CHAPTER II

REVIEW OF RELATED LITERATURE

A. Curriculum 2013

The curriculum 2013 in Indonesia requires all teachers to apply scientific approach as a method or a way to teach their students. According to Syahmadi (2013:35), scientific approach is in teaching and learning process consists of "observing, questioning, associating, experimenting, and networking". By applying this approach, teacher are expected to use multimedia develop their institution, create short question, allow the students to identify the problem, and allow the students to work independently without much help from the teacher, so that the students can stand by their own. In other words, the teachers should facilitate the learning process by asking guided questions that help students to discover the content from themselves. By this, the students are expected to be able to face the problem included the problem from this global era. Nowadays, the problems that will be faced are from 21st era. The students need to be able to be creative, and also knowledge societies. To face the problem, the government tries to develop the education system by creating education 21st century era.

B. Education of 21st Century Era.

Education is needed for every human being. All countries in this world try to make a good system in education to increase the skill of its citizen. By increasing the education system, it makes people will not left behind the others. Indonesia as developing country still develops its education system too.

Nowadays, Indonesia education system takes place behind the other countries. However, Indonesia education system has a good benefit rather than the other countries. Indonesia education system is based on Pancasila and UUD 1945 which puts forward character elements that is very needed to face problems in this 21st century era (Directorate of High School Coaching, General Directorate of Primary and Secondary Education, the Ministry of Education and Culture of Indonesia: 2017).

Education of 21st century era is learning process that integrated with literation competence, knowledge skills, creativity, attitude, and also mastering in technology (Directorate of High School Coaching, General Directorate of Primary and Secondary Education, the Ministry of Education and Culture of Indonesia: 2017). Those competencies can be developed by applying many kinds of learning methods which are based on activities that appropriate with characteristics of competencies and materials.

According to Directorate of High School Coaching, General Directorate of Primary and Secondary Education, the Ministry of Education and Culture of Indonesia (2017) states that Education of 21st century era has some characteristics such as religious, nationalism, curiosity, initiative, persevering, adaptability, leadership, social and cultural responsibility, and also accountability. Beside, there are some competencies (4C) such as critical thinking and problem solving, communication skills, creativity and innovation, and collaboration.

1. Implementation of Education of 21st century Era.

Teaching and learning are the process of education that can be developed by the teacher, where the learners take a comfortable place for increasing their skill maximally. It becomes competencies which integrated with knowledge, creativity and attitude. By this, the teachers need to be able to become a professional teacher. Based on Regulation of the Government No. 14/2005 about Teacher and Lecturer, one of teacher competency is professional competency, such as:

a. Planning the teaching and learning process, do the process, assess and evaluate the result of the learning.

b. Developing the academic qualification and competency based on knowledge, technology, and art.

c. Becoming an objective teacher.

d. Obeying the government rules, law, the ethic, and religious elements.

e. Keep the nationalism.

Based on professional competencies above, the teachers have duties in developing the learners' competencies which are appropriate with 21st century era. Those duties are:

a. Plan and develop learning experience, manual and digital scoring that integrate tools and learning sources which are relevant for increasing learners' creativity and critical thinking.

b. Facilitate and inspiring learners' in learning process and their creativity based on competencies that are needed (4C competencies). It can be done with involving the learners to interconnect their knowledge with the real world, include the technology usage.

c. Plan and provide evaluation based on competencies and process it, so it can give information that is useful for the learners and for the general learning process.

d. Become a learning model and work with showing the ability and skills based on technology and transfer the knowledge into technology in new situation, and collaborate with the learners, friends, and communicate in using every tool and relevant sources for a successful innovation, and technology usage.

e. Participate in developing professionalism with participating in local and global society to increase education and to show the leadership by participating in taking a decision and contributing the effectiveness and renewal the teachers themselves, whether in school or society.

Implementation of 21st century era in teaching and learning process can be seen from: 1. Developing lesson plan; 2. Implementation of teaching and learning process; and 3. Evaluation and scoring of learning process. The implementation of 21st century era in education can be used in the development

of education system itself. Nowadays, the newest system is Semester Credit System (SKS) that is implemented in senior high school.

2. 21st Century Skills (4C)

Based on The Journal of International Social Research (2017) stated that there are four skills in 21st century era that called as *Four Cs*. The four Cs are:

Critical thinking, as a skill involves rational involvement in the learning process, i.e. each situation should include analysis of proofs, arguments, and then come up with reasonable points of views and successful solutions.

Creativity, makes the learner able to come up with innovative ideas that may contribute and challenge further learning through new original learning with other. Richards (2013) has his opinion about creativity. Based on him, Richards (2013:2) "Creative intelligence seems to be a factor that can facilitate language learning because it helps learners cope with novel and unpredictable experiences". What Richards claims, is exactly what the 'Four Cs' can achieve in language classroom: students have a chance to produce their own responses when a new, unpredictable question is posed to them.

Collaboration, as a skill includes ability to respect and work with different learners, i.e. Collaborative Learning, as a learning skill nowadays, is a very common educational term. On the other hand, the other term: Cooperative Learning is also used. As this paper focuses on the famous teaching "Cs"- as acronyms used in educational sciences, it tries to describe a broader distinction

of both of them, as they are usually interchangeably used: 'collaboration' or 'cooperation'.

