

**CHAPTER 2**  
**REVIEW OF RELATED LITERATURE**

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

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## **Chapter 2 Review of Related Literature**

### **2.1 Introduction**

In the present study, the researcher has presented a review of related studies, which help to make the present study very precise and correct. Review of the literature supports the researcher to have a critical look at the existing research which is significant for future research.

### **2.2 Meaning of Review of Literature**

Review of literature means the systematic identification, location and analysis of documents which contain information related to the research problem (Gay, Mills and Airasian, 2009). Review of literature helps the researcher to identify what are the researches already conducted in a particular field as well as helps in selecting suitable objectives, research methods, statistical techniques etc. Before undertaking this study, the researcher visited different libraries to collect more information related to the activity based teaching learning approach. Review of the literature helps the researcher to get a clear picture of how he should proceed so that the problem can be addressed more effectively. Review of the literature helps the researcher to determine what objectives, hypotheses, samples, research method, tools, analysis techniques etc. he will going to select for his study. So it is very much necessary that, the researcher has to finish well in time before conducting this research. To conduct the research efficiently and effectively, the studies are broadly classified into- studies related to activity based teaching learning approach in the subject of social science (9 studies), studies related to activity based teaching learning approach in the subject of science (46 studies), studies related to activity based teaching learning approach in the subject of english (32 studies), studies related to activity based teaching learning approach in the subject of mathematics (21 studies), studies related to activity based teaching learning approach in other subjects (54 studies). The researcher further categorised the studies at the national (74 studies) and international (88 studies) level in order to develop an in-depth understanding about the activity based teaching learning approach.

### **2.3. Studies related to activity based teaching learning approach in the subject of social science**

#### **2.3.1. National studies related to activity based teaching learning approach in the subject of social science**

Basantia, Panda and Sahoo (2012) conducted a study to investigate the effectiveness of multi-dimensional activity based integrated approach on the development of cognitive abilities in social studies among sixth grade students. In this research, the experimental research design has been used where the sample size was 112 students and purposive sampling technique has been used as the sampling technique. Self-developed cognitive ability test in social studies has been used for the purpose of data collection. The finding of the study was that multi-dimensional activity based integrated approach is a meaningful and positive approach in the development of cognitive abilities among elementary learners.

D'souza (2017) administered a study to see the effectiveness of activity based learning in enhancing the academic achievements of students in different subjects such as History, English, Science and Mathematics. An experimental research design has been used for the study and the total sample size of the study consisted of 492 secondary school students of a private aided school in Mumbai. The finding of the study shows that activity based learning helps in enhancing the academic achievements of students in the knowledge and application domain of different subjects.

#### **2.3.2. International studies related to activity based teaching learning approach in the subject of social science**

Demirci, Kesler & Kaya (2010) surveyed the type and frequency of in- and out-of-school activities in secondary school geography lessons in Turkey. The total sample size of the study was 150 geography teachers who participated in an in-service education programme organised by the Ministry of National Education in 2009 and a questionnaire was used for data collection. Regarding the type of in-school activity it has been found that the case study method, use of maps and photos, and classroom discussion were used most frequently in comparison to the other activities like reading materials (newspapers, magazines), laboratory exercises, watching the video, models, google earth, GIS, reading from the textbook, student presentation in every lesson or every month. Concerning out-of-school activity, library and internet research has been used most frequently in comparison to field trips, projects, conducting interviews, questionnaires, taking photos

and making films in every week or every month. They also found that 93% of teachers responded that the new secondary school geography curriculum encouraged the teachers to give importance to more activities in their lessons.

Lagura (2016) directed a study to determine the effectiveness of activity based teaching-learning modalities like quiz bee, game show, talk show, drama, musikahan on the performance of high school economics students in Philippines. The researcher used an experimental research design to conduct this study. The findings of the study showed that activity based teaching learning modalities are effective in increasing the performance of high school economics students. It has been found that students perceived all the activities as very satisfactory in nature.

Pasha (2016) organised a study where an activity based learning model has been developed by using an embedded approach for the teaching of soft skills to future teachers while teaching the “Curriculum Development” course. This model has four activity components and four learning components. With the classroom activities, this model has been implemented by using a real-life activity- planting, growing and harvesting potato crops. The total sample size of the study was 182 students of Teacher Training University, Lahore. The attitude of the participants towards the activity and their soft skills development has been measured through the help of observation technique and questionnaire. The major finding of the study revealed that the proposed model was very effective for the development of the soft skills of prospective teachers. This model offers various opportunities to strengthen the students’ soft skills through memorizing, experiencing, understanding, socializing and at the same time real-life activity improves the students’ active participation.

Anwer (2019) operated a study to ascertain the effectiveness of activity based teaching on students' motivation and academic achievement. A pre-test and Post-test control group experimental research design have been used and the sample size of this research consists of 30 higher secondary humanities education students. The finding of the study showed that activity based teaching was effective in developing the motivation and academic achievement of students.

Başerer (2020) commented on a module where it has been discussed how we can teach “Classification of the Types of Concept” with the help of activities in the unit of classical

logic course of the latest 2009 programme. This article provided a detailed insight into what activities and how the activities need to be organised in the classroom.

Sarpong, Sarpong and Asor (2020) administered a study to see the impact of activity based teaching method on students' retention and academic performance in the subject of social studies within the Sekyere South district of Asganti Region. Quasi-experimental research design has been used for the purpose of this study. The major finding revealed that activity based teaching method has been beneficial in improving students' retention and academic performance in the subject of social studies.

Kugamoorthy (n.d.) carried out a study to examine the effectiveness of the activity based learning approaches in the context of self-regulated learning practices. A survey research design has been used in this research where a self-developed questionnaire is employed for data collection. The total sample size of the study was 104 selected from the Colombo Regional Center of OUSL and a purposive sampling technique has been used in this study. The major findings of this study were: student teachers like to learn more things by themselves and activities given in the Post Graduate Diploma in Education have motivated them to do self-learning. Activity based learning session has developed different higher-order cognitive skills such as critical thinking, evaluation skills and analytical skills among the student teachers. Lack of time, lack of preparation, less support from peers etc. are some problems which hindered effective participation in activity based sessions.

## **2.4. Studies related to activity based teaching learning approach in the subject of science**

### **2.4.1. National studies related to activity based teaching learning approach in the subject of science**

Parvathy (2002) conducted a study to investigate the effect of activity oriented method-I, activity oriented method-II and conventional textbook approach on the achievement of students in the subject of Biology. In activity oriented method-I, individual and small activities were given to the students and in activity oriented method-II, large group activities were given to the students. Non-equivalent pre-test-post-test experimental research design has been used for the purpose of this research. The total sample size of the study was 205 secondary school students of Kerala. Achievement test, non-verbal test of intelligence, socio-economic status scale etc. were used for data collection. The finding

of the study described that activity oriented method-I was more effective than the activity oriented method-II and conventional textbook approach in increasing the achievement and retention capacity of students in the subject of Biology.

Panda and Basantia (2004) administered a study to examine the effectiveness of activity based joyful learning in comparison to the traditional method of teaching in achieving interdisciplinary minimum levels of learning competencies in the subject of environmental studies. An experimental research design has been used for this study where the sample size of this study consisted of 80 children and a questionnaire was used for data collection. The finding of the study revealed that activity based joyful learning was effective in achieving interdisciplinary minimum levels of learning competencies in the subject of environmental studies.

Babu (2009) evaluated the effect of activity based learning as compared to conventional method of teaching on developing students' practical skills in the subject of science. The study aimed to study the students' reaction and teachers' attitude towards the developed activity based learning package. Experimental research design has been used where criterion reference test, students reaction scale, and attitude scale were used for data collection. The finding of the study indicated that activity based learning was effective in developing students practical skills in the subject of science. It has been reflected that the students show favourable reaction towards the activity based learning package. Furthermore, it was observed that the teachers show favourable attitude towards the activity based learning package.

Amin (2011) developed an activity based science teaching programme and ascertain its effectiveness in terms of the student teachers' content knowledge of science as well as in the area of skills. A single group pre-test treatment post-test experimental research design has been used in order to conduct this study. Achievement sheet, activity evaluation sheet, criteria for the analysis of the course, curriculum of the science subject and technology at the secondary level, feedback sessions, feedback sheets, field diary, field notes and anecdotes, science scale, observation, photography, programme evaluation sheet, rating scale, science pedagogy questionnaire, science teachers quality scale, small group discussions, videography were used in this research. The finding of the study indicated that activity based science teaching programme was effective in developing clarity in science concepts as well as in enhancing the skills of student-teachers.

Mehta (2012) developed an activity based programme in science and see its effectiveness in terms of achievement of the students. Pre-experimental research design has been used where the sample size of the study was 53 grade VIII students and a cluster sampling technique was used as a sampling technique for this research. The finding of the study showed that activity based programme is effective in improving the performance of students.

Freejo (2013) investigated the effect of concentration based activities on the development of process competencies (knowledge, attitude, process skills) among students in the subject of Biology. Non-equivalent pre-test treatment post-test research design has been used for this study. The total sample size of the study consists of 96 secondary students of Kerala and test of process skills, scientific attitude inventory, criterion reference test were used for data collection. The finding of the study was that concentration based activities are effective in the development of process competencies (knowledge, attitude, process skills) among the students in the subject of Biology.

Mishra and Yadav (2013) conducted a study to see the effect of activity based approach on the achievement of the science of class VII students. The total sample size of the study was 60 students from Khargone district of M.P. and the researcher opted for pre-test post-test control group design for this research. The major finding of the study reported that activity based approach helps in enhancing the achievement of students in science subject than the traditional method of teaching. It was observed that when activity based method was used in the teaching learning process then girls perform better than boys in science achievement with respect to knowledge based items but equal to understanding and application based items.

Amuthavalli and Sivakumar (2014) studied the effectiveness of activity based learning in the teaching of science at the primary level. The total sample size of the study was 60 and an achievement test has been used for data collection. The researcher used pre-test post-test equivalent control group design for this study. The major finding of this study revealed that activity based learning helps in improving the achievement of students in science subject.

