of 12 students was chosen as the subject out of 30 students in the pre test activities. Intervention programme in the form of teaching of critical thinking through task based teaching was carried out systematically during which 10 different tasks were used for instructional purpose. At the end of the intervention programme, the post test was conducted using 5 different types of task in which all the subject participated and performed the tasks. The findings of the study were 1. Traditional teaching method does not help learners in developing critical thinking skills. 2. Task based teaching helped in developing and enhancing the subjects' critical thinking skills. 3. Critical thinking skills enhance language skills of learners.

Pahuja (2017) researched on the effectiveness of thinking training programme on the basis of creativity of students of higher education in Fazilka district, Punjab. The objectives of the study were 1. To study the effect of treatment, achievement test, and their interaction on verbal creativity of students by considering pre verbal creativity as covariate. 2. To study the effect of treatment, intelligence and their interaction on verbal creativity of students by considering pre verbal creativity as covariate. The sample of the study was randomly selected 150 students of B.Ed first year of DAV college of Education, Abohar. For the experimental study, the tools used were 1. Verbal creativity 2. Passi test of creativity 3. The standard progressive matrices SPM. 4. Bisht Battery of stress scales (2000). The analysis of the data was done with 2*2 Factorial design, ANCOVA and correlated test. The findings were 1. CoRT strategy was found to be significantly more effective in comparison to lecture method in terms of facilitation of verbal creativity of students when pre verbal creativity was

taken as covariate. 2. Verbal creativity of students was found to be independent of Achievement stress when pre verbal creativity was taken as covariate.

Joseph (2018) conducted a study to develop and find the effectiveness of a strategy based on Andes Intelligent Tutoring system for enhancing problem solving ability, critical thinking and achievement in physics of students at higher secondary level. Using a pretest-posttest non-equivalent design, the researcher randomly chose 220 students of standard XII from two schools and assigned them to the control and experimental groups in the experimental study. Teachers in the control group learned through activity-oriented instruction, while students in the experimental group received instruction using an approach created based on Andes' intelligent tutoring system. The problem-solving ability, critical thinking, and accomplishment tests that the researcher devised and standardized were used to gather data in addition to the Ravens Progressive Matrices. The pretest and posttest data were examined using the t test, ANOVA, and ANCOVA. Findings of the study revealed that developed strategy is effective in terms of developing problem solving ability, critical thinking and achievement in physics than the existing activity oriented teaching. It is also found that there is lack of time allotted to complete the whole syllabus and for numerical problems. Lack of computer facilities for teaching is also reported. The study suggested that there should be more facilities in the schools so that various programs can be conducted.

Marak (2020) conducted research on the effect of thinking strategy on creativity of university students. The primary goal was to compare the adjusted mean score of creativity between the CoRT group and the group using the traditional technique, controlling for pre-creativity. By using precreativity as a covariate, it also examined the impact of the CoRT thinking approach self-concept and their relationship on creativity. The sample used for the study was selected purposively from the population of 432 post graduate students of NEHU, Tura Campus, Tura, Meghalaya. The CoRT thinking strategy tool, the Passi Test of Creativity, the Group Test of Intelligence, and the Self Concept Questionnaire were the instruments employed. The major findings of the study was that the upon adjusting for Pre-creativity, it was discovered that the CoRT group greatly outperformed the traditional technique group in terms of fostering the subjects' creativity. When pre-originality was included as a covariate, it was discovered that the CoRT group had much better facilitation of originality of thinking skills than the traditional method group. If pre-creativity is considered as a covariate, creativity is found to be independent of the effect of treatment and gender interaction.

Raipure (2022) studied on the development and implementation of integrated strategy to inculcate productive thinking among elementary school students. The main objectives of the study were 1. To develop an integrated strategy to inculcate productive thinking among elementary school students. 2. To implement the developed strategy to inculcate productive thinking among elementary school students. 3. To study the effectiveness of the developed strategy in terms of productive thinking of elementary school students. The population of the study consists of all the students of standard VIII studying in English medium schools affiliated to CBSE in Gujarat state in the session 2019-20. 471 schools in the Gujarat state affiliated to CBSE. Convenient sampling technique of non-probability sampling technique was used. The tools used were 1. Productive thinking scale 2. Achievement test 3. Reaction scale. Mean, Standard Deviation, Mann Whitney U test, Chi-square analysis were implemented for data analysis. The findings of the study revealed that the developed integrated strategy along with the FIESI productive thinking model was found significantly effective in inculcating productive thinking among the elementary school students.

2.3.0 STUDIES RELATED TO CREATIVE THINKING

Subramonia (1976) studied on the effects of patterns of teaching upon creative thinking among Adolescents aims at testing the effect of two techniques of developing creative thinking among the school students. The objectives of the study were to find out the effect of creative teaching method upon the general creative thinking of Eighth graders. To find out the effect of the creative teaching method upon creative thinking in geography of Eighth graders. It is experimental studies with two types of tools were used like the Standardised and tools developed for the purpose of study. The findings of the study were the creative teaching method developed the mental ability of logical evaluation significantly higher upon Eighth graders than the traditional method of teaching geography. The creative teaching method did not produce any negative effect upon achievement in geography of Eighth graders.