Communication, is a skill that includes ideas on how to express themselves effectively, whether in productive skills as spoken or written forms, or receptive skills as listening and reading. It also includes successful understanding and positive attitudes towards the learning in a FLT classroom. Richards (2013) considers that communicative teaching methods emphasize functional, as well as situational language use. Role plays in whole classes, or group works, or simulations employ activities that require students to use their imaginations and think creatively.

C. Semester Credit System (SKS)

1. Definition of SKS

Based on Permendikbud No. 158 year 2014 that is stated Organizing Guide of Semester Credit System (2017) about the organization of SKS in primary and secondary school, tells that Semester Credit System (SKS), is an education system which the learners deal with the amount of the study that is followed, or the strategies of learning in each semester based on talent, interest, and the speed of the study. SKS are organized through organizing, learning variety, and flexibility of time management. The application of SKS is an innovation to increase the education system. So far, education in Indonesia still use one way, that is package system. By using SKS, it is expected that the learners can finish

their study faster based on their talent, interest, and competence (Directorate of High School Coaching, General Directorate of Primary and Secondary Education, the Ministry of Education and Culture of Indonesia : 2015). However, there are three kinds of speed in the learning process, such as quick, normal, and slow. In this case, learners who can finish their study faster are students that include in quick speed learners. In 2016, the implementation of SKS has been applied in 106 Senior High Schools.

2. The Implementation of SKS

Directorate of High School Coaching, General Directorate of Primary and Secondary Education, the Ministry of Education and Culture of Indonesia (2015), states that Semester Credit System is implemented based on the varieties of learning organization and the flexibilities of learning time management. SKS is an alternative learning system beside package system that has been implemented in senior high schools which have been accredited in grade A. There are some models in implementing Semester Credit System:

a. Mechanism of Planning

The implementation of SKS is done by using some stages with phasing in or out strategy that has been started in the first year. In other words, the implementation of SKS is stated in the grade X or first grade of senior high school.

b. The Structure of Curriculum and Burden of Learning

In general, the structure of curriculum and burden of learning are based on Permendikbud Number 59 year 2014, that consist of 8 main lessons and interest groups. Burden of learning in senior high school is 260 hours that can be finished in different time or speed. By this, SKS organizer team can create the structure of curriculum and burden of learning in every semester with some varieties. There are two learning patterns that can be done such as continue pattern and discontinue pattern.

A. Continue Pattern

In this pattern, every lesson will be stated in every semester. In this case, the learners or students' burden of learning occurs when the students choose their additional lesson for some or all lessons based on their choice and ability. In continue pattern, the education unit can create the learning variety based on speed of learning. The structure of curriculum can be arranged such as: 6 semester, 5 semester, and/or 4 semester.

B. Discontinue Pattern

In discontinue pattern, lessons will be arranged in the form of series. For accommodating the learners that have quick speed time in learning, so the maximum series is 4 series. By this series, education unit can arrange lesson map or road map for six, five, and four semester with varieties.

C. New Model of SKS

In the academic year of 2016/2017, Semester Credit System (SKS) still used continue pattern. The learning burden of this year is the same as the previous years. The next, in the academic year of 2017/2018, there was the newest system of SKS, and it called as New Model of SKS

According to PERMENDIKBUD No. 158 year 2014 (revision), in this system, the schools that use SKS give full service of learning that refers to *Mastery Learning*. Mastery Learning is learning strategies that use completeness individually which requires learners or students to thoroughly master in all competencies of the subjects. Learning process like this gives different opportunities and quality of teaching for the students. Thus, it is clear that SKS promotes full learning services for the students who have unique talent, abilities, also learning speeds. Therefore, learning strategies, opportunities to reach optimal level of abilities, opportunities to take charge, further subjects or programs, and learning achievements achieved are truly determined by the students themselves and not determined by outsiders including parties. Schoolwork is to provide full services of learning facilities in the form of full learning units in each subject. While the time needed to complete all learning units is based on students' abilities. The existence of intact learning units

in each subject in the implementation of these credits, for fast, normal, and slow learners can be facilitated properly in accordance with the available time tolerance. The learning unit also a means of diversifying learning services into 3 groups of learning.

In the principle of the new model of SKS, teaching and learning process are interactive process which organizes learning experience to build attitudes, knowledge, and skills through the transformation of learning experiences. It is done and developed by face to face learning, structured learning and independent which are systematic and systemic.

The role of teachers in developing their competencies to support the implementation of SKS is as follows:

a. Developing insight or educational foundation to support their professional duties in carrying out learning of SKS to develop character and also abilities in Higher Order Thinking Skills (HOTs).

b. Understanding the learners in providing individual learning services.

c. Compiling teacher guidelines.

d. Developing the syllabus.

e. Designing lesson plan, which is conducive for developing characters and abilities in Higher Order Thinking Skills (HOTs).

f. Developing students' guidance on each subject in each basic competency in the form of intact learning units or independent learning activities units (UKBM).

g. Conducting teaching learning process which is educating and dialogical that leads to the development of character and ability of Higher Order Thinking Skills (HOTs).

h. Utilize learning technology in accordance with concepts and principles of Techno Pedagogical Content Knowledge (TPACK).

i. Developing questions of Higher Order Thinking Skills (HOTs) equipped with grids and review of the questions.

j. Conducting evaluation process and scoring with formative and summative evaluation.

k. Developing learners for actualizing their potencies as quick, normal, or low learners.

