CHAPTER-I
INTRODUCTION

1.1 INTRODUCTION

Engagement is the key to modern teaching-learning challenges in education. More the student is engaged, more effective the teaching and learning will be.

Heisters (2018) studied the engagement as an indicator of improvement in the teaching-learning program and found that our elementary students are found to be more engaged in comparison to the secondary students. Only there is a need to adopt the effective teaching-learning program.

A child must become an active participant in the process of learning through observation. Our emphasis should be on exploration, innovativeness and creativity through activities. To achieve, these schools must move from educational centers to become knowledge and skill centers (Kalam, 2005).

Teaching-Learning Process must provide our learner the opportunities to participate. The opportunities are maximized when they are allowed to participate in the teaching-learning process. Moreover, the guiding principle of the convention also includes the right to participate (UNICEF, 2014).

Krishnan (2018) stated that pedagogical design of courses and blended learning will hopefully transform the digital content (information) to learning through instruction for much larger number of learners than can be supported by current brick-and-mortar institutions. The current initiative of SWAYAM (Study Web Active by Young and Aspiring Minds) by the Ministry of HRD and the earlier Mission known as National Mission on Education through Information and Communication Technology (NMEICT) with its four-quadrant approach are examples of this drive for online education.

Khan (2016) stated that a major advantage of blended learning for students is the ability to dip into a knowledge pool that does not end with classroom instruction.
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Blended learning offers a window to a global world for students who might otherwise struggle to access traditional professional education programs. Blended learning creates the possibility of practical, experiential learning, where students can learn at their own pace – both in terms of speed and complexity of information. While many educators have adopted this unique form of learning, one hopes that in a period of decade, blended learning becomes the norm rather than the exception. To its credit, the Government of India is formalising the online education space, ensuring regulatory recognition for online courses and encouraging universities to develop their own online curricula.

Engagement and learning effectiveness are considered to be interrelated at all levels. So Blended learning strategies might help in the better achievement in teaching-learning process if these both are taken in account by our teachers.

1.2 BLENDED LEARNING

Blended learning is the combination of traditional, face-to-face learning methods with technology-based and e-learning methods and he also concluded with the aim that the blended learning is to combine the strengths of both traditional and online learning methods to provide learners with an engaging learning experience (Eoghan, 2018).

Blended learning is about engaging students in deep learning. It is about blending online and face-to-face activities together in a thoughtful way (Online, face-to-face and blended learning Cramer, 2013).

Teachers always have been and always will be the essential element in the classroom. They can create magic inside four walls, but they have never been able to create learning environments outside the classroom like they can today, thanks to blended learning. Blended learning allows students and teachers to break free from the isolation of the classroom. Blended learning can have different definitions. First and foremost, blended learning is all about personalizing learning for students. It is not necessarily a fundamental redesign of the classroom, but it is a fundamental redesign of the time outside the classroom. The important difference in these
definitions is the element of student control that allows the student to determine where he or she can learn and, equally as important, at the speed that allows content mastery (Imbriale and Ryan, 2013).

Catlin Tucker, the author of Blended Learning in Grades 4-12, is an English language arts teacher at Windsor High School in Sonoma County, CA. In this conversation with Principal Leadership, she defines blended learning as a formal education program in which a student is engaged in active learning in part online where they have some control over the time, place, and pace, and in part at a brick-and-mortar location away from home. In the course of this discussion, Tucker shares her views on how blended learning can engage students in meaningful ways and expand the classroom experience, how the teacher's role changes when a blended learning approach is used, important things to keep in mind when creating online components, and the compatibility of blended learning with the Common Core State Standards. Her best bit of advice to school leaders and teachers who have reservations is to include teachers in conversations about blended learning, saying that teachers will be more creative, energized, and motivated to embrace a blended model if they have the freedom to help decide what that change will look like for them and their students (Tucker, Catlin, Umphrey, 2013).

Blended teaching approach includes online learning and mobile learning in addition to classroom learning. Blended learning encourages the gain of knowledge coupled with traditional information-gained and skills-development learning or authentic learning (El-Mowafy et. al., 2013).

Blended learning designates the range of possibilities presented by combining Internet and digital media with established classroom forms that require the physical co-presence of teacher and students (Friesen, 2012).

Blended learning is a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home (Horn and Staker, 2012).
Blended Learning is a pedagogical approach facilitated by a teacher where students have some control over their learning; and the teacher seamlessly incorporates the use of online learning tools (e.g. discussion boards, online collaboration, blogs, etc.), technology tools (computers, digital whiteboards, cameras, etc.), and face-to-face instruction so that instruction and learning can be accessed at any time by the student through multiple electronic devices (Darrow, 2012).