Govindarajacharyulu (1977) studied of the relationship among Creative thinking, Intelligence and School Achievement. The objectives of the study were to explore the relationship among creativity, intelligence and school achievement. The study is restricted to a random sample of 400 pupils (200 boys and 200 girls) of VIII class drawn from 11 high schools located in urban areas namely Guntur and Eluru in the state of Andhra Pradesh. A total of 481 students of Class VIII participated in the testing but the number of usable sets of data was 400. The tools of the study were The Torrence Tests of Creative thinking and the Cattell's Culture Fair Intelligence

Test was used. The findings of the study were 1. The correlations between creativity measures and school achievement indicate the validity of the TTCT. 2 All the fifteen correlations between the verbal measures (fluency, flexibility and originality) and school achievement measures are correlated positively and significantly for the total sample.

Shah (1981) did an experimental investigation on the effects of selected teaching strategies on the development of creative thinking and achievement in science. The main objectives of the study were a) To find out the effectiveness of the strategies on the development of creative thinking ability of standard VIIth pupils. b) To find out the effectiveness of the strategies on the achievement in science of standard VIIth pupils. Latin Square Design was employed for the study. Tools used were I.Q. Test, Creative Thinking Test and Pre-achievement Test. The findings of the study were that the difference existed between the selected strategies for their effectiveness in developing creative thinking and achievement in science of VIIth class pupil is significant at 0.01 level of significance. The effects of strategies were dependent upon the level of intelligence, sex and creativeness of the pupils.

Singh (1981) studied on creative thinking of high school students of Himachal Pradesh in relation to some Cognitive and Non Cognitive variables. The main objectives of the study were a) To construct and standardise the test of creative thinking for measuring verbal and non verbal factors involved in the process of creative thinking and to prepare workable tools in Hindi. b) To study the relationship of verbal, non verbal and total creative thinking scores separately for boys and girls with cognitive and non cognitive variables. The tools used for the study were Jalota's General Mental Ability Test, Raven's Standard Progressive Matrices. Random sampling technique was used. The findings of the study were that the high creatives have comparatively good perception of the situation and greater capacity to concretize or specify the experiences as compared to the low creatives.

Desai (1987) investigated into the creative thinking ability of students of higher secondary of Gujarat State in the context of some psycho-socio factors. The main objectives of the study were a) To determine the relationship of composite creativity and different dimensions of creative thinking i.e. fluency, flexibility, originality and elaboration with adjustment of the students. b) To find out the relationship between creativity and adjustment at different levels high, average and low of these two variables. The Torrence Test of Creative Thinking and the Cattell's 16 Personality Factor Test were administered on the pupils. The data was analysed by employing t-test and product moment technique. The findings of the study were that the

relationship between creativity and adjustment was negative but very low and insignificant. Creativity and adjustment were insignificantly related at their different levels.

Prabhavathamma (1987) investigated into the creative writing process, identification of the creative writing ability in English, in student- teachers, in the intercultural connotation. The main objectives of the study were a) To identify and classify the creative writing potential or ability in the student teachers. b) To study the creative writing potential and performance of student teachers of Nigeria in a foreign cultural context. The selected sample size for analysis was 40 creative writers comprising both from India and abroad. The tools used for the study were The Student Teacher's Questionnaire. The findings of the study were that the majority of the writers produced their first piece of writing in their school stage. It was also reflected that most of the creative writers got discouraged in the beginning mostly by the publisher or the editor, the parents and the teachers to have demotivated their early creative writing efforts.

Rajagopalan (1988) carried out a survey to investigate secondary school students' creativity in connection to the classroom environment, motivation for achievement, and mental capacity. The primary goal of the study was 1. To determine the degree of originality exhibited by pupils in classes VIII and IX of secondary school. 2. To assess pupils' overall mental capacity and motivation. 3. To investigate how general mental capacity, achievement incentive, and classroom environment affect creativity. 4. To investigate the various ways that motivation, achievement, mental capacity, and classroom environment interact. Over 1200 Madurai City students in classes VIII and IX participated in the study. Data was collected by using achievement motivation inventory developed by Prayag Mehta, mixed group intelligence test developed by P. N. Mehrotra, Verbal test of creative thinking by Baqer Mehdi and Classroom climate scale developed and standardized by CASE. $2 \times 2 \times 2$ factorial design ANOVA was used to analyse the data and the findings reflected low level of creativity among students. It was discovered that in both classrooms, there was a favourable association between creativity and mental capacity as well as creativity and classroom environment. It can be concluded that the two characteristics which helped students to develop their creativity were a positive learning environment in the classroom and a high level of mental capacity.