Rohit (2014) investigated to see the effectiveness of eco-club activities for students of grade VIII of Vadodara city. Pre-experimental research design was used where an achievement test, opinionnaire, and reaction scale were used for data collection. The total



sample size of this study was 52 and the purposive sampling technique has been used as a sampling technique. The finding of this research showed that eco-club activities were effective in developing the students' understanding of different environmental issues.

Kumar, Singh and Solanki (2015) assessed the effectiveness of group activity based educational method in the teaching of research methodology course. This study has been carried out during a research methodology workshop for III MBBS part1 (VI semester, 99) students of Pramukhswami Medical College, Gujarat. The workshop last for two days which daily consists of two sessions by faculty for 30 minutes, followed by group activity of about four hours and presentation by the students at the end of the day. Likert scale was used to collect feedback from the students at the end of workshop to know the perceptions of students about the teaching of the research methodology course. The finding of the study revealed that there is no significant difference between male and female students in respect of pre-test, post-test scores and overall gain in scores. It denoted that a participatory research methodology workshop was helpful in teaching research to undergraduate students in an interesting manner.

Wadhwa, Barlow & Jadeja (2015) conducted a pilot project namely “Stimulating Saturdays” based on activity based learning which offers opportunities to the students to use technology with thinking skills and soft skills in a real-life environment so that 21<sup>st</sup> century skills could be developed among the students. In this model, students were asked to design a useful product from the junk which was given to them and thereby reflect their engineering skills so that the purpose of outcome based education could be achieved. The finding of the study revealed that this model was effective in improving the overall teaching learning process.

Saha (2016) highlighted the benefits and challenges of activity based teaching in an engineering classroom. In this paper, it has been discussed how this task based method helps students in their learning process. Task based language learning demands learners to complete meaningful, real-world tasks such as writing a report, a resume or even writing an email and a letter. It also involved some other tasks such as facing the interviews confidently, making presentations and getting involved in day to day activities. The benefits of task based activities are: it provides the opportunity for natural learning, it was consistent with learner-focused philosophy, it enhanced communicative fluency

etc. The challenges of task based activities are: it needed different resources, it needed skilled teachers, some students have not participated in the interaction process etc.

Meenakshi (2019) studied the effectiveness of activity based science learning on the development of problem solving skills, critical thinking skills, and academic achievement among the elementary school students of the Ghaziabad district. An experimental research design was used for the purpose of the study. The findings of the study revealed that activity based science learning was effective in the development of problem solving skills, critical thinking skills, and academic achievement among elementary school students.

Prakash (2019) surveyed the effectiveness of activity based teaching learning strategies on the attitude, interest and achievement of secondary school students in the subject of science. An experimental research design was used for the purpose of this study. The total sample size of the study was 100 students from Hanagal town of Haveri district, Karnataka. The findings of the study reported that activity based teaching learning strategy was effective in the development of attitude, interest and achievement of secondary school students in the subject of Science.

Venkatesh (2019) prepared some activities for the students of the power systems-i course of an engineering programme. The list of those activities was Identification of topic, posters/charts, word search, business with temple run version 2.0, mind maps, case study ppt's, interdisciplinary, snake and ladder, mapping/scratch cards, and puzzles. The researcher has implemented those activities in the classroom and found that activity based learning helped to increase interest and motivation among the learners and thereby learning the subject more clearly.

Wadhwa (2019) investigated the effectiveness of students-centred activity based learning framework to enhance employability skills and communication skills. The finding of the study was that this framework improved the employability skills and communication skills among engineers.

Sri and Radhakrishnan (2022) conducted a study to enhance the contextual writing skills of tertiary level engineering students through activity based teaching and learning approach. The finding of the study was that activity based teaching learning approach helped in the enhancement of contextual writing skills of tertiary level engineering students.

#### **2.4.2. International studies related to activity based teaching learning approach in the subject of science**

Akerson, Abd-El-Khalick and Lederman (2000) assessed the influence of an explicit, reflective, activity based approach to the nature of science instruction undertaken in the context of a primary science methods course. Experimental research design was used where the total sample size of the study was 50 and questionnaire and interview were used for data collection. It was found that the explicit, reflective, activity based approach to the nature of science instruction undertaken within the context of a primary science method was effective in the enhancement of pre-service primary teachers' views.

Thompson and Soyibo (2002) studied the effectiveness of lecture, discussion, teacher demonstrations and practical work in improving 10<sup>th</sup> graders' attitudes to chemistry and understanding of electrolysis. An experimental method has been used where the total sample size of the study was 138 Jamaican students and attitudes to chemistry questionnaire and understanding of electrolysis test were used for data collection. The major finding of the study was that lecture, discussion, teacher demonstration and practical work were helpful in improving the 10<sup>th</sup> grade students' attitudes to chemistry and understanding of electrolysis.

Klepaker, Almendingen and Tveita (2007) focussed on teaching practice and how the students responded to different teaching practices in science. A questionnaire has been used for data collection from the students of Norwegian schools. The result of the study revealed that excursions, watching video, using computers/internet, experiments/hands-on activities, outdoor education, project work, working in groups and use of drama in science are all activities that number of students want more of. The less popular activities were written exercises, reading in the textbook, homework and teachers lecture.

Ateş, and Eryilmaz (2011) investigated the effectiveness of minds-on and hands-on activities on ninth grade students' achievement and attitudes towards simple electric circuits. The total sample size of the study was 130 students and an experimental method has been used in this research. Physics achievement test, physics attitude scale and observation checklist were used for data collection. The result was that hands-on and minds-on activities helped in increasing the students' achievement. It was found that hands-on and minds-on activities did not increase the students' attitudes towards simple electrical circuits.

Hussain, Anwar, and Majoka (2011) examined the effect of peer group activity based learning on the academic achievement of secondary school students in physics subject. The total sample size of the study was 88 students of Abbottabad city and an experimental group design has been used for this study. An achievement test has been used for the purpose of collecting data. The results revealed that peer group activity based learning was more effective for the teaching of physics subject as compared to the traditional lecture method of teaching. It has been observed that the peer group activity based learning method helped the learner to perform better in the domain of knowledge, comprehension and application in comparison to the traditional lecture method of teaching. It was found that there is no significant difference between the peer group activity based learning method and traditional lecture method in the development of students' skills.

Sadi and Cakiroglu (2011) explored the effectiveness of hands-on activity enriched instruction on sixth grade students' achievement and attitudes towards science. The total sample size of the study was 140 sixth grade students. An experimental method has been used as a research method and science achievement test as well as science attitude scale were used for the collection of data. The study indicated that hands-on activity enriched instruction was more effective in enhancing the students' achievement than traditional instruction. It revealed that there is no significant difference between the control group and the experimental group's attitudes towards science.

Celik, and Bayrakceken (2012) investigated the effect of an activity based explicit nature of science instruction on prospective science teachers' understanding of the nature of science in the context of a science, technology and society aspect. The total sample size of the study was 36 prospective science teachers from Turkish college. Questionnaires and semi-structured interviews were used as an instrument for data collection. The results indicated that instruction was helpful in the development of teachers' conception of many aspects of science. It has been observed that little change took place for either conception related to the cultural and social influence on science or creativity and imagination in science.

Khan, Muhammad, Ahmed, Saeed and Khan (2012) carried out a study to ascertain the impact of activity based teaching on the students' achievement in physics at the secondary level. The total sample size of the study was 50 students of Khyber Pakhtunkhwa and pre-

test-post-test control group design has been used for this research. The study indicated that activity based teaching was more effective than traditional methods for the development of higher-order skills in students.

Pauline (2012) studied the effects of activity based teaching strategy on the academic achievement and retention of basic science concepts among junior secondary students of Giwa Education zone of Kaduna state. An experimental research design has been used for the purpose of the study. The finding of the study was that activity based teaching strategy was helpful in improving academic achievement and retention among junior secondary students regarding basic science concepts.

Townsend (2012) conducted action research which aims to study the effects of laboratory-based activities on student attitudes toward science. An experimental research design has been used where questionnaires were used for data collection. The major finding of the study was that laboratory-based activities helped in increasing the students' attitude towards the science subject and they felt that these activities help them in developing their confidence and enthusiasm for science subject.

Hussain and Akhtar (2013) explored the effectiveness of hands-on activities on VIII grade students' achievement in science. The total sample size of the study was 342 students from the Khushab district and an experimental design has been used for the study. The results of the study were that the students who were taught through hands-on activities performed better than those who were taught through traditional method, which means that hands-on activities help to improve the students' performance in science subject. It was found that hands-on activities have no influence on the achievement of students in terms of their gender.

Bassett, Martinez and Martin (2014) evaluated the effect of student-directed activity-based learning on the achievement of students in the subjects of chemistry. The study aimed to see the participation and attitudes of students towards student-directed activity-based learning. An experimental research design has been used in this research. Two groups were used in this study where in one group student-directed activity-based learning was used and in another group teacher-led instruction was used. The total sample size of the study was 48 students and chemistry matter test, attitude of instructional delivery method questionnaire, observation checklist were used for data collection. The finding of the study was that teacher-led instruction group performed better than student-

directed activity-based learning group. Students from student-directed activity-based learning group show a preference for a more teacher-directed style of learning. Students from teacher-led instruction group did not indicate a clear preference for either type of learning style. It revealed that student participation in student-directed activity-based learning class is minimal in comparison to participation in teacher-led instruction class. Dasdemir (2014) evaluated the impact of writing tasks on 5<sup>th</sup> grade students' academic and scientific attitude in technology and science course. The total sample size of the study was 62 students from the centre of Erzurum, Turkey and a quasi-experimental research design has been used for the purpose of this research. The purposive sampling technique has been used as a sampling technique and scientific attitude scale and achievement test were used for the collection of data. The major finding of this research was that letter writing activity makes a positive impact on students' academic success. It was reported that letter writing activities for learning purposes helped in the development of students' scientific attitudes.