The growth of online learning in the K-12 sector is occurring both remotely through virtual schools and on campuses through blended learning. In emerging fields, definitions are important because they create a shared language that enables people to talk about the new phenomena. In a report titled, the rise of K-12 blended learning, the authors observed that there are six main blended-learning models emerging in the sector from the perspective of the student. It introduces a number of changes to that taxonomy based on feedback from the field and the need to update the research to keep pace with new innovations that are occurring in blended learning. Most importantly, the paper eliminates two of the six blended-learning models Face-to-Face Driver and Online Lab because they appear to duplicate other models and make the categorization scheme too rigid to accommodate the diversity of blended-learning models in practice. By moving from six to four overarching models, they have created more breathing room in the definitions. They hope these new models will better describe the majority of programs so that nearly all blended-learning programs will fit comfortably within one of the four (Staker, Heather, Horn, Michael, 2012).

The International Association for K-12 Online Learning defines blended learning as combining the online delivery of educational content with the best features of classroom interaction and live instruction to personalize learning, allow thoughtful reflection, and differentiate instruction from student-to-student across a diverse group of learners (INACOL, 2011).

Blended learning is the organic integration of thoughtfully selected and complementary face-to-face and online approaches as well as technologies (Garrison and Vaughan, 2008).

Blended learning is realized in teaching and learning environments where there is an effective integration of different modes of delivery, models of teaching and
styles of learning as a result of adopting a strategic and systematic approach to the use of technology combined with the best features of face to face interaction (Krause, 2007).

Blended learning is the combination of instruction from two historically separate models of teaching and learning: traditional F2F learning systems and distributed learning systems. It also emphasizes the central role of computer-based technologies in blended learning (Graham, 2006).

1.3 BLENDED LEARNING MODULES

1.3.1 Module

A module is one type of instructional material with which a learner can acquire knowledge, skill and attitude in the learning environment. It differs from other types of instructional material in that it is self contained and independent of live instruction from the subject.

1.3.2 Blended Learning Modules

Blended learning modules is a set of different strategies used to present learning materials to achieve engagement and learning effectiveness among the pupil.

“Teach me and I may remember, Involve me and I learn.”

~Benjamin Franklin~

1.4 STUDENT ENGAGEMENT

1.4.1 Engagement

Engagement is the degree to which learners are engaged with their educational activities and that engagement is positively linked to a host of desired learning outcomes, including high grades, student satisfaction, and perseverance (Chen, Gonyea and Kuh, 2008).

Studies on engagement in the terms of interest, effort, motivation, time-on-task and suggest that there is a causal relationship between engaged times, that is, the
period of time in which students are completely focused on and participating in the learning task, and academic achievement (Bulger et. al., 2008).

Engagement is thought to comprise active and collaborative learning, participation in challenging academic activities, formative communication with academic staff, involvement in enriching educational experiences, and feeling legitimated and supported by university learning communities (Coates, 2007).

Engagement is defined by a combination of students’ willingness to participate in activities and time on task (Stovall, 2003).

1.4.2 Student Engagement

Student engagement is a responsibility shared by all members of the academy (Buskist, William, Groccia and James, 2018).

Student engagement defined by the degree of students’ activation and pleasure (Balwant and Paul, 2018).

Student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education (The Glossary of Education Reform, 2016).

Student engagement is an important consideration for teachers and administrators because it is explicitly associated with achievement. What the authors call the ABC’s of engagement they outline as Affective engagement, Behavioral engagement, and Cognitive engagement. They also present "Three Things Every Teacher Needs to Know about Student Engagement:" (1) Engagement is closely associated with achievement; (2) teachers have significant influence over student engagement, and; (3) there are manageable ways to evaluate and document student engagement (Parsons, Seth, Nuland, Richey, Parsons, Ward, 2014).
The phrase student engagement has come to refer to how involved or interested students appear to be in their learning and how connected they are to their classes, their institutions, and each other (Axelson, Rick, Flick and Arend, 2011).

Student engagement has become synonymous with the measurement of teaching and learning quality at universities. It is almost global adoption of learning management systems as a technical solution to e-learning within universities. Their ability to record and track user behavior provides the academy with an unprecedented opportunity to harness captured data relating to student engagement (Beer, Clark and Jones, 2010).