Dabhi (1995) studied on the development of creative thinking ability of the students of secondary schools through attribute listing programmes. The objectives of the study were 1. To measure creativity and its components of secondary students. 2. To study the development of creativity of secondary students through attribute listing programme. 3. To study the

development of creativity through ALP with respect to their standards. The present study has adopted the experimental method. The sample of 48 students divided into 4 groups of one school was selected to serve the purpose. Stratified sampling method was used for the study. Initially CAT was administered over 280 students of standard VIII and 260 students of standard IX making a total of 540 students. Pre-test, post-test and control group with stratification was adopted. The tools used for the study were Attribute Listing Programme developed by the researcher, Creativity Ability Test (CAT) developed by J.Z. Patel. The findings of the study were 1. There is a significant effect of Attribute Listing Programme on creativity, the mean difference in creativity scores is in favour of experimental group pupils. 2. Treatment through Attribute Listing Programme shows positive effect on creativity, especially on fluency and flexibility, originality is not affected. 3. Standard of the pupils as a factor does not affect the creativity as well as fluency, flexibility originality. 4. Sex of the pupils as a factor does not affect even a single component of creativity of students.

Namdeo (1995) studied on the relationship between creativity and study habits of secondary school students. The objectives of the study were 1. To construct, develop and standardize a tool to assess the study habits of the students of the secondary schools. 2. To find the levels of creativity and study habits of students with respect to sex, residence and class. 3. To find out the effect of sex, residence and class on creativity and study habits. The present study involved Normative survey method of research, descriptive statistic and inferential statistics of ANOVA was used. The tools used for the study were the creativity test constructed by Chauhan and Tiwari, the study habits inventory was developed by the investigator. The sample constituted of 720 students of class IXth and XII of the higher secondary schools of Raipur District only. The findings of the study were 1. Residence and class, both factors vis a vis creativity were found significant. 2. Sex, vis a vis creativity was found non-significant statistically. 3. Rural students scored higher mean creative score than urban students. 4. The developed and standardised study habits inventory is reliable, valid and dependable tool for measuring study habits of secondary school students.

Paltasingh (1998) studied on the effectiveness of training in creative thinking through different approaches in teaching Biology at the secondary level in developing creative ability of students. The objectives of the study were 1. To determine the relationship between intelligence and creativity. 2. To determine the relationship between achievement and creativity. 3. To find out the difference between the creative abilities of boys and girls. The tools used for the study were- 1. Verbal test of creative thinking of Baqer Mehdi 2. Group test

of general mental ability 3. Achievement test in science for class IX prepared by the researcher. The experimental design used was pretest and posttest parallel form. The population for the study was all pupils of class IXth of all high schools of Orissa. The size of the sample was 180 pupils from which the two experimental groups had 120 pupils and the control group of 60 pupils. The findings of the study were that there was a positive significant correlation between pretest intelligence scores and pretest total creativity scores of boys. There is a significant positive correlation between scholastic achievement scores and total creativity scores in girls of both the schools. There is no significant difference between the mean creativity scores of girls and boys eliminating the effect of intelligence.

Reddy (1999) studied exploring the promotion of creative thinking among secondary school students in India. The main objectives of the study were a) To find out whether boys and girls differ in their creativity. b) To find out whether children belonging to rural and urban localities differ in their creativity. The researcher used test of creative thinking by Baqer Mehdi to measure students' performance. He also focused on teachers' view of creativity and their classroom practices. The sample was 373 students and 88 teachers drawn from nine government schools in Andhra Pradesh. The findings showed that the teachers valued creativity. It was believed that the development of creativity depended on good teacher pupil relationships, encouraging experiment and building self confidence among students.

Manohari (2002) studied on the interacting factors favouring and deterring the creative abilities of high school children in South Kanara district. The main objectives of the study were a) to study the creative abilities of IX standard high school children in South Kanara district. b) to identify the factors favouring and deterring development of creativity in high school children in South Kanara district. A total sample of 1000 students was chosen from 40 randomly selected schools out of 207 schools was made the representative of IX standard from the high schools in South Kanara District. Tools used for the study were Baqer Mehdi's Tests of Creative Thinking- Verbal and Nonverbal, Kuppaswamy's Socio- Economic status scale to develop socio-economic status, Bhagia's school adjustment inventory to measure school adjustment, Torrence creative activities check list. The study was a descriptive analytical survey. The findings of the study were that the boys are significantly more creative than girls, the children residing in urban area have given evidence of significantly greater creativity than those living rural area, and the level of non-verbal creativity of the sample is significantly higher than the level of verbal creativity, also high creative children are better adjusted to school life than low creative children.

Nathalal (2002) conducted an experimental research to study the effectiveness of creative thinking programme on developing creative thinking ability. The major objective was to create and standardize a creative thinking curriculum for Mehsana district secondary school students in grade IX and assess its impact on the growth of the students' inventiveness and capacity. The development of the creative thinking program was predicated on DeBono's research on the subject. Three groups of 150 students of IX standard of Mehsana district purposefully selected and divided into two experimental and one control group. Thinking training was given to one experimental group with feedback and to another without feedback. Creative ability test developed by J. Z. Patel and verbal and non-verbal group intelligence test developed by K. G. Desai were used to collect data on creative ability and analyzed using ANOVA ($3 \times 2 \times 2$) where gender was one of the studied variables. Findings reflected effectiveness of creative thinking programme in developing creative ability and better effect was seen in training along with feedback. It was also found that boys were better on progress in creative ability than girls.