Karsli and Ayas (2014) developed a laboratory activity based on the 5e learning model enriched with different conceptual change methods such as computer animations, concept mapping, analogy, worksheet and hands-on activities for prospective science teachers' alternative conceptions of factors which affected the reaction rate and improve their scientific process skills. Laboratory activity has been developed on the basis of expert comments. Then a pilot study was carried out on that laboratory activity with 48 teacher trainees of Giresun University, Turkey. The applicability of the activity has been investigated by an independent researcher. It was found that the laboratory activity was effective in improving students' motivation and enabled them to be active during the learning process.

Kenneth (2014) conducted a study to see the effects of activity method on the performance of junior high school students' in energy transformation at the Sekyere South District of the Ashanti Region of Ghana. The researcher used pre-test-post-test experimental design for this study. The total sample size of the study was 53 and mean, standard deviations, mann-whitney u tests were used to analyse the data of this research. The results revealed that the activity method helps in the enhancement of the performance of the students in energy transformation.

Küçüker (2004) investigated the effects of role play activities on ninth grade students' achievement and attitudes at simple electric circuits. An experimental research design has been used where the total sample size of this study was 104 students. Physics achievement test and physics attitude scale were used as data collection instruments. The finding of the study revealed that role play activities were helpful in improving the students' achievement. It was observed that there is no significant difference between the experimental group and the control group's attitudes towards physics at simple electric circuits.

Shah and Rahat (2014) attempted to find out the effectiveness of activity based teaching method on the learning of science students. The total sample size of the study was 50 and the researcher used an experimental research design for the purpose of this research. The study indicated that activity based method helped in improving the performance of students in comparison to the lecture method.

Thamwipat, Princhankol, Khumphai and Sudsangket (2014) focussed on developing and evaluating activity based learning kits for children in a disadvantaged community according to the project "Vocational Teachers Teach Children to Create Virtuous Robots from Garbage". It aimed to examine the learning achievement, measure satisfaction, and do an authentic assessment of children as regards the learning kits. The total sample size of the study was 40 children from Thailand. A quality evaluation form, presentation learning activities, learning achievement test, children satisfaction questionnaire, and authentic assessment form were used for data collection. The finding proves that activity based learning kits were useful and could be used in other nearby communities. It has been observed that after learning with the learning kits, the children learn better and achieve more. Furthermore, the children expressed a higher level of satisfaction towards the learning kits.

Valdez, Lomoljo, Dumrang and Didatar (2015) developed critical thinking among the students in the subject of chemistry through the help of activity based and cooperative learning approaches. The researchers selected 99 students and used an experimental research design for the study. Three instruments were used namely: TIMSS-R manual, TIMSS-Like test items, Self-assessment questionnaire in this study. The finding of the study showed that activity based and cooperative learning approach helped in developing the critical thinking capacity among students.

Ekici (2016) evaluated the activities prepared by the Turkish pre-service science teachers after the training provided to them related to problem based learning. The study examined the pre-service science teachers' view regarding the problem solving method before and after applying activities in a real classroom environment. A case study method was used where a semi-structured interview has been used for data collection. The finding of the study was that the pre-service science teachers develop activities by using the features of problem based learning method. However, it was found that pre-service science teachers face difficulties in some phases during the activity development process such as generating the scenarios related and finding problems to guide the students. Furthermore, it was found that pre-service teachers have some positive views such as active participation, developing thinking skills etc. and some negative views such as pre-knowledge deficits, difficulty to prepare activities etc. before the implementation of activities related to problem based learning. It has been discovered that pre-service teachers have some positive views such as attracting attention, developing problem solving skills etc. and some negative views such as inability to correlate with daily life, time management deficiencies etc. after the implementation of activities related to problem based learning.

Agbenyeku (2017) ascertained the impact of activity based teaching method on the academic performance of junior secondary students in the subject of basic science in Nigeria. An experimental research design has been used for the purpose of the study. The finding of the study showed that activity based teaching strategy was helpful in enhancing the academic performance of junior secondary students.

Khonchaiyaphum, Srikunlaya & Rakrai (2017) measured the effectiveness of the activity based learning conceptual approach with the STEM education instructional method on the photosynthesis topic to promote 11<sup>th</sup> grade students' learning achievement and their systematic thinking abilities. The researchers used an experimental research design and the total sample size of the study was 21 students from Thailand. The finding of the study showed that activity based learning conceptual approach helped in promoting 11<sup>th</sup> grade students' learning achievement and their systematic thinking abilities.

Manu (2018) examined the effect of activity based method of teaching in enhancing the academic performance and retention of agricultural science concepts among senior high school students in Ghana. Action research design has been used for the purpose of the



study. The finding of the study indicated that activity based method of teaching helped in enhancing the academic performance and retention of senior high school students.

Twumasi and Hanson (2018) conducted a study to assess the efficacy of hands-on activities on students' academic achievement and attitude towards chemical bonding. The total sample size of the study was 30 and the purposive random sampling technique has been used as a sampling technique. The study discovered that hands-on activities significantly improved students' performance in learning chemical bonding. The study reported that it helped in engaging students, made them thinkers and enhanced their learning skills. Furthermore, hands-on activities enabled students to demonstrate positive attitudes towards the learning of chemical bonding.

Acharya (2019) administered a study to see the effectiveness of activity based professional development training on the improvement of perception, self-efficacy and process skills among the high school health and population education teachers of Kathmandu, Nepal. One group pre-test post-test experimental research design has been used for the purpose of the study. The study revealed that activity based professional development training was helpful in improving the perception, self-efficacy and process skills among high school health and population education teachers.

Mokiwa & Agbenyeku (2019) assessed the effectiveness of activity based teaching strategy on gifted students' academic performance in the subject of science. Quasi-experimental research design has been used where 330 gifted students from Nigeria were considered as a sample. The finding of the study showed that activity based teaching strategy helped in improving the performance of gifted students' academic performance in science subject.

Farkhunda (2021) examined the effectiveness of activity based learning in the subject of general science at the primary level. An experimental research design has been used for the purpose of conducting the research and data were collected from Islamabad Model School for Girls, Pakistan. The finding of the study clearly showed that activity based learning was effective in the development of affective domain outcomes learning in the subject of general science at the primary level.

Zafar and Akhtar (2021) studied the impact of activity based teaching on the achievement of students in the subject of general science. An experimental research design has been

used for the purpose of this study. The finding of the study proved that activity based teaching method was beneficial in improving the performance of the students.

Sim, Seng and Ngaini (n.d.) wrote a paper which reported the experience of activity based learning conducted in Chemistry Carnival 2011 in Sarawak. Hands-on experiments, quizzes, posters and mini-lectures were used to educate the students about some basic chemistry concepts related to daily life. Approximately 300 students participated in the chemistry carnival where observation and questionnaires were used as instruments to measure and describe the learning experience whether various activities have contributed to effective learning. The study revealed that hands-on experiments were an effective approach and more than 86% of students agree that they have learnt well from this collaborative learning and peer mentoring strategy. Posters, quizzes as well as mini-lectures were found as less effective because there is a lack of interaction between the students or participants.

## **2.5. Studies related to activity based teaching learning approach in the subject of English**

### **2.5.1. National studies related to activity based teaching learning approach in the subject of English**

Bolenbaugh (2000) discussed different categories of learners who are studied in the first-grade classroom. The researcher administered a study where activity based collaborative learning has been used for developing language skills among the first grade students. The finding of the study showed that activities helped in developing acceptance and language skills among students.

Vartak (2001) measured the effectiveness of the activity based teaching learning and evaluation strategy for the development of english language competencies among the students of Pune city. The researcher used an experimental method where pictures, crosswords, flashcards etc. were used for executing the activity based teaching-learning and evaluation strategy as well as gave follow-up programme at the end of the chapter 'teaching-aid gallery'. The finding of the study was that activity based teaching-learning and evaluation strategy is effective in the development of english language competencies.

Jailakumari (2006) studied the effect of tasks based communicative activities on learning english grammar by teacher trainees. An experimental research design has been used

where the total sample size of the study was 100 teacher trainees from Tamil Nadu. The finding of the study revealed that tasks based communicative activities help the teacher trainees more effectively in developing different skills in learning english grammar. It has indicated that tasks based communicative activities helped in the overall development of teacher trainees in different categories of english grammar.

Jadal (2012) examined the effectiveness of activity based joyful learning approach over the traditional method of teaching in developing the skills of english. An experimental research method has been used as a research method where the total sample size of this study consisted of 120 children of Solapur city of Maharashtra. The study indicated that activity based joyful learning approach was a suitable strategy for achieving, and developing language skills among children.

Gupta and Bhanot (2013) carried out a study to see the effect of activity based learning approach on improving the competencies of reading comprehension among students in the english language. An experimental research design has been used in order to conduct this research and a total of 50 students from Gurdaspur district were selected as a sample. The major finding of the study was that activity based learning approach is more effective for teaching reading comprehension of the english language.

Karekar (2013) tried to identify the existing strategies used by teachers for improving writing skills among standard VI students in the subject of english. The study aimed to see the effectiveness of activity based programme in developing writing skills among students. A descriptive and experimental research design were used for the purpose of this research. The finding of the study showed that most teachers don't give any writing activity in the classroom. Some teachers are of the opinion that listen and write, look and write, rhyming words, answer the following, showing pictures are some useful activities to teach the students. It has been observed that students make a lot of mistakes such as spelling mistake, grammatical mistake, lack of neatness etc. while writing. However, it was found that activity based programme is helpful in developing writing skills among the students.