The Australasian Survey of Student Engagement (AUSSE) defines student engagement as students’ involvement with activities and conditions likely to generate high-quality learning (Coates, 2009).

Student engagement is students’ involvement with activities and conditions likely to generate high-quality learning (Coates, 2009).

Student engagement can be possible the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities (Kuh, 2001, 2003, 2009a).

Student engagement has been defined as participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes (Kuh et. al., 2007).

The widespread uptake of learning management systems by universities has fundamentally changed the environment within which online students engage with their studies. It has also led to changes in the ways that students are engaging with course resources, teaching staff and each other. Distance learning via learning management systems can occur without face-to-face contact between students and teachers and this can mean that traditional measures of student engagement such as class attendance are impossible to gauge (Douglas and Alemanne, 2007).
1.4.3 Dimensions of engagement

Usefully identify three dimensions to student engagement, as discussed below:

1. **Behavioral engagement** who is behaviorally engaged would typically comply with behavioral norms, such as attendance and involvement, and would demonstrate the absence of disruptive or negative behavior.

2. **Emotional engagement** who engages emotionally would experience affective reactions such as interest, enjoyment, or a sense of belonging.

3. **Cognitive engagement** would be invested in their learning, would seek to go beyond the requirements, and would relish challenge (Fredricks, Blumenfeld and Paris, 2004).

4. **Agentic engagement** agentic engagement as students’ constructive contribution to the flow of the instruction they receive (Reeve, Tseng, 2011).

“The more reflective you are, the more effective you are.”

~ Hall and Simeral ~

1.5 LEARNING EFFECTIVENESS

The term Effectiveness refers to the results we get, the progress a student makes towards some specified goals of education.

Learning effectiveness or learnability can be defined as the ease and speed with which learners can acquire the required information/knowledge/skill (Pandey, 2018).

Learning effectiveness means that learners who complete an online program receive educations representing the distinctive quality of the institution as online learning is equivalent to or better than learning through the institution's other delivery modes, especially in its traditional face-to-face, classroom-based instruction. The course or program is designed to be at least equivalent in quality to face-to-face courses offered at the same institution. If there is no comparable face-to-face course,
then the institution's normative benchmark applies. The learning resources in online courses generally include the same ones to be found in the institution's traditional face-to-face courses-learning media (books, notes, software, CD-ROMs, and so on); faculty who teach the class and are available outside of class; and learners who interact with the faculty and with each other. Because of technology, online courses are usually enhanced by resources available over the Internet and/or designed for the computer presentation. Metrics demonstrate that the quality of learning online is at least as good as the institution provides through its traditional programs as measured by several means-by faculty perception by outcomes assessments; by career, scholastic and professional achievement surveys and records; by feedback from employers; and by institutionally sustained, evidence-based, participatory inquiry into how well online programs achieve learning objectives. Online learning generally parallels the quality of face-to-face learning with equivalent content, standards, and support services. Online curricula are subject to, and thereby receive the same benefits of practice, process and criteria that the institution applies to traditional forms of instruction (Janetmoore, 2010).

Learning effectiveness means that learners who complete an online program receive educations that represent the distinctive quality of the institution. The goal is that online learning is at least equivalent to learning through the institution other delivery modes, in particular through its traditional face-to-face, classroom-based instruction and interaction is key (Swan, 2003).

“If I have the belief that I can do it, I shall surely acquire the capacity to do it even if I may not have it at the beginning.”
~ Mahatma Gandhi

1.6 SELF-EFFICACY

General self-efficacy refers to our overall belief in our ability to succeed, but there are many more specific forms of self-efficacy as well e.g., academic, parenting and sports (Ackerman, 2018).
Self-efficacy is essentially the belief in your own ability to control your own behavior, emotions, and motivations. It is your belief in your ability to solve a problem, reach a goal, complete a task and achieve what you set out to do (Cherry, 2018).

The term self-efficacy refers to one’s ability to feel effective. That is, ability to perform with full functionality in a specific role or task. Psychiatrist, Albert Bandura, extends that to describe self-efficacy is your belief in your ability to succeed in specific situations. Think back to your trauma. How sure did you feel that your actions alone would allow you to be safe, endure or survive? Examine your feelings today. How sure do you feel that your actions alone can and will allow you to be safe, endure and survive? (Rosenthal, 2013).

Self-efficacy has influence over people's ability to learn, their motivation and as people will often attempt to learn and perform only those task for which they believe they will be successful (Lunenburg, 2011).