Pathak (2002) conducted an experimental study by preparation of a creativity programme for pre service teacher trainees at primary level and a study of its effectiveness. The objectives of the study were 1. To construct and standardize a creativity test for Pre-service teacher trainees at primary level. 2. To identify the creativity level of Pre- service teacher trainees at primary level. 3. To prepare a creativity programme for pre-service teacher trainees at primary level. 4. To study the effectiveness of creativity programme with respect to creativity components, caste category and academic stream. The sample was selected purposively where 40 students studying in the first year of PSTE of DIETs constituted as the sample. The researcher undertook Pre-test Post-test and created the test of creativity and a creativity programme for PSTTs. The data was statistically analysed by ANCOVA and ANOVA. The results reflected that there existed significant difference between the mean creativity score of the experimental and the control group. The relatively higher mean score of the experimental group indicated higher level of creativity. It was concluded that the experimental group reacted more favourably after the provided treatment in terms of a creativity programme. Thus, the creativity programme had a differential impact on two groups.

Thabor (2003) studied on the creative thinking ability and attitude towards science among students of secondary schools having different organisational climates. The objectives of the study were -1. To find out the creative thinking ability of secondary school students in East Khasi Hills District of Meghalaya. 2. To find out the attitude towards science of secondary school students in East Khasi Hills District of Meghalaya. It was a descriptive research. There

were 160 secondary school in the East Khasi Hills District of Meghalaya, out of which 25percent of the population of the schools was the sample. The stratified sampling technique was used to draw the sample. The tools used for the research were Verbal test of creative thinking developed by Baqer Mehdi (1985) to measure the creative thinking ability of the secondary school students. Attitude scale was administered on the secondary school students. The findings of the study reveal that there is a significant difference between rural secondary school students and urban secondary school students in their creative thinking ability with urban secondary school students showing a higher mean score. There is a significant difference between tribal and non tribal secondary school students in their creative thinking ability with non tribal secondary school students showing a higher mean score. There is a significant difference among secondary school students belonging to four types of management that is the government schools, deficit schools, aided schools, and unaided schools in their creative thinking ability.

Vidyasagar (2007) studied on creative thinking in relation to intelligence and academic achievement among primary school children. The main objectives of the study were a) Assessing creative thinking of primary school children with a set of socio- demographic variables viz. gender, locality, age, family economic status, birth order of the child, medium of instruction class, occupation of the parent and type of institution. b) To study the relationship between creative thinking and the psychological variables viz. intelligence and academic achievement of primary school children. The investigator used Baqer Mehdi, Nonverbal test, B.K. Passi test. Sample for the study was 400 primary school children studying in different government schools. It was selected through stratified sampling procedure. The findings of the study were that there was significant difference between boys and girls of primary school children in their creative thinking, there was significant difference between urban and rural primary school children in their creative thinking, there was significant difference between the boys and of primary school children in their intelligence.

Tarannum (2008) studied on the creative experience and academic achievement as determinants of self-esteem and emotional stability of visually handicapped students. The objectives of the study were- 1. To find out whether creative experience and academic achievement predict self-esteem of visually handicapped students. 2. To find out whether creative experience and academic achievement predict emotional stability of visually handicapped students. 3. To find out whether creative experience and academic achievement predict self-esteem of sighted students. 4. To find out whether creative experience and

academic achievement predict emotional stability of sighted students. A sample of 200 students was chosen through non probability convenient sampling. Out of these, 100 students were visually handicapped and the remaining 100 students were sighted ones. The sample of visually handicapped students was selected from Ahmadi school for Blinds, Aligarh and the sample of sighted students were drawn from the Union school of Aligarh Muslim University, Aligarh. The tools used for the study were demographic information sheet about the gender, age, class, family system, and area of living were obtained on a separate sheet. Annual Examination marks of the students obtained from the office records of the institution for measuring academic achievement. Five point scale ratings of the concerned teachers to measure the creative experience of the students. The findings of the study were that the creative experience does not have any significant contribution in defining self-esteem of visually handicapped and sighted students. Creative experience also has no significant role in describing self-esteem of sighted students.

Patel (2010) developed an instructional strategy for primary school teachers to teach Creative and Critical thinking skills. Objectives of the study were a) To select appropriate thinking tools for enhancing creative and critical thinking skills. b) To develop an instructional strategy using selected combination of thinking tools using appropriate content to enhance creative and critical thinking skills. c) To enable teachers to incorporate the creative and critical thinking skills into lesson plans. d) To study the impact of the instructional strategy in enhancing and critical thinking skills in teachers. In all 153 teachers showed interest in the study but finally 25 teachers were randomly selected for the present study. It aimed at evaluating the changes in the teachers as a result of the intervention strategies employed to enhance creative and critical thinking skills using suitable content matter. The design of the study was pre experimental design; it was on one group, pre test post test design. The major findings of the study were the developed instructional strategy incorporating thinking tools and thinking strategies was effective in enhancing creative and critical thinking. It also improved the sampled teachers fluency, flexibility and originality dimension of creativity through the instructional strategy.