Khatoonabadi (2013) attempted to identify the teachers' and learners' perceptions of learning activities employed in english language classrooms both in Iran and in India. It aimed to find out the effect of activity based programme based on learning activities preferred by learners and teachers in learning english. Mixed method research and survey

method were used to identify the teachers' and learners' perceptions of preferred learning activities employed in English language classrooms both in Iran and in India. Single group pre-test treatment post-test design has been used and questionnaires, scales etc. were used for data collection. The finding of the study was that both countries' learners prefer classroom activities and Indian learners have more belief in classroom activities than Iranian learners. The study revealed that in both countries teachers prefer classroom activities and Indian teachers have more belief in classroom activities than Iranian teachers. It has been observed that Indian learners have more believe in classroom activities than their teachers. The study indicated that Iranian learners have more believe in classroom activities than their teachers. However, it was discovered that activity based programme based on learning activities preferred by learners and teachers has an effect on learning English.

Latha (2013) studied the effectiveness of activity based approach and how to motivate students with the help of this approach in the English subject. The total sample size of the study consisted of 200 upper primary students from the Coimbatore district. The researcher conducts an experiment where different topics were selected and given to the students which they discussed and presented the result in the class. The researcher observed the class and on the basis of this experiment, it has been concluded that activity based approach was effective in improving the learning process of the students.

Padmavathi (2013) commented on the benefits of activity based learning when it was clubbed with technology. Activity based learning helped educational institutions not only to improve education, but also to empower students and stir up the effort to achieve the human development of the country. Activity based learning discouraged the use of rote learning and increase the students' attention towards their teaching-learning process.

Trupti (2014) developed and implemented the activity based programme in English subject for students of grade IX. An experimental research design has been used for the purpose of this research. The finding of the study revealed that activity based programme was effective in comparison to the traditional method of teaching.

Zafar (2014) observed the problems which are faced by the students in speaking English language and tried to identify the strategies adopted by the students in order to overcome the problem. The study aimed to suggest some activities in order to overcome this problem. A questionnaire has been used for the purpose of data collection. The finding of

the study indicated that students felt embarrassed upon making mistakes was the major reason which restrains them from speaking English. It has been observed that the student remains silent for a long time because they keep on thinking about that word/sentence and this was the strategy adopted by the student in order to overcome the problem. In this paper, the researcher proposed different guided and free activities at different levels i.e. beginner, intermediate, advanced.

Shamim (2015) investigated the effect of activity based approach in the development of oral communication among the learners of English subject at the intermediate level of Aligarh Muslim University. A mixed method research design has been used for the purpose of this research. Questionnaire, interview, recorders, observation checklists, anecdotal records were used for data collection. The study revealed that activity based approach was useful in the development of oral communication among learners of English subject.

Lonkar (2016) conducted a study to develop activity based learning programme to improve English listening and speaking sub-skills as well as test the effectiveness of activity based learning programme. The researcher used a survey as well as an experimental method for the study. According to the objective the researcher developed an activity based learning programme and implemented on the students. After the implementation, the researcher found that activity based learning programme enhanced the English speaking and listening sub skills.

Singh (2016) discussed in a paper about different activities which are helpful in developing speaking skills in English. The researcher given a detailed description about different activities such as group discussion, debate, role plays and how these activities were more effective in developing speaking skills among the students.

Brahmbhatt (2018) evaluated the effectiveness of an interactive activity package based on computer assisted language learning in enhancing the communication skills among the students of Gandhinagar, Gujarat. The experimental research design has been used for this study. The findings of the study clearly revealed that interactive activity package based on computer assisted language learning helped in enhancing the communication skills among the students in the subject of English language.

Hazra (2019) attempted to find out the students' activity and teachers' activity in learning English language through activity based method as well as reveal the participating

teachers' opinions about activity based method. An observation schedule and questionnaire were used for data collection. The findings of the study showed that discussions and free sharing of opinions were organised in the classroom teaching process. Teachers opined that students perform well in all activities of teaching and learning english subject.

### **2.5.2. International studies related to activity based teaching learning approach in the subject of English**

Spratt (2001) investigated the learners' preferences towards different english language learning activities. The total sample size of the study was 997 students selected from the schools in Hong Kong and a questionnaire has been used for data collection. The finding of the study showed that learners preferred mostly feedback activities followed by speaking, listening and writing activities. The study revealed that the learners don't like working alone or in larger classes.

Tilfarlioglu and Basaran (2007) attempted to find out whether or not task-based writing activities have a positive effect on reading comprehension in english as a foreign language. Pretest-posttest control group experimental research design has been used where cambridge key english test was selected for data collection. The total sample size of the study was 56 Turkish students and a random cluster sampling technique has been used as the sampling technique. The finding of the study was that task-based writing activities have a positive effect on reading comprehension in english as a foreign language.

Ahmed, Yossatorn and Yossiri (2012) surveyed to find out the Greenland University learners' attitudes towards teachers using activities in the EFL classes. The total sample size of the study was 8 where semi-structured interview and class observation were used as data collection instruments. The finding of the study was that the teacher gave various tasks to the students which are related to real life. It has been observed that more than half of the students regarded teachers using activities that determined their success in learning. Furthermore, it was found that less than half of the students showed dissatisfying factor which was related to the teacher using humor in their cultures as part of teaching.

Nanthaboot (2012) investigated the effects of using communicative activities on the english speaking abilities of students. The aim of this research was to study the students' opinions towards communicative activities. An experimental research design has been

used to conduct this research. The study revealed that communicative activities helped in developing English speaking abilities among students. It has been observed that the students are having a positive opinion in regard to communicative activities.

Odwan (2012) evaluated the effect of the directed reading thinking activity through the use of cooperative learning on English secondary stage students' reading comprehension in Jordan. The total sample size of the study was 42 and an experimental design has been used in order to conduct this research. For data collection, the researcher developed the reading comprehension test and means, standard deviations, and analysis of co-variance were used in order to analyse the data. The result showed that directed reading thinking activity through the use of cooperative learning improved the students' reading comprehension in English subject.

Oradee (2012) compared the English speaking skills using three communicative activities: problem solving, discussion and role playing of grade 11 students of Thailand before and after learning. The objective of this study was to check the attitude of students towards teaching English speaking skills using the three communicative activities. The total sample size of this study was 49. The major finding of the study were that communicative activities helped in improving the English speaking skills of students. It has been observed that the attitude of students towards teaching English speaking using communicative activities is rated as good.

Qin (2012) administered a comparative study of the activity preferences of students and teachers and make some contributions to the development of college English curriculum design. The total sample size of the study consisted of 132 students and 30 teachers selected from the University of Science and Technology, Beijing. A questionnaire has been used for the purpose of data collection. The result of the study was that teachers respond more favourably to communicative activities and students express favourable attitudes towards non-communicative activities. When the students' attitudes were measured more carefully then it was found that they prefer both communicative and traditional activities. This study established a useful operating model for promoting a learner-centred curriculum by suggesting several mechanisms such as the incorporation of students' feedback, flexibility and adaptation, negotiation and consultation.

Rezaei, Karbalaei and Afraz (2013) explored the Iranian students' and teachers' preferences regarding the implementation of different types of classroom activities in

adult EFL classrooms in NIOC in Iran. The total sample size of the study were 59 students and 25 teachers and a questionnaire has been used for data collection. The study revealed that the teachers prefer to implement communicative activities related to speech-based areas which promote oral proficiency in the English language and they utilised cooperative learning to build up the writing skills of students. Some students displayed negative attitudes when asked to participate in some of the activities. This study highlighted what teachers and administrators can do to minimize the potential mismatch in students' and teachers' preferences and beliefs on language learning activities.

Engidaw (2014) surveyed teacher trainers and teacher trainees' perceptions and practices of active learning and the constraints in implementing them in the English department. A mixed method approach has been adopted where a quantitative self-administrative questionnaire, a semi-structured lesson observation guide, interview were used as a data collection method. The results indicated that both teacher trainees and teacher trainers employ active learning. Teacher trainees liked to use group work, reflection and whole class discussion more than any other active learning methods as well as teacher trainers liked to use pair and group work more than any other active learning methods. It has been observed that both teacher trainees and teacher trainers have positive perceptions towards active learning. Furthermore, it has been discovered that learners unfamiliarity with the approach, lack of a conducive class environment, and inability to break from the lecture method are some constraints which affected the implementation of active learning method in the classroom.

Yumru (2015) identified the EFL teachers' perceptions of the most influential teaching learning activities which they believe contribute to their own learning. The study aimed to find out the teachers' suggestions for the improvement of several In-Service Teacher-Training (INSETT) policies by using their learning experiences as a basis. The total sample size of the study was 20 EFL teachers from Cag University of Mersin, Turkey. The finding of the study was that teachers value experimental and practical activities which help them to learn how to observe and assess their teaching practices and themselves as teachers. This study covered the suggestions of teachers regarding the INSETT guidelines which include organisational features, identification of teacher needs, matching the content focus of the programmes to the strategies which were used by the trainers, established a culture of empowerment at schools, built local teacher networks etc.



Huang and Hu (2016) investigated the teachers' and students' perceptions of the use of classroom activities in English speaking classes at Beijing Forestry University, China. The finding of the study revealed that most teachers and students agreed to add more classroom activities to English speaking class. The study indicated that most teachers like conversational activities and most students like recreational activities.

Imane (2016) explored the effectiveness of using speaking communicative activities on EFL students' speaking skills as well as discussed the main problems which hindered oral performance and thereby provide some suggestions to help EFL students to overcome those difficulties. The study aimed to find out the students' attitudes towards speaking communicative activities. The case study method has been used for the purpose of this research. The study revealed that speaking communicative activities helped in enhancing the performance of EFL students' speaking skills. EFL students face different problems i.e. difficulty working in groups, anxiety, low self-confidence, shyness, the fear of talking in front of an audience, lack of vocabulary, grammar mistakes etc. which hindered their oral performance. To overcome this situation the teacher needs to include more students in speaking activities which were taken place in a classroom teaching-learning process. The study reflected that Algerian EFL students have positive attitudes towards speaking communicative activities.

Sánchez, Garduño and Sarracino (2016) identified the students' preference for communicative activities and the communicative activities that teachers decide to include in their daily teaching learning process. The total sample size of the study consisted of 263 English language students and 20 teachers from Mexico. The study indicated that teachers' choices for communicative activities coincide with not only the activities that students prefer to have in the class but also the activities that students do not prefer.