Self-efficacy is also influenced by encouragement and discouragement pertaining to an individual’s performance or ability to perform; such as a manager telling an employee, you can do it. I have confidence in you (Redmond, 2010).

Three conclusions about self-efficacy and similar construction such as self-esteem, self-concept, and locus of control are (a) self-efficacy entails an internal attribution (i.e., I am the cause of the action), (b) it refers to future behaviors, and (c) it is a good predictor of actual behavior (Schwarzer and Hallum, 2008).

Self-efficacy is the measure of one's own competence to complete tasks and reach goals (Ormrod, 2006).

The generalizing of self-efficacy is a core mechanism in human cognition and behavior rests on claims to the ‘predictive generality of efficacy beliefs as significant contributions to the quality of human functioning (Benight and Bandura 2004).

Self-efficacy is said to predict a person’s accomplishments than their previous attainments, credentials or knowledge (Pajeraes, 2002).
Self-Efficacy is the concept by which each person’s experiences, abilities and thoughts merge into one road. This concept could account for the online learner level of motivation affecting the relation of online psychology and graduate student retention (Bandura, 2001).

Self-efficacy is an important causal factor of behavior because it influences one’s decision to execute a behavior, the effort one will use up, and the persistence one will exert when faced with obstruction (Leganger et. al., 2000).

Self-efficacy is an individual’s assessment of his or her ability to cope with given situations (Eysneck, 2000).

Self-efficacy is the degree to which the student thinks he or she has the capacity to cope with the learning challenge (Madeline, 1996).

Self-Efficacy is based on social learning theory and is a construct that affects motivation and learning. Scott states self-efficacy does not reveal what a person can truly accomplish, but what they think they can accomplish (Scott, 1996).

Self-efficacy is defined as a person's beliefs in their abilities and how those beliefs can influence the events in their lives (Bandura, 1994). The confidence one has in his or her skills is derived from how he perceives himself and how he measures his abilities from various sources of information. Self-efficacy can be measured on two scales: self-efficacy magnitude and self-efficacy strength (Bandura, 1996). Self-efficacy magnitude can be defined as a person's belief in the ease or difficulty of completing a certain task. Self-efficacy strength can be defined as how much confidence a person has in completing the task put before them.

Students’ belief about their academic capabilities one referred to as self-efficacy for learning which includes the evaluation of what the learning context requires and how capable one is in utilizing knowledge and skill to bring about new learning (Shunk, 1989).

Efficacy is the capacity for producing a desired result or effect and self as a person referred to with respect to complete individuality. Self-efficacy then can be defined as, the perception or judgment of one’s ability to perform to a certain success or to control one’s circumstances (The Random House of Dictionary, 1987).
Self-efficacy refers to the personal judgment of performance capabilities in a given domain of activity that may contain novel, unpredictable and possibility stressful features (Shunk, 1985).

“Learning gives creativity, creativity leads to thinking, thinking provides knowledge and Knowledge makes you great.”
~ A.P.J. Abdul Kalam ~

1.7 CREATIVITY

Gabora (2017) believe that creativity involves cognitive processes that transform one’s understanding of, or relationship to, the world.

Creativity is a dynamic process that often involves making new connections, crossing disciplines and using metaphors and analogies (Robinson, 2013).

Creativity is defined as a novel and personality for meaningful interpretation of experiences, action and events (Beghetto and Kaufman, 2007).

Creativity is something new and useful. He thought that creative thinking does not essentially require tangible creative products; rather the process should be more focused on defined creativity (Runco, 2007).

There are five common abilities in the research of creativity. These are:

1. Creativity involves thinking that aims at producing ideas or products that are relatively novel and that are, in some respect, compelling.

2. Creativity has some domains specific and domain-general elements in the sense that it needs some specific knowledge, but these are certain elements of creativity that across different domains.

3. Creativity is measurable, at least to some extent.

4. Creativity can be developed and promoted.

5. Creativity is not highly rewarded in practice, as it is supposed to be in theory (Stenberg, 2006).
Creativity is essentially a human phenomenon. It is a process in man which helps him achieve dignity and meeting in life. Creativity is marked by the ability or power to create, to bring into existence to invert with a new form to produce through imaginative skill, to make or bring into existence something new (Webster’s Dictionary, 2006).

Creativity is the ability to produce new knowledge (Dacey and Lennon, 2000).

Creativity involves expressing a unique perspective and translating a completely different set of talents and experiences through our individual skill. Thus creativity is the translation of our voice or our self into tangible expression (Joseph, 1996).