Hutchinson (2011) studied on the creative and productive thinking in the classroom. The research was experimental in nature. The main objectives were to determine what learning and thinking processes would be elicited in students by certain modifications of current teaching methods. The Aschner- Gallagher System was used for classifying students' verbal responses. It consists of five primary categories. Cognitive- Memory, convergent thinking, evaluative thinking and divergent thinking and routine. The findings of the study suggested that when

provision is made in the classroom for permitting productive thinking, children who measure high in creativity test will tend to produce more verbal responses in the productive and evaluative thinking categories.

Alghafri and Ismail (2014) investigated the effectiveness of integrating creative and critical thinking on school students' thinking. The main objective of the study through the experimental study was to determine the impact of integrating critical and creative thinking into a single approach. They developed their plan by taking into account the critical thinking components of interpretation, analysis, assessment, and inference as well as the creative thinking components of fluency, flexibility, and originality. Two primary schools provided 68 fifth graders, of whom 32 were assigned to the experimental group and 36 to the control group. The experimental group received three months of training utilizing the developed technique. The researcher created and standardized two tests, one for creative thinking and the other for science thinking, which were administered to both groups. ANCOVA, MANCOVA, and descriptive statistics were used to analyze the collected data. Results demonstrated that the method worked well for encouraging students' critical thinking and creativity. But it was not effective in terms of originality and science task achievement.

Pany (2014) made an effort to compare the creative thinking skills of kids attending public and private schools. The aim of the study was to evaluate the creative thinking abilities of boys and girls in relation to the two types of school management: private and public. Every student in elementary school served as the study's population for this. A total of 200 students—100 boys and 100 girls—studying in the V standard from both government and private schools were chosen, with 5 government and 5 private schools chosen with purpose. The Baquer Mehdi test (1985) of verbal creativity was used to measure creative thinking abilities. Descriptive statistics and the t-test were employed to examine the data. The findings showed that students attending private schools did better on tasks requiring creative thinking, and this difference was noteworthy across genders as well. It was determined that the autonomy granted to pupils and the range of activities included in teaching and learning in private schools account for this discrepancy.

Priya et al (2014) studied on the creative thinking ability among high school children. The sample of the study comprised of 300 high school children in the age group of 13-16 years from five urban high school of Dharwad taluk. Creative scale developed by Mehdi(1989) and creative thinking check list developed by AICRIP-CD Dharwad centre (2010) were used to

assess the creative thinking ability of children. The result of the study revealed that majority of children showed high level of creative thinking ability and none of them belonged to low category of creative thinking ability. There was no influence of type of school, age and gender on creative thinking ability of children.

Ramesh (2015) studied on the effectiveness of the programme to develop thinking (PDT) on creativity and achievement in science among the students of standard IX. The objectives of the study were 1. To develop strategies on programme to develop thinking based on selected topic of standard IX science syllabus. 2. To find out the effectiveness of the programme to develop thinking on achievement in science of students of standard IX. 3. To find out the effectiveness of the programme to develop thinking on creativity of students of standard IX. The population for the study was all the students studying in standard IX located in Bangalore city. The sampling was conducted in two stages- purposive sampling with 2 schools were chosen and random sampling were assigned to experimental and control group. The tools used for the study were 1. Raven's Standard Progressive Matrices (1998) to measure intelligence of the students. 2. Creativity Test developed by Baqer Mehdi (1973) measure the creativity of the students. 3. Achievement test in science developed by the researcher to measure the achievement in science of the students. The findings of the study were 1. The programme to develop the thinking resulted in enhancing the achievement in science of standard IX students. 2. The usage of programme to develop thinking resulted in fostering creativity of students of standard IX. 3. There is a positive high correlation between achievement in science and creativity of standard IX students.

Varughese (2015) studied to assess the extent of creativity, its components – Elaboration, Originality, Achievement Motivation and Academic Attainment of a. Learning Disabled students' b. Normal student. The investigator used Normative Survey Method for the study. The sample for the study of 222 students from 46 schools of Pathanamthitta district were selected from 2012 secondary school students using purposive random sampling technique. Tool used for the study were Baqer Mehdi's Non-Verbal Test of Creativity for Secondary School Students. The findings of the study were that the Learning Disabled and the Normal students differ significantly at .05 level with respect to the components of Creativity such as Elaboration (CR=2.40) and Originality (CR=1.99). The higher mean values of Normal students show that they have more Elaboration and Originality than Learning Disabled students. There exists no significant difference between Learning Disabled and Normal students with respect to Creativity. Among the selected Secondary School students, an average of 11 % is Learning

Disabled students. With respect to the scores of Creativity, Achievement Motivation and Academic Attainments majority of students in both Learning Disabled and Normal groups belong to 'Medium' group. Only a small percentage of Learning Disabled students belong to the group 'high' with respect to the three variables. At the same time more Learning Disabled students belong to the group 'Low' with respect to the variables. Learning Disabled and Normal students (total sample) do not differ with respect to Creativity.

George (2016) researched on the impact of play, brainstorming and storyline on creativity among middle school children. The main objectives of the study were a) to assess the impact and significant difference of play, brainstorming and storyline on creativity. b) to assess the gender difference among play, brainstorming and storyline on creativity. c) to compare the efficacy of individual techniques with combinations of techniques on .Sample selected for the study was convenience sampling focusing on middle school children from the government school of Madurai, Tamil Nadu. The research tool used was Socio demographic data and Baquer Mehdi Verbal and Nonverbal Test of Creative Thinking. The design of the study was pre test post test design with the control group was used. Descriptive statistical methods, independent sample t test, paired t tests, one way ANOVA were used to determine the portion of independent variables. The major findings were that a) play, brainstorming and storyline will differentially enhance creativity. b) Enhancement of creativity will differ as a function of gender for the techniques. c) Combinations of techniques will enhance creativity more than individual techniques.