Coşkun, & Eker (2018) examined the impact of activity based posters on ninth class Turkish students' academic achievements in the subject of English. The researchers used pre-test-post-test control group model and selected 60 students as a sample for the study. The finding of the study was that activity based posters helped in improving the ninth class students' academic achievement and retention levels in English subject.

Kuyate (2019) evaluated the effectiveness of activity based method in learning English subject. The researcher used an experimental research design for this study. The result highlighted that activity based teaching method helped in learning the English subject.

Mustapha, Gana, Waziri, Bukar and Buba (2020) studied the impact of activity based learning in enhancing the performance of Nigerian students in the subject of english language and basic science. Quasi-experimental research design has been used in this study. The study proved that activity based teaching helped in enhancing the performance of the students in the subject of english language and basic science.

## **2.6. Studies related to activity based teaching learning approach in the subject of mathematics**

### **2.6.1. National studies related to activity based teaching learning approach in the subject of mathematics**

Athipen (2006) measured the effect of activity based teaching strategy on the achievement of primary school students in the subject of mathematics. An experimental research design has been used where the sample size of the study consisted of 120 students from Tamil Nadu. The finding of the study were such as activity based teaching strategy was effective in enhancing the level of achievement of primary school students in the subject of mathematics and activity based teaching strategy was effective in bringing positive attitudinal changes among primary school students towards mathematics and mathematics teacher.

Hariharan (2011) investigated the educational experiences and attainment of learning outcomes of class IV students who are studying through the help of activity based learning methodology in the state of Tamil Nadu. The results showed that certain social, emotional and psychological aspects of classroom behaviour have been seen to be positive in activity based learning classroom. Students with disabilities have shown improvements in communication and certain life skills but not in cognitive skills. It has been found that learning achievements of students are moderate for basic language and mathematical skills and low for advanced language and mathematical skills. Furthermore, the level of learning outcomes of public school students was lower than that of private school students even at basic levels of skills.

Gohil (2014) examined the effectiveness of activity based strategy for teaching mathematics subject in terms of achievement and reaction of students. An experimental research design has been used and the total sample size of the study consisted of 102 students. Reaction scale and achievement test were used for data collection and mean, standard deviation, standard error of mean, mann-whitney U-test were used to analyse the

data of this research. The result revealed that activity based strategy was effective in comparison to traditional method of teaching.

Mrunalini (2015) explored the efficacy of simplified activity based learning in maths for the children of Coimbatore with hearing and visual impairment. The objective of the study were to compare the performance of children with hearing and visual impairment undergoing intervention through adapted simplified activity based learning with that of their seniors' performance as well as find out the effect of grade, type of school and gender on the intervention. The finding of the study was that adapted math simplified activity based learning has an impact on the math achievement of the sample. The children perform better than their seniors with the support of adapted simplified activity based learning. It has been observed that type of school, grade, gender does not influence the performance of the children.

Soni (2015) compared the achievement of students in gujarati, mathematics and environmental studies subjects which are learned through Pragna approach and traditional approach. The total sample size of the study was 50 schools and the survey method has been employed in this study. Opinionnaire and achievement test were used for data collection. The study revealed that the students taught by the Pragna approach performed better than the students taught by the traditional approach in all three subjects i.e. mathematics, gujarati and environmental studies. It was found that pragna teachers are having a positive opinion of ABL methodology.

Yadav (2015) studied the effectiveness of activity based teaching on students' achievement in mathematics subject at the primary level. An experimental research design has been employed in this study. The study revealed that activity based teaching helped in enhancing the achievement of students of Rajasthan in mathematics subject at the primary level.

Aslam, Rawal, Vignoles, Duraisamy and Shanmugam (n.d.) attempted to find out the impact of activity based learning on learning outcomes as well as non-cognition outcomes of students in Tamil Nadu. The finding of the study was that activity based learning does not improve the students' mechanical functioning in reading and mathematics in rural Tamil Nadu as measured by the Annual Status of Education Report (ASER) tools and in comparison to the students of Karnataka. The study indicated that activity based learning

setting helps students to have higher motivation and better peer relations in the learning process, but they show lower self-esteem.

### **2.6.2. International studies related to activity based teaching learning approach in the subject of mathematics**

Lee (2007) identified activities used by teachers to overcome the difficulties faced by a teacher in an activity based classroom in teaching a textbook topic namely geometric figure movement. The research focused on six hours of classes which are needed to complete the topic and the whole discussion was video recorded. The interview has been used to gather data from teachers. The study revealed that the teachers reconstruct some textbook activities so that a better understanding of a concept develops easily by the students.

Aremu and Salami (2012) studied the effect of two training programmes on pre-service primary mathematics teachers' acquisition of activity based lesson planning skills. Those two programmes are based on activity based strategies and these are student-centred activity based strategy and teacher demonstration strategy. Pretest-posttest quasi-experimental research design has been used and the sample size of the study was 337 pre-service teachers selected from three colleges in Nigeria. Pre-service college teachers in each of the three colleges were exposed to student-centred activity based strategy, teacher demonstration strategy and conventional teaching method separately. Analysis of covariance and post-hoc analysis were used for data analysis. The finding of the study was that the pre-service teachers who are exposed to teacher demonstration strategy acquired the activity based lesson planning skills significantly better than those who were exposed to student-centred activity based strategy. It has been found that the pre-service teachers who were exposed to student-centred activity based strategy acquired activity based lesson planning skills significantly better than those who were exposed to conventional teaching strategy. Based on the above results, it can be said that these two programmes helped in enhancing the acquisition of activity based lesson planning skills among pre-service primary mathematics teachers.

Aremu and Salami (2013) explored the significant difference between pre-service teachers pupil-centred activity-based instructional strategy and those exposed to convenient strategy in terms of primary mathematics activity-based lesson planning skills, delivery skills as well as in the area of academic achievement. The study aimed to

find out what kind of instructional model has been used for the preparation of mathematics teachers in activity-based instruction. Pre-test-post-test control group quasi-experimental research design has been adopted and eight research instruments were designed and developed for this study. The study indicated that pre-service teachers who were exposed to pupil-centred activity-based instructional strategy have higher activity-based lesson planning and lesson delivery skills as well as having high academic achievement than those who were exposed to conventional teaching. To develop the knowledge and skills, the researchers proposed a model for activity-based instructions for teacher preparation.

Festus (2013) focussed on the strategies for achieving activity based learning in the mathematics classroom in Nigeria. This study discussed the difficulties which are faced by teachers and students in mathematics. One major factor of this problem was the pedagogy of teachers so through this study the author attempted to discuss strategies of activity based learning such as the discovery approach of teaching, practical work, cooperative learning or small group learning, use of teaching aids, discussion method which helped in enhancing the performance of the students.

Festus, David, Orobosa, and Olatunji (2013) tried to find out the attitude of primary school mathematics teachers towards the use of activity based learning methods in teaching mathematics in Nigerian schools. The total sample size of this study was 224 where the purposive sampling technique was employed as a sampling technique. A questionnaire has been used for data collection and frequency counts, percentage, t-test, analysis of variance were used to analyse the data. The results show that teachers want to use this activity based learning method in their school curriculum. They agreed that activity based learning was very significant to the students learning and it enhances students learning experiences. It has been found that lack of materials and sufficient time are the major impediments to activity based learning in the schools of Nigeria. The study proved that there was a significant difference in the primary school teachers' attitude towards the use of activity based learning between the college of education graduate and university degree graduate teachers. Years of experience and gender of the teachers do not affect the attitude of primary school teachers towards the use of activity based learning in schools.

Loveland (2014) studied the effectiveness of activity based teaching method regarding the students' comprehension and understanding of statistical concepts and the ability to apply statistical procedures. The finding of the study was that activity based teaching method do not lead to the students comprehension and understanding of statistical concepts and the ability to apply statistical procedures. It has been observed that there was no significant difference between lecture and activity based teaching method in terms of students' attitudes.

Yüksel (2014) examined the effect of activity based mathematics instruction on mathematics performance and identify those factors which contribute to mathematics performance. The total sample size was 41 elementary school students in Turkey and an experimental design has been used in order to conduct the study. The researcher used four instruments namely, attitude towards mathematics scale, fifth grade mathematics achievement test, self-regulation skills scale and reading comprehension test for the collection of data. The study revealed that activity based mathematics instruction made a significant contribution to students' mathematics performance and mathematics attitude. It reflected that students' prior knowledge, reading ability and self-regulation skills contribute to their mathematics performance.

An and Tillman (2015) explored the effects of music activities as a meaningful context for teaching mathematics subject to elementary students in United States. A quasi-experiment time series design and a random assignment pretest-posttest control group design were used in this research. The total sample size of the study was 56 students and students' mathematics achievement assessments as well as students' mathematics process assessments were used for data collection. The finding of the study was that music-mathematics lessons helped in improving the students' mathematical abilities.

Cho and Lee (2017) ascertained the effect of activity based learning strategies on the computational thinking of children. The total sample size of the study was 12. For this study, the researchers selected a topic called 'Ladybug is going to find a way' which was familiar to young learners and appropriate for learning computational thinking. The study revealed that young children who participated in the computational thinking learning programme using an activity based learning technique learned the subject with high interest which improves the children's computational thinking.

Çelik (2018) investigated the effects of activity based learning on sixth grade students' mathematics achievement in comparison to traditional learning and determine their attitude towards mathematics activities. The total sample size was 78 Turkish students and an experimental research design has been used in this study. Mathematics success test and mathematics activities attitudes scale were used for data collection. The study indicated that activity based learning and traditional learning equally increase the academic achievement of the students. It has been found that activity based education doesn't develop positive attitudes among the students towards practicing mathematics activities.

Noreen and Rana (2019) undertaken a study to see the effect of activity based teaching on the achievement of students in the subject of mathematics at the elementary stage. An experimental research design was employed and 120 students from Kasur district of Punjab, Pakistan selected as a sample for this study. The study revealed that activity based teaching helped in improving the achievement level of the students.