Creativity is the ability to respond constructively to the stimuli of the environment, the ability to see relationships or to discover pattern in the sense data or in ideas, the ability to innovate or to provide varied responses to stimuli, the ability to respond spontaneously and without prejudgment and the ability to adapt to change (Gore, 1995).

Creativity is often viewed as the notions of genius or exceptional ability, but it can be enhanced, nurtured through students’ active involvement in different learning activities in the classroom (Gulati, 1995).

Guilford stated that creativity as a capacity of divergent and convergent thinking in his SOI (Structure of Intellect) Model in his famous book “Nature of Human Intelligence” (Guilford 1967, 1970, 1977a).

Creativity was defined in terms of creative abilities of fluency, flexibility, originality and elaboration respectively (Torrance, 1965).

Creativity is a broad concept of being potent to bring forth almost anything new in a way of an idea, a formulation, a model, or a theory of an aesthetic or practical product (Flanagan, 1963).

Creativity is a normally distributed trait, an aptitude trait, an intra-psychic and a style of life (Goleman, 1963).
1.8 RATIONALE OF THE STUDY

"By education, I mean an all-round drawing out of the best in child and man in body, mind and spirit."

Gandhi Ji.

The Kentucky Department of Education (2018) worked in terms to develop characteristics of highly effective teaching and learning as supports focused on the instructional core. Five important components: learning climate, classroom arrangement, student engagement, instructional relevance and knowledge of content were organized as the core of this research. Similar is the finding of strategy and approach (2017) where Mathew also emphasized the importance of teaching-learning quality, learning outcomes and teacher competency for effective learning in and outside the classroom.

Thus there is a dire need to include learning effectiveness through engagement of the learners in the process of learning which may be implemented through the use of innovative practices as blended learning so as to boost up the basic creativity of the learners.

The investigator in the present study has tried to perform research on these significant factors of student engagement, learning effectiveness and self-efficacy as the researches till date prove that no improvement is possible until we pay our serious concern to the above views that too could be thought about by the use of innovative strategies to which blended learning could be the possible answer.

As per the various views of researchers, we need to nurture basic creativity of the learners that too is a challenge today which the investigator has tried to work upon.

1.9 STATEMENT OF THE PROBLEM

The problem under investigation is entitled as:

EFFECT OF BLENDED LEARNING MODULES IN SCIENCE ON STUDENT ENGAGEMENT, LEARNING EFFECTIVENESS AND SELF-EFFICACY IN RELATION TO CREATIVITY OF IX GRADERS.
The terminology used in the statement is briefly elaborated as under:

1.10 OPERATIONAL DEFINITIONS OF THE VARIABLES

Following are the operational definitions of key terms of the study

1.10.1 Blended Learning Modules

Blended Learning modules is a pedagogical approach which combines and aligns learning undertaken in face-to-face sessions with online learning activities or structuring activities around online resources and interaction with distance learners with appreciable involvements and participation of the students.

1.10.2 Student Engagement

Student Engagement is the willingness to participate in routine school activities, such as attending classes, submitting required work, and following teachers’ directions in class.

1.10.3 Learning Effectiveness

Learning effectiveness means progress, outcomes and reflection in student learning regarding a particular learning, thus achieving the set objectives effectively.

1.10.4 Self-Efficacy

Self-Efficacy is an individual’s assessment of his or her ability, one’s own ability to learn, one’s ability to feel effective to cope with given situations with flexibility desirable.

1.10.5 Creativity

Creativity refers to the tendency to generate or recognize ideas, the ability to find new solutions to a problem and the process of bringing something new into being.

1.11 OBJECTIVES OF THE STUDY

The study was conducted keeping in mind the attainment of the following objectives:

I. To prepare lesson plans on blended learning modules in science for IX graders.

II. To study and compare the effect of blended learning modules and traditional learning strategies on the student engagement for students with high creativity.
III. To study and compare the effect of blended learning modules and traditional learning strategies on the student engagement for students with average creativity.

IV. To study and compare the effect of blended learning modules and traditional learning strategies on the learning effectiveness for students with high creativity.

V. To study and compare the effect of blended learning modules and traditional learning strategies on the learning effectiveness for students with average creativity.

VI. To study and compare the effect of blended learning modules and traditional learning strategies on the self-efficacy for students with high creativity.

VII. To study and compare the effect of blended learning modules and traditional learning strategies on the self-efficacy for students with average creativity.