Ozyaprak (2016) attempted to investigate the impact of the SCAMPER approach on the capacity for creative thinking skills. The researcher employed an experimental pretest-posttest design with a single group. The study's sample consisted of 14 undergraduate students who were enrolled in Istanbul University's gifted teacher training program. The sample group received training from the investigator for six weeks while the training program was created utilizing the SCAMPER technique. The training program test for creative thinking-drawing production (TCT-DP) was employed, and the results were analyzed using paired sample t-testing. The outcome demonstrated the value and efficacy of the SCAMPER technique in fostering creative thinking abilities. It was determined that SCAMPER offers a fun setting for people of all ages to use their creative thinking.

Mali (2017) studied on the creative thinking of secondary school students in relation to their emotional intelligence, socio- demographic variables and academic achievement. The

population of the investigation constituted all students of higher secondary schools of Jammu Division. Multi stage sampling was applied as the sample of the study. Tools used for the study were Mangal Emotional Intelligence Inventory developed by S.K Mangal and Subhra Mangal (2004). Verbal Test of Creative Thinking developed by Dr. Kulwinder Singh (1981). The major findings of the study were those there were no significant differences among students studying in Private and Government schools on fluency, flexibility and overall creative thinking and significant differences were found on originality component of creative thinking studying in Private and Government schools.

Ramani (2017) conducted an impact of emotional intelligence and creative thinking ability on the academic achievement of D.El.Ed students. The main objectives of the study were a) to find out the level of emotional intelligence of D.El.Ed. students b) to find out the level of creative thinking ability of D. El. Ed. students c) to find out the level of academic achievement of D. El. Ed students. The researcher had adopted normative survey method. Simple random sampling technique was used in selecting 739 D.El.Ed students out of all the D.El.Ed students studying in government, aided and self finance teacher training institution. Tools used for the study were Emotional Intelligence scale, Creative Thinking Ability scale, Academic achievement test. The statistical techniques used were mean, standard deviation, percent analysis, t test to compare any two groups , ANOVA, chi-square test. The main findings of the study were that there was significant difference in the dimension of creative thinking ability like flexibility, originality, elaboration and creative thinking ability of male and female D.El.Ed. in their flexibility of creative thinking ability, there is no significant difference in the dimensions of fluency, flexibility in creative thinking ability.

Gundogan (2019) conducted a study on SCAMPER to enhance young children's imaginative creativity. The goal of the study was to find out how SCAMPER helped youngsters under five years olds imaginative play. 49 kindergarten students were purposefully chosen by the researcher, who then trained them for three months utilizing the SCAMPER technique, imaginative play activities designed by Bob Eberle (2008), creative games, and activities created by Gundogan (2011). Following the training, the investigator's test of creative imagination was used to gather data. The pretest-posttest data were analysed using paired samples t-test, and the posttest mean scores were analysed using independent samples t-test. Children who underwent SCAMPER instruction had higher levels of inventiveness, according to analysis. The study's conclusion was that SCAMPER improves the fluency component of creative thinking more than it does total creativity.

2.4.0 MAJOR OBSERVATIONS OF THE REVIEW OF RELATED LITERATURE

The purpose of reviewing the related literature is to know about the researches conducted in the related area and to see what implications these have in the present study. For the present research, the investigator had reviewed a total of **52 studies**. Out of these total 52 studies, **29 studies** (Subramonia, 1976; Govindarajacharyulu, 1977; Shah, 1981; Singh, 1981; Desai, 1987; Prabhavathamma, 1987; Rajagopalan, 1988; Dabhi, 1995; Namdeo, 1995; Paltasingh, 1998; Reddy, 1999; Manohari, 2002; Nathalal, 2002; Pathak, 2002; Thabor, 2003; Vidyasagar, 2007; Tarannum, 2008; Patel, 2010; Hutchinson, 2011; Alghafri & Ismail, 2014; Pany, 2014; Priya et.al, 2014; Ramesh, 2015; Varugheses, 2015; George, 2016; Ozyaprak, 2016; Mali, 2017; Ramani, 2017; Gundogan, 2019) were related to creative thinking and programmes adopted to enhance creativity. Total **13 studies** (Joseph, 1983; Ludbe, 2002; Patel, 2009; Mussarrat, 2013; Kunvariya, 2015; Vaniya, 2015; Maity, 2016; Jahanshahi, 2017; Lakhera, 2017; Yogita, 2017; Vanguri, 2017; Shah, 2022; Vaghela, 2022) were related to **teaching of English** and **10 studies** (Meghani, 1999; Paily, 1999; Lakshmi, 2007; Seeja, 2012; Kumari, 2014; Vijayalakshmi, 2016; Pahuja, 2017; Joseph, 2018; Marak, 2020; Raipure, 2022) were related to the **thinking skills**.