Fernández, Pomilio, Cueto, Filloy, Gonzalez-Arzac, Lois-Milevicich and Pérez (2020) conducted a study on a pedagogical intervention which consists of two workshops and a website which adopts activity based learning for teaching statistics subject among pre-service teachers. The total sample consisted of 8 institutes from Buenos Aires were selected for this study. The finding of the study indicated that this intervention helped in developing a better understanding among the pre-service teachers.

Oribhabor (2020) observed the effect of the activity based teaching method on the students' achievement in the subject of mathematics in secondary schools in Nigeria. Quasi experimental pretest-posttest research design has been used and essay mathematics test was employed for data collection. The study proved that activity based teaching methods helped in improving the performance of students in mathematics.

Nwoke (2021) studied the effectiveness of activity based learning approach in enhancing creative skills among primary school students. Quasi experimental research design has been used and a self-developed tool was used for data collection. The result of the study was that activity based learning approach helped in enhancing the students' mathematics creative ability irrespective of gender.

## **2.7. Studies related to activity based teaching learning approach in the other subject areas:**

### **2.7.1. National studies related to activity based teaching learning approach in the other subject areas:**

Ravi and Xavier (2007) discussed activity based learning as self-accessing strategy to promote learners' autonomy in the learning process. Activity based learning was a unique and effective strategy for transforming classrooms into hubs of activities and meaningful learning which attracts out-of-school children to schools. Group work was one of the features of activity based learning so self-accessing was largely possible in activity based learning. Self-access learning was that type of learning where students study independently by choosing different resources which are available in a particular place. Self-access learning was closely related to learner-centred approach, learner autonomy and self-directed learning where all focus on student responsibility and active participation in his own learning. This style of instruction was mostly done in the setting of a self-contained learning environment.

Amit (2012) developed different activities which are based on the life skills identified in each chapter of the organisation of commerce and management subject. This study was conducted in 4 phases. In the first phase, the researcher identified the life skills which are incorporated in commerce and management subject of standard XI. In the second phase, the researcher developed life skill based activities. In the third phase, the researcher gave the developed activities to the experts for validation. In the fourth phase, the researcher incorporated the suggestions which were received from the experts and the final list of activities were retained in the study.

Tadavi (2012) examined the effectiveness of activity based programme in the subject of gujarati for the VIII standard students. Quasi-experimental research design has been used where the total sample size of this study consisted of 91 and a purposive sampling technique was employed as a sampling technique for this research. Achievement test, opinionnaire, photography, focused group discussion were used for this research. The finding of the study showed that activity based programme helped in improving the performance of students in comparison to the traditional method of teaching.

Bhuvanewari (2013) examined the attitude of Tamil Nadu primary school teachers towards activity based learning in terms of teaching experience, age, marital status and



place of school. The total sample size of the study was 150 and a random sampling technique has been used for this research. The result of this study was that there was no significant difference between the primary school teachers in terms of teaching experience, age, marital status and place of school.

Gowda, Kochar, Nagabhushana and Raghunathan (2013) evaluated an activity based learning programme namely 'Nali Kali' programme which was adopted in the South Indian State of Karnataka. By recognizing the importance of pedagogical methods, different states have experimented with a wide variety of approaches since the 1990s. Many of them involve activity based learning approach which emphasises skill acquisition through activities where the main focus was on students' learning. The learning process includes a learning ladder where the students work and learn at their own pace. In this approach, the teachers are expected to focus their efforts on students at the lower level of learning and ensure that all students reach a stipulated level of learning by the end of the grade. The finding of the study revealed that the programme has significant effects on language test scores and leadership skills, but insignificant effects on mathematics, social and communication skills. After exploring the heterogeneity in the results it was found that there are positive effects of the programme on languages and mathematics, as well as on all non-cognitive skills and these are concentrated in early grades; achievements in early grades do not persist as the student moves into higher grades.

Kamal (2013) said activity based learning was a unique concept to the overall development of a student and it was a useful tool to enhance the skill of students. If activity based learning has been adopted in commerce then a student will be able to learn practical aspects of commercial activities and it will be helpful for their future after completion of basic education. For effective implementation of activity based learning concept, there should not be rote memorisation, communication gap etc. and importance need to be given to sufficient facilities for learning activities, institutional material should be attractive for the learner.

Bhan (2014) focussed on the role of activity based learning techniques in tourism and commerce education to bridge the gap between academia and industry. The researcher used both primary and secondary sources of data in order to conduct this study. The finding of the study was that activity based learning techniques are evident in improving

the academic performance as well as career prospects of students and make them compatible with the changing business scenario.

Devi (2014) explored the learning activity which increases the learning curve of the students and faculty. Primary data was collected through a questionnaire and secondary data was collected from different journals, books and electronic media. Cross-tabulation has been used in order to analyse the data. The study indicated that degree college lecturers learn maximum through different activities such as role plays, student debates and watching videos. It has been observed that degree college lecturers viewed that degree college students learn maximum through student debates and role plays.

Gupta and Desai (2014) ascertained the relevance of activity based learning in higher education for student teachers in the 21<sup>st</sup> century. This paper aimed to implement the activity based approach in a group environment and see its effectiveness on student teachers of Pillai College of Education and Research, Chembur. The qualitative case study technique has been used as a research method and the data was collected in the form of verbal descriptions i.e. reflective experience narratives, jingles, posters, stress buster games, concentration techniques. The activity implemented on student teachers is named as ‘Pastiche’ which is based on the theme of ‘Stress and Me’ and thematic coding is utilised for data analysis. The result indicated that activity based learning is helpful in the development of student teachers’ reflective practices.

Pramar (2014) determined the effectiveness of activity based programme for teaching Hindi subject to the students of standard VI. An experimental research design has been used where the total sample size was 45 and purposive sampling technique was selected as a sampling technique in this study. Achievement test and reaction scale were used in order to collect data from the students. Frequency, chi-square and correlated t-test were used to analyse the data. The study reflected that activity based programme was effective in teaching the subject of Hindi.

Shanawaz (2014) wrote a reflective paper on activity based model of Tamil Nadu through which it aimed to solve the problems of education faced by Bangladesh. The author thoroughly discussed in his paper the concept and its history of activity based model, the features and principles of this model, the theory which laid the foundation of activity based model etc.

Daphne (2015) investigated the effectiveness of activity based learning at primary schools in Chennai. A survey method has been used in this research and interview schedule and questionnaires were used for data collection. The study proved that activity based learning has a positive impact on the teaching-learning process. It has been observed that teacher-child interaction plays an effective role in the teaching-learning process.

Nadanamoorthy and Dhachanamoorthy (2015) analyse the impact of activity based learning education system in government schools in Villupuram district in Tamilnadu. The total sample size of the study is 114 and questionnaire and unstructured interview method were used as data collection instruments. The findings of the study were that activity based learning helped in increasing the performance of the students in terms of intelligence of students, the good relationship between students and teachers, student engagement in the learning process, interest and engagement of students towards subject, self-learning of students, group activity of students, the self-confidence of students, student discipline, students creativity and their participation, speed of learning of students and their capability, teachers satisfaction level and their service quality.

Soni (2015) compared the effectiveness of the traditional approach and the Pragna approach. The descriptive survey research method was selected as a research method and the stratified random sampling technique has been used as a sampling technique. The total sample size of the study was 240 students and an achievement test has been used for data collection. The study revealed that the Pragna approach is significantly more effective than the traditional approach to learning.

Soni (2015) attempted to find out whether there was any significant difference between the attitude towards the Pragna approach by Pragna teachers in the context of their area, gender and teaching experience. The total sample size of the study was 117 and self-made questionnaire has been used for data collection. The study showed that there was no significant difference exists between Pragna teachers in terms of area, gender and teaching experience.

Thayniath (2015) talked about the importance of activity based language learning method. Through the help of activity based learning method, the learners have the opportunity to construct their own conceptualisation and find solutions to the problems. When the learner get exposed to problem solving situation, meaningful learning takes place and the learner is able to justify, identify and defend the ideas. In this paper, the researcher

discussed about the importance of the different type of activities such as brainstorming, the jigsaw method, word/sentence building, just a minute, twenty questions game and how these needs to be organised in the teaching-learning process.

Das (2016) enquired how teachers view activity based learning in order to ensure the feasibility of introducing this approach in the primary classes of the school. Seven primary class teachers and forty students were selected as a sample of this study. Participant observation, semi-structured interview schedule and informal group discussion were used for the collection of data. The result showed due to no freedom from the administration in implementing this approach in the classroom, the number of students in a class was more, teachers are overburdened with other non-teaching works, lack of parental support etc. and for this, the primary teachers are resistant to activity based learning.

Patil, Budihal, Siddamal and Mudenagudi (2016) measured the effectiveness of activity based teaching learning for undergraduate students of electronics and communication engineering program. The traditional mode of course design and classroom delivery failed to enhance the course learning of students. So in order to improve the situation, the researchers give importance to various types of activities such as game based learning, worksheets, simulations, one minute papers, mid lecture wakeup activities, hourly plans, group discussions, think pair and share, hourly plans, case studies, quizzes, implementation assignments etc. The study showed that activity based teaching learning helped in the improvement of learner's performance.

Rathee and Rajain (2016) surveyed the attitude of students towards the effectiveness of activity based method. The researchers used a descriptive survey research design and selected likert scale for data collection. The researcher selected 100 students from the Delhi NCR region. The finding of the study was that students considered activity based learning as an effective method of teaching.

Singh (2016) studied the effectiveness of activity based learning on the development of life skills among the elementary school students of Holi Star Public School, Bupp, Hariyana. An experimental research design has been used for the purpose of this study. The study revealed that activity based learning is effective in the development of life skills among elementary school students.

Hansraj (2017) attempted to discuss activity based teaching learning approach in language. Activity based teaching learning approach describes a range of pedagogical approach to teaching-learning whose core premises includes the requirements that learning should be based on doing some hands-on activities and experiments. In this paper, the need for activity based teaching learning strategy in language learning is discussed in a detailed manner.