1.12 HYPOTHESES OF THE STUDY

As per the objectives of the study, the present study was undertaken on the basis of following hypotheses:

H-1 The two instructional treatments will yield equal mean gain scores of the student engagement for students with high creativity.

H-1.1 The two instructional treatments will yield equal mean gain scores of the student engagement in the domain of behavior engagement for students with high creativity.

H-1.2 The two instructional treatments will yield equal mean gain scores of the student engagement in the domain of affective engagement for students with high creativity.

H-1.3 The two instructional treatments will yield equal mean gain scores of the student in the domain of cognitive engagement for students with high creativity.
**H-1.4** The two instructional treatments will yield equal mean gain scores of the student engagement in the domain of agentic engagement for students with high creativity.

**H-2** The two instructional treatments will yield comparable mean gain scores of the student engagement for students with average creativity.

**H-2.1** The two instructional treatments will yield comparable mean gain scores of the student engagement in the domain of behavior engagement for students with average creativity.

**H-2.2** The two instructional treatments will yield comparable mean gain scores of the student engagement in the domain of affective engagement for students with average creativity.

**H-2.3** The two instructional treatments will yield comparable mean gain scores of the student in the domain of cognitive engagement for students with average creativity.

**H-2.4** The two instructional treatments will yield comparable mean gain scores of the student engagement in the domain of agentic engagement for students with average creativity.

**H-3** There will be no significant interaction between instructional treatments and creativity on student engagement.

**H-4** There will be no significant difference in mean gain scores of the learning effectiveness for students with high creativity when taught by two instructional treatments.

**H-4.1** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of progress for students with high creativity when taught by two instructional treatments.

**H-4.2** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of outcomes for students with high creativity when taught by two instructional treatments.
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**H-4.3** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of reflection for students with high creativity when taught by two instructional treatments.

**H-4.4** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of beyond merely thinking and recalling for students with high creativity when taught by two instructional treatments.

**H-4.4** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of insight for students with high creativity when taught by two instructional treatments.

**H-5** There will be no significant difference in mean gain scores of the learning effectiveness for students with average creativity when taught by two instructional treatments.

**H-5.1** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of progress for students with average creativity when taught by two instructional treatments.

**H-5.2** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of outcomes for students with average creativity when taught by two instructional treatments.

**H-5.3** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of reflection for students with average creativity when taught by two instructional treatments.

**H-5.4** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of beyond merely thinking and recalling for students with average creativity when taught by two instructional treatments.

**H-5.4** There will be no significant difference in mean gain scores of the learning effectiveness in the domain of insight for students with average creativity when taught by two instructional treatments.

**H-6** There will be no significant interaction between instructional treatments and creativity on learning effectiveness.
H-7  The two instructional treatments will yield equal mean gain scores on the self-efficacy for students with high creativity.

H-7.1 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of self-regulatory skills for students with high creativity.

H-7.2 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of self-influence for students with high creativity.

H-7.3 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of self-confidence for students with high creativity.

H-7.4 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of social-achievement for students with high creativity.

H-7.5 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of self for students with high creativity.

H-7.6 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of self-evaluation for students with high creativity.

H-7.7 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of self-esteem for students with high creativity.

H-7.8 The two instructional treatments will yield equal mean gain scores on the self-efficacy in the domain of self-cognition for students with high creativity.

H-8  The two instructional treatments will yield comparable mean gain scores on the self-efficacy for students with average creativity.

H-8.1 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of self-regulatory skills for students with average creativity.

H-8.2 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of self-influence for students with average creativity.

H-8.3 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of self-confidence for students with average creativity.
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H-8.4 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of social-achievement for students with average creativity.

H-8.5 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of self for students with average creativity.

H-8.6 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of self-evaluation for students with average creativity.

H-8.7 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of self-esteem for students with average creativity.

H-8.8 The two instructional treatments will yield comparable mean gain scores on the self-efficacy in the domain of self-cognition for students with average creativity.

H-9 There will be no significant interaction between instructional treatments and creativity on self-efficacy.

1.13 DELIMITATIONS OF THE STUDY

In research, we study only a segment of reality, working on a single problem is only possible because of the restrictions imposed by the design on the researcher. For obtaining an accurate focus, it becomes essential to delimit the problem. Keeping time and resource constraints in view, the study was delimited to the following:

a. The study was limited only to two schools.

b. The study was limited only to 200 students.

c. Blended Learning Modules were limited only to Face-to-Face Interaction, EduSat Learning, Web Based Instructions and Outdoor Experiences as strategies and peer group, one to one interaction and collaborative learning as approaches.