Learning and Thinking skills abilities are inextricably linked. It is vital to the teaching learning process and has a place of its own. Repetitive fact learning leads to reproductive thinking or retention without the acquisition of transfer skills. The researchers made an effort to highlight the importance of thinking skills enhancement by integrating them with the knowledge of the subject matter. A Case study was conducted at secondary and higher secondary students revealed that most of the students demonstrated their ability to think independently through logical reasoning and justification when applying knowledge in a new situation improved their thinking (Meghani, 1999). One of the reasons of this is learners' autonomy and application of skills enhanced the motivation levels of the learners automatically with metacognitive strategies which enhanced their thinking and learning abilities (Lakshmi, 2007). An experimental study has revealed that on using task based teaching, the critical thinking skills enhance the language skills of learners (Vijayalakshmi, 2016). Active learning strategies were effective in improving the critical thinking skills along with intelligence while six thinking hats strategy developed creative thinking among standard IX students (Seeja, 2012 and Kumari, 2014). The study revealed FIESI productive thinking model and CoRT strategy were found significantly effective in inculcating productive thinking and facilitation of verbal creativity of students. It was discovered CoRT group had better assistance of originality and thinking skills

(Raipure, 2022, Pahuja, 2017 and Marak, 2020). A relatively small proportion of educators employed critical thinking techniques in their instruction among standard X students due to average level of critical thinking. It was also found that there is lack of time allotment along with lack of computer facilities for teaching to complete the whole syllabus so development of strategy is effective in developing problem solving ability (Paily, 1999 and Joseph, 2018)

Most of the studies reflected that the research conducted in the area of creative thinking were experimental in nature. It was found that the investigators developed the programme or took some standardized tool to enhance a specific type of thinking. The creative teaching method developed the mental ability of logical evaluation among Eighth graders in the teaching of geography which did not produce any negative effect upon their achievement score while the correlations between creativity measures and school achievement indicate the validity of the standardised tools (Subramonia, 1976 and Govindarajacharyulu, 1977). This is positively related with the developed instructional strategy incorporating thinking strategies and tools in the dimension of fluency, flexibility and originality. Similarly it was not effective in terms of originality and science task achievement in critical thinking involves abilities like inductive reasoning, analysis, inference, problem solving, interpretation, open mindedness, self-regulation, truth seeking and creativity (Patel, 2010 and Alghafri and Ismail, 2014). Studies on the effectiveness and development of creative thinking ability of the students of secondary schools through attribute listing programmes and different approaches on intelligence and creativity to determine the relationship between achievement and creativity. The findings of the study were that there is a significant effect of Attribute Listing Programme on creativity, the mean difference in creativity scores is in favour of experimental group pupils and treatment through Attribute Listing Programme shows positive effect on creativity, especially on fluency and flexibility, originality is not affected however in the present study developing strategies would enhance the creative thinking of the students (Dabhi, 1995, Namdeo, 1995 and Paltasingh,1998). Singh (1981), Desai (1987), Mali (2017) studied on the creative thinking ability of high school students of Himachal Pradesh and Gujarat state. It was found that high creative had good perception and adjustment compared to the low creative relation to their emotional intelligence, socio- demographic variables and academic achievement. There were no interaction among school type, gender and social category on fluency and overall creative thinking and an interaction were found among flexibility and originality of creative thinking. They also studied it in relation to variables like cognitive, non-cognitive, and some psycho-social factors. Brainstorming is the strategy where students actively get chance to work among

group members and develop creative thinking by sharing ideas and their understanding and where the teachers valued creativity and building self-confidence (George, 2016 and Reddy, 1999). Similarly, SCAMPER instruction had higher levels of inventiveness which improves fluency component and offers a fun setting for students of all ages to think differently (Gundagon, 2019 and Ozyaprak, 2016). The effectiveness in developing strategies of creativity was dependent upon the levels of intelligence, sex and creativeness of pupils. In the same way, creative abilities are dependent on having different organisational climates like the government schools, deficit schools, aided schools and unaided schools and different geographical locations and learning creativity with disabled students. However, there was no influence of type of school, age and gender on creative thinking ability of children, also the development of creativity depended on good teacher pupil relationships, encouraging experiment and building self confidence among students. They used questioning and creative thinking test to check the effectiveness (Shah, 1981, Thabor, 2013 and Manohari, 2002, and Varugheses, 2015). Creative experience and academic achievements does not have any significant contribution in defining self-esteem among visually handicapped and sighted children while it significantly makes a difference between the urban and rural boys and girls in their intelligence (Tarannum, 2008 and Vidyasagar, 2007). A survey discovered that there was a favourable association between creativity and classroom environment which helped to develop a positive learning environment in the classroom. Teachers play a significant role in implementing the creativity programme as they need to be active, energetic, and democratic providing range of activities which not only motivate students in doing good but also a favourable climate where there has no scope for criticism (Rajagopalan, 1988 and Pany, 2014). Hutchinson (2011) studied on the creative and productive thinking in the classroom that would be reflected in students by certain modifications of present teaching methods. The relationship between creative and productive thinking is positive with good creative thinking performed good in productive thinking also. In the same way, Priya et al (2014) explored on the creative thinking ability among high school children where the majority of children showed high level of creative thinking ability and none of them belonged to low category of creative thinking ability.