Kaur (2017) analysed the effectiveness of activity based learning package on the awareness and attitude of 9<sup>th</sup> grade Punjabi students towards sustainable development education. Quasi-experimental research design has been selected to conduct the study. The study indicated that activity based learning package helped in the development of awareness and having a positive attitude of students towards sustainable development education.

Makwana (2017) evaluated the effectiveness of activity based programme for teaching Sanskrit subject to the students of standard VIII. In this research, an experimental research design has been used where the total sample size of this study was 47 students and a purposive sampling technique was employed to select the sample. Achievement test, reaction scale were used for data collection and frequency, percentage, t-test were used to analyse the data. The finding of the study showed that activity based programme is more effective for the students of VIII standard students.

Parveen and Rajesh (2017) compared David Horsburgh's Neel Bagh with activity based learning of corporation schools in different areas such as student enrolment, vocational training, training of teachers, teacher-student relationship, education of parents, syllabus, evaluation etc. This paper discussed the origin and the development of activity based learning method. The teachers of corporation schools were not realised the significance of activity based learning method. They believed that due to activity based learning students were not developing learning potential (memorising skills). Teachers also believed that students are simply doing activities without learning anything productively.

Patil (2017) determined the effects of computer based activities on students' language learning capacity. A mixed method research design was applied and questionnaires were used to collect data from the students of the College of Engineering, Pune. The finding of the study proved that computer based activities helped students in improving their language learning capacity.

Singal, Pedder, Malathy, Shanmugam and Manickavasagam (2017) attempted to understand how teachers perceive and practice activity based learning in the classrooms of Tamil Nadu. The researchers conducted their study on ten randomly selected schools. One-to-one semi-structured interview has been used for the data collection on different themes such as teachers' understandings and experiences of activity based learning, teaching-learning practices, use of classroom design and space, teacher-learning support, assessment, effectiveness of activity based learning, personal and professional reflections. An observational schedule was employed for data collection. From the interview, it was found that all agreed that activity based learning helped in promoting self-directed learning of students. It reduced the distance between teacher and student which develops self-confidence among the learners and consequently create a fear free environment which was not possible in the traditional classroom. From the observation, it was found that about 54% of teachers observed talking with students was not directly related to learning. Lack of resources and student discipline was the major concern for teachers faced in activity based learning classrooms.

Dalwadi and Shah (2018) surveyed the preference level of students towards the use of activity based learning in the classroom. Experimental research design has been used where the total sample size of the study is 195 students who are selected from 5 colleges in Gujarat. The result showed that students learn best through the help of activity based learning. It was found that there was no significant difference between the preferences of the students towards activity based learning in respect of class and socio-economic background.

Niesz and Ryan (2018) conducted a case study to understand teacher ownership in the activity based model and how it scaled up in South India. The researchers took the interview of different teachers and stakeholders so that they can explore the roles and forms of participation which was available to them in this activity based model. In order to develop a comprehensive understanding and triangulate the data, the researchers observe the classroom. They also talked about the leader's effort in promoting teacher ownership through teachers' development and training of activity based learning, through responsiveness to teacher feedback in the scaling up process. This article reflected that Tamil Nadu illustrates a powerful rethinking of system-level change which promoted teacher ownership through a movement-like approach in which leaders participate equally with the classroom teachers and invite them into the educational change process.

Kanchana, Patchainayagi & Rajkumar (2019) illustrated conventional teaching strategy and enhanced learning strategy where it has been suggested to use different types of activities in the classroom so that student's performance in the class could be maximised.

Kler (2019) examined the effectiveness of activity oriented instructional strategy on the writing skills of elementary school students. An experimental research design has been used in the study. The findings of the study indicated that activity oriented instructional strategy helped in improving the writing skills of elementary school students.

Vyas (2021) measured the effects of the activity method on the learning outcomes of the students. Pre-test post-test experimental research design has been used in the study. The results proved that the activity method helped in enhancing the learning outcomes of the students.

Dey and Siddiquee (n.d.) conducted a study which gives some reflections about activity based learning which was practised in Tamil Nadu. In November 2010, a team from the Institute of Educational Development, BRAC University went to Tamil Nadu and observe the practice of activity based learning. The team also spoke with people at different levels who have a role in change making process. In their reflections, the researchers talked about different things about the practice of activity based learning in Tamil Nadu such as multi-grade classroom, different main subjects, learning ladder, learning sessions, self-learning etc. They also discussed how at first this activity based learning started in Tamil Nadu and then how it get spread out throughout the whole state. This article suggested how to prepare a programme by taking into consideration some elements of activity based learning model of Tamil Nadu whose main focus was on the interaction between teachers and students.

### **2.7.2. International studies related to activity based teaching learning approach in the other subject areas:**

Korwin and Jones (1990) determined the effect of hands-on technology-based activities in enhancing learning among eighth grade students. The total sample size of the study was 50 students. The finding of the study showed that hands-on technology-based activities helped in improving the performance of eight grade students.

Freeman, McPhail and Berndt (2002) surveyed to find out what kind of activities middle school learners view as facilitating or hindering their learning. The total sample size of

the study consisted of 47 learners. It was found that learners feel that doing an experiment, building models, working with friends etc. help them in their learning. It has been observed that learners feel watching movies, drawing, snacking while learning etc. not help them in their learning.

Lam, Yeung and McNaught (2007) described a bridge between online and in-class learning activity through the use of a web-based Learning Activity Management System (LAMS). In LAMS, group-oriented activities are given to the students. The finding of the study was that it gains acceptance from teachers and students for the idea of adding control to online learning activities while adding flexibility to classroom teaching.

Levine and Guy (2007) reviewed the effectiveness of activity based learning in comparison to traditional methods in a freshman course entitled BADM 101-Introduction to Global Business and investigate whether different types of students prefer different types of business related activities in terms of gender and class standings. In this particular course, activities were allotted to the students and if they feel that they need assistance in the assigned activities then they can meet the mentors. The total sample size of the study was 380 students selected from California State University and 9-point anchored scale has been used to collect data on students' preferences. The result of the study revealed that pre-business students preferred activity based learning over traditional methods and there was no influence of gender and class standings on this preference. The study revealed that business students are having a different level of interest in activity based learning than non-business students and it was found that males and class standing to exhibit a significant difference towards the preference for activity based learning.

Begum and Khan (2012) attempted to see to what extent and how the Whole School Improvement Program influenced the teachers to shift from lecture to activity based teaching-learning processes in project schools in Gilgit-Baltistan of Pakistan. The sample size consisted of two head teachers, ten teachers, and twelve students from two Whole School Improvement Programme project schools. A case study approach and Context, Input, Process and Product model were used in this study. Observation, interviews, questionnaires were used for data collection. The study revealed that the Whole School Improvement Programme brings positive changes in the domain of teaching-learning process which includes teachers planning lessons with clear objectives and activities, and they were reflecting on their executed lessons to find strengths and weaknesses and



alternatives to overcome them. Teachers are applying activity based teaching where they ensure the students involvement in the teaching-learning process. Teachers use low-cost, no-cost and existing resources in their schools to develop students' relational understanding and for student-centred teaching. Head teachers were supportive of the use of activity based teaching in the class. As a result of these practices, students and teachers change their behaviour towards the teaching-learning process and enforced participative approaches in classroom teaching.

Fatima (2012) aimed to teach report writing skills by using non expensive communicative activities. An experimental research method has been used for the purpose of this research where 2 groups were formed: experimental and control group on the basis of students' previous academic achievement. The experimental group has their classes with rooms fully equipped with audio/visual aids and other facilities where students were taught through communicative activities. The control group has their classes in rooms without audio/video facilities. For this experiment, the teacher arranged group discussions, library visits, listening sessions, reading sessions, writing sessions etc. for students. The total sample size of the study was 100 students from COMSATS University of Science and Technology, Lahore. The finding of this study was that experimental group students have a better understanding of report writing skills. This paper emphasised the kinds of problems students face while learning report writing skills.

Fallon, Walsh and Prendergast (2013) developed a research method module which embraces an activity based learning approach in a group environment as well as improves the engagement of all the students. In the earlier times, students were taught research methods modules through the traditional lecture method and anecdotally it is felt that the students engagement was poor and learning was limited. As a result of which the researchers planned to develop a research method module which equip the students to gather deep information about the research. In order to encourage student engagement, a wide variety of activities such as brainstorming, workshops, presentations, mind-mapping, peer critiquing, written submissions, lecture, seminar, and speed dating with more senior students and self-reflection were used.

Rubin, Marcelino, Mortel and Lapinid (2014) examined the effect of various activities on students' conceptual understanding, procedural skills, perception by using models of integers such as target integer, integer chips, the use of damath, online game number

cruncher. Qualitative and quantitative methods were used where the total sample size of the study consisted of 37 students from a private sectarian school in Manila, Philippines and a questionnaire as well as interview were used for data collection. The finding of the study was that activity based teaching helped in enhancing the students' conceptual understanding and procedural skills. It has been revealed that students have a positive attitude towards the use of activity based teaching.

Abdelraheem and Ahmed (2015) evaluated the effect of activity based blended learning strategy on the motivation level and students' achievement level. Quasi-experimental research design has been used where 128 undergraduate students from the college of education of Sultan Qaboos University, Oman selected as a sample for the study. The result showed that activity based blended learning strategy helped in improving the motivation and achievement level of the students.