Some of the reviews have reflected that there is a positive gain in learning English by the creative method as it has significant improvement in the acquisition of fourfold skills of English language namely listening, speaking, reading and writing. Similarly, the creative method helps in improvement of the overall communication skills for both the genders and it has also helped students positively to develop communicative competence in English (Lakhera,

2017 and Ludbe, 2002). Change in way of teaching and textbook with many flaws and shortcomings (Jahanshahi, 2017) have an impact on learning the language while reading English newspapers, story books, project work motivated students in comprehending the content of English subject (Vanguri, 2017). Studies have revealed that students were able to identify the components of creative writing in both prose and poem irrespective of environment whether it is CBT or OBT, it has not only enhanced their content knowledge, logic but also divergent thinking and achievement in English (Vaniya, 2015 and Maity, 2016). The integration of multimedia, innovative task based activities and use of audio visual authentic materials of various activities based on songs, video songs, audio visuals aids, videos and films changed positively the outlook of the students towards language learning. (Kunvariya, 2015, Joseph, 2018 and Yogita, 2017). Reviewed studies highlighted the programmes like ICT based activities, 7E constructivist programme and CAI with discussion are employed to develop skills in English among students and found it effective in grammar learning for the teaching learning process of English (Patel, 2009, Shah, 2022 and Vaghela, 2022).

2.5.0 IMPLICATIONS OF THE REVIEW OF RELATED LITERATURE

The investigator has reviewed the said studies related to creative thinking, thinking skills and teaching of English. The purpose of reviewing the related literature is to know about the researches conducted in the related area and to see what implications these have for the present study. The review of related literature here reveals that various studies have been conducted on developing creativity in various levels of education. The literatures reviewed by the investigator have following implications.

- A good number of researches had been conducted in the area of creative thinking skills but there is lack of studies in the area of enhancement of creative thinking through teaching of English.
- There are very less number of studies where enhancement of creative thinking is integrated in the teaching learning process of English.
- Educators should integrate project-based learning into the curriculum to promote higher-order thinking skills.
- It was reflected in the researches that creative thinking has positive correlation with the achievement of the students. So, the strategy should be developed that uplifts thinking skills along with achievement of the students.

- Integrating multimedia tools into instruction can enhance student engagement and improve comprehension of complex concepts.
- The importance of fostering a supportive and open classroom environment for creative thinking development.
- Teachers should focus on building trust, encouraging experimentation, and reducing fear of failure to enhance students' creative thinking.
- The reviews highlight the need for teachers to be energetic, democratic, and proactive in creating a creativity-conducive environment.
- Group-based learning activities to enhance thinking skills and teamwork among students.
- This shift in instructional strategy will require teachers to facilitate collaborative projects and discussions that challenge students to think creatively.
- Schools may need to support teachers by providing guidance on how to structure and assess group work effectively.
- Reviewed researches emerged the need of a strategy by which creative thinking can be enhanced through the shift in thinking at each step.
- The studies highlight that integrating creative teaching methods improves communication skills across both genders, while multimedia and ICT-based learning methods enhance student engagement in language learning.
- Teachers should incorporate more creative and multimedia-based strategies in English language teaching to improve both communication skills and student motivation in creative thinking skills.
- Teachers and school administrators should prioritize professional development that focuses on creative and technology-enhanced teaching techniques, especially in language instruction.
- Fostering creative thinking in students can have a broader impact on their ability to think productively and tackle real-world challenges. Curriculums should therefore integrate both creative and critical thinking exercises to develop well-rounded cognitive abilities in students.
- The effectiveness of creative teaching methods in improving communication skills for both genders implies that integrating creative approaches can lead to more effective language learning.

- Creative techniques, such as SCAMPER, Brainstorming role-playing, discussions, and storytelling, to enhance communicative competence, particularly in English, across diverse students.
- The research has revealed that student-centered teaching approaches positively emerge that engage learners and enhance their thinking skills.
- Teachers should also be trained to move beyond textbook-based instruction, employing innovative techniques to bridge gaps in language learning.
- The positive shift in students' attitudes toward language learning through the use of multimedia, audio-visual materials, and task-based activities highlights the effectiveness of incorporating technology into language teaching.
- The effectiveness of task-based learning in developing English language skills suggests that real-world; practical activities can improve students' application of language skills.
- These researches suggest that a combination of creative teaching, technology integration, diverse reading and writing activities, and multimedia resources can significantly enhance students' communicative competence, language comprehension, and creative thinking in English learning.

2.6.0 CONCLUSION

The review of the literature presents a vivid picture of many aspects of thinking skills, creative thinking skills and the teaching learning process of English. The investigator analyzed numerous studies conducted in India that has been carried out in these areas. Studies have supported development of thinking in the various other areas but enhancement of creative thinking through language is minimal. However, the investigator found very less researches related to the enhancement of creative thinking through the teaching of English. So, the investigator has made an attempt in this direction to enhance creative thinking through teaching of English for the students of standard IX.