Akkus (2015) determined the pre-service teachers' skills to plan and apply activity based teaching as well as contribute to their development of these skills. First, the pre-service teachers were asked to plan some activities related to the subject "directions" and present them. The pre-service teachers presented the subject through activity based teaching. The researcher recorded the presentation with the help of observations and video recordings. After analysing the recordings, the researcher identified the pre-service teachers' mistakes throughout the process of planning and applying the activity based teaching and they were informed about it. Later they were given information about the issues of activity based teaching and action plans were prepared together with the pre-service teachers. Pre-service teachers prepared their own action design and presented them. Action research has been used by the researcher for this study and the total sample size of the study was 6 undergraduate pre-service teachers who are studying in the fourth grade of social studies teaching in Kazim Karabekir Education Faculty in Ataturk University during 2014-15. For data collection, the researcher used observations, document analysis and semi-structured interview. Document analysis was used to determine the quality of the ideal lesson plan before and after the action by comparing it with the model sample lesson plan and the model lesson plan is standardised by the experts in terms of content, language and structure. The finding of the study revealed that pre-service teachers lesson plan were improved in terms of content, language, structure and basic components after implementing the action. The study indicated that the pre-service teachers' experienced

those factors which caused difficulties for them in the process of teaching and this action plan helped them in improving their performance.

Aslam, Ahmed & Mazher (2015) developed a method consisting of different activities to enhance the creativity and vocabulary of students in Pakistan. A qualitative research design was used and interview as well as observation were used for data collection. The study reflected that activity based learning helped in enhancing the creativity and vocabulary of the students.

Lijanporn and Khlaisang (2015) developed an activity based learning model using an educational mobile application to enhance the discipline of elementary school students. In the first phase, it was developed by reviewing different theories and research on activity based learning, educational mobile application, discipline and then the opinion of eight experts were taken in this context. The learning process of the activity based model consisted of four steps: motivation and experience, knowledge and practice, feedback, evaluation. In the second phase, it was tested on 30 elementary school students and found that post-test mean score was high than pre-test mean score. In the third phase, the evaluation score of the proposed model from five experts were calculated and it was found that most of the experts strongly agreed with using educational mobile application and activity based learning to enhance the discipline of primary school students. Experts also believed that the proposed model can be applied in the real context.

Nudzor, Dare, Oduro, Bosu and Addy (2015) focussed on an aspect of DfID (Ghana) - sponsored research project which gives importance to improving teaching-learning process through the utilisation of activity based learning pedagogy. This article examined three main themes relative to activity based learning pedagogy, namely how participants conceptualise activity based learning; ways in which activity based learning practices reveal themselves in the class; challenges of activity based learning practices in Ghanaian schools. A case study approach has been used and semi-structured interviews, focused group discussions and observation were used for data collection. The finding of the study revealed that participants conceptualise activity based learning in that way where pupils working on the same activity-related tasks at the same time in groups. It was found that classroom activity based learning revealed itself through different practices such as display of pupils' work in classrooms, use of teaching and learning materials, organisation of seating arrangements of pupils in groups, formative assessment and activity-oriented

lessons among others. Furthermore, it was discovered that in almost all the schools, these essential ingredients were missing. Lack of furniture and logistics were some challenges which are prevalent in Ghanaian schools.

Chanthala, Santiboon & Ponkham (2017) explored the effectiveness of the activity based learning approach management through the STEM education instructional method for fostering learning achievements, creative thinking abilities among 10<sup>th</sup> grade students of Mahasarakham University Demonstration School, Thailand. The total sample size of the study consisted of 48 students. The finding of the study proved that this STEM education instructional method helped in increasing learning achievements, and creative thinking abilities.

Sanchez (2017) attempted to identify the activities which students prefer in the classroom. The aim of this study was to know the frequency of using these activities by the teachers in the classroom. It aimed to see that was there any match between preference and frequency of use. Quantitative research methodology has been used where 20 teachers and 263 students from Public University in Northern Mexico were selected as a sample for the study. A questionnaire has been used for data collection. The finding of the study were that students like those activities in which they practiced traditional receptive skills and traditional productive skills. It showed that teachers include those activities which promote oral communication and the practice of grammar. Furthermore, it was found that there was a match between preference and frequency of use only in speaking activities.

Zahoor-Ul-Haq, Khurram and Bangash (2017) measured the effects of activity based learning on the development of the speaking skills of language students at the elementary school level. Pre-test Post-test equivalent control group design was selected where an achievement test has been utilised for data collection. The total sample size of the study was 50 students from Government Shaheed Waseem Iqbal High School, Tarkha, Pakistan. The finding of the study suggested that activity based learning was effective in the development of speaking skills of language students at the elementary school level.

Sugandi, Suparno, Wena, Pribadi and Ismail (2018) studied the effectiveness of activity based learning as well as the role of achievement motivation and soft skills on student achievement. In this study, the researcher selected experimental research design as a method and used ANOVA for the purpose of data analysis. The finding of the study showed that activity based learning helped in increasing the achievement of Indonesian

student. It suggested that achievement motivation and soft skills play a positive role in improving student achievement.

Orakcı and Gelişli (2019) determined the effect of learning activities based on learning autonomy in terms of the level of achievement, attitude and learner autonomy. A mixed method research design has been used in the study. The finding of the study showed a positive result in terms of the level of achievement, attitude and learner autonomy.

Zahoor-Ul-Haq, Khurram and Bangash (2019) investigated the use of an activity based learning method on the development of reading skills of Grade-VI students. The researchers have employed pre-test post-test equivalent group experimental design for the purpose of the study. The total sample size of the study comprised of 50 students. The finding of the study revealed that activity based learning helped in improving the reading skills of the students.

Andiema (2022) conducted a study where it was aimed at studying the level of using activity based learning in public pre-primary schools in Kenya. A stratified random sampling technique has been used as a sampling technique. A questionnaire and interview method were used for the purpose of data collection. The finding of the study was that activity based learning is used occasionally in the public pre-primary schools in the study.

Iqbal and Afzal (2022) explored the effects of activity based teaching on the achievement of students at the elementary level of education. A descriptive survey research design was used and a questionnaire has been used for the collection of data from the students of Lahore, Pakistan. The finding of the study indicated that activity based teaching helped in enhancing creative skills, higher-order thinking and good grades by students at the elementary level of education.

Jangsiri and Chullasap (2022) evaluated the effectiveness of activity based learning on the performance of the students. Quasi-experimental research design has been used in this study. The result of the study was that activity based learning helped in improving the performance of students during the covid-19 situation.

## **2.8 Critical Review of the Studies**

Review of the literature clearly revealed that a large number of studies are conducted in the area of activity based teaching learning approach in different subjects such as social science, science, english, mathematics etc. Some of the studies like Parvathy (2002);

Amin (2011); Panda and Basantia (2004); Hussain, Anwar, and Majoka (2011); Vartak (2001); Jailakumari (2006); Tilfarlioglu and Basaran (2007); Odwan (2012); Aremu and Salami (2013); Korwin and Jones (1990); Fatima (2012); Tadavi (2012); Bhan (2014); Gupta and Desai (2014); Pramar (2014); Daphne (2015); Nadanamoorthy and Dhachanamoorthy (2015); Lagura (2016); D'souza (2017); Anwer (2019); Latha (2013); Bolenbaugh (2000); Pauline (2012); Yadav (2015); Agbenyeku (2017); Singh (2016); Brahmbhatt (2018); Kler (2019); Oribhabor (2020); Sarpong, Sarpong and Asor (2020); Farkhunda (2021); Sri and Radhakrishnan (2022) expressed that activity based programme is effective in improving the overall performance of the learners. In contrast to this finding, Loveland (2014); Aslam, Rawal, Vignoles, Duraisamy and Shanmugam (n.d.) found that activity based programme is not effective in improving the overall performance of the learners. Demirci, Kesler & Kaya (2010); Klepaker, Almendingen and Tveita (2007); Karekar (2013); Singh (2016); Hazra (2019); Başerer (2020) have undertaken a study which identifies what kind of activities the teachers are using in their teaching style. Andiema (2022) conducted a study to see the level of using activity based learning in the classroom. Saha (2016); Festus, David, Orobosa, and Olatunji (2013); Singal, Pedder, Malathy, Shanmugam and Manickavasagam (2017); Lee (2007) directed a study to identify what kind of problems the students and teachers were facing in activity based approach. In order to gather in-depth information about the perception of people towards activity based approach; different researchers like Thompson and Soyibo (2002); Townsend (2012); Dasdemir (2014); Athipen (2006) administered a study to see what kind of changes are taken place in the attitudes of students when activity based approach is introduced in the classroom. With regard to these findings, Babu (2009); Twumasi and Hanson (2018); Qin (2012); Khatoonabadi (2013); Rezaei, Karbalaei and Afraz (2013); Imane (2016); Rubin, Marcelino, Mortel and Lapinid (2014); Orakçı, and Gelişli (2019) found that students have a favourable or positive attitude towards activity based approach. In contrast to these findings, Çelik (2018) found that activity based approach does not develop a positive attitude among the students. Another study which is attempted by Huang and Hu (2016) found that most teachers like conversational activities and most students like recreational activities.

The researcher discussed some points which make this present study more significant in comparison to past studies and these are given below:

- a. Many researches are conducted in the area of activity based approach in different parts of the world and in the context of India activity based teaching learning approach has been implemented in different states such as Tamil Nadu, Gujarat, Karnataka etc. as an activity based model. Apart from that, in some states, it has been directed that activity based teaching learning approach need to be adopted in the teaching-learning process. If a review of the teaching-learning process of Assam at the secondary level school was done then it has been found that there was no in-depth information about how the teaching-learning process is taking place. So in this research, the researcher attempted to collect information about the activity based teaching learning approach which was implemented at the secondary level school in Assam.
- b. This study was especially limited to the state board namely SEBA (Board of Secondary Education, Assam) and the researcher selected those secondary schools which come under the SEBA.
- c. This research was specially conducted on the subject of social science and a lot of data has been collected by employing different tools such as activity based teaching learning inventory for teachers, activity based teaching learning questionnaire for teachers, student engagement scale for activity based teaching learning approach, attitude scale towards activity based teaching learning approach (for teachers), attitude scale towards activity based teaching learning approach (for students).
- d. In this study, the researcher selected a large number of samples which differs in terms of other studies.
- e. In this study, the researcher took the attitude variable and aimed to collect data about the attitude of students and teachers towards the activity based approach teaching learning approach.