D. Management of Learning

SKS is implemented by organizing varieties of learning and time management which is flexible. The organization of learning varieties is done by providing learning units for each lesson that can

be followed by the learners. Learning process with Semester Credit System is based on the time speed of learning. So, it can be different for one learner to another. This differentiation is based on continue or discontinue pattern.

E. Principles of Semester Credit System

P1. Every student has be treated and served as a unique individual.

P2. Learning processes are developed as an interactive and integrated with 21st century skills (4C), HOTS, Literacy, and Pengembangan Pendidikan Karakter (PPK) as translated as The Development of Character Education.

P3. Learners are facilitated to make them achieve the *Mastery Learning*.

P4. Assessment uses competency-based benchmark reference assessment.

P5. Learning materials use Lesson Text Book (BTP) and Indepence Learning Activity Unit (UKBM).

P6. Using structure of Curriculum 2013, and there can be no compression.

P7. Teacher and school act as learning facilitator, learning organizer, study support, character development, and learning sources.

3. Independent Learning Activities Unit (UKBM)

Depend on Guidance Book or The Script of Development of Unit Kegiatan Belajar Mandiri (UKBM) as translated as Independent Learning Activities Unit, UKBM is a script or document that supports the implementation of K13 that has been created by Directorate of High School Coaching, General Directorate of Primary and Secondary Education, the Ministry of Education and Culture of Indonesia. UKBM is a complement of the students to achieve their mastery learning (as cited in Astuti, 2018: 46-47). UKBM contain students' guidance of learning in order to make them more independent and develop their achievement in learning based on their literacy by Learning Text Book (BTP), other references, and also internet.

UKBM is the implementation of K13. Astuti (2018) stated that in K13, there are mandates for educator to give 21st century skill for the learners. It is expected that learners would be able to be great generation and accustomed to be critical thinking, creative, collaborative, and communicative with god characteristics. Beside 21st century skills, students have to be accompanied by development of character education (PPK) and good in literacy to increase their knowledge. Students need to get teaching learning process with HOTs (High Order Thinking Skills), to make the accustomed with problems around them.

D. Teacher's Strategies in Teaching Students

1. Strategies based on Henry Mintzberg

Henry Mintzberg (1994) as quoted by Nikols (2012) point out that strategy is a plan, it means of getting from here to there. By having the standard or measurement through certain teaching and learning, the teacher can create the situation which is effective for the activity in the classroom. There are some teacher's strategies to motivate students:

a. Becoming a role model for students' interest.

The teacher delivers presentation with energy and enthusiasm, displays motivation to the students, makes the course personal and shows why the material is interesting.

b. Getting to know your students

Teacher should be able to know students' concern and background and students' personal interest. By knowing those, the teacher will inspire the students appropriately. Besides, the teacher should display a strong interest in students' learning and a faith in students' abilities.

b. Using examples freely.

Many students want to be shown why a concept or technique is useful before they want to study it further. The teacher informs students about how teacher course prepares students for future opportunities.

c. Being free with praise and constructive in criticism.

Negative comments should pertain to particular performances, not the performer. The teacher offers non judgmental feedback on students' work, stresses opportunities to improve, looks for ways to stimulate advancement, and understanding to the teacher. The teacher also gives students options for how these assignments are weighted.

2. Strategies based on Watson

Meanwhile, there are also some strategies to improve motivation as stated by Watson, as follows:

a. Always build on prior knowledge, it means that the teacher really needs to understand exactly where your students are academically good.

b. Be sure to praise and recognize all efforts and attempts in improving. Give lots of verbal and non-verbal reinforcement.

c. Provide opportunities for peer mentoring, buddy up, social skill development and cooperative learning whenever the situation presents itself.

d. Use graphic organizers to assist the students.

e. Give immediate feedback for on task, task completion, solid efforts and demonstrated improvement at every opportunity.

f. Encourage independence at every opportunity and provide positive feedback when the students are working well independently.

g. Always focus on the students' abilities not disabilities.

h. Provide opportunities for the students to take risks in new learning situations.

i. Give the students opportunity to provide feedback, let him/her tells you why he/she thinks you are happy with them. Always provide opportunities throughout the day for the student to experience success.

3. Seating Arrangement

Beside those strategies above, seating arrangements are important as strategy for increasing students' motivation. Seating arrangements are important classroom setting events because they have the potential to help prevent problem behaviours that decrease student attention and diminish available instructional time. Teacher should be knowledgeable about setting events so that they can apply this knowledge to everyday classroom situations (Wannarka and Ruhl , 2008: 89).

A wide range of stimulus conditions fall into the category of classroom environmental variables and setting events. Some of these conditions are temperature, lighting (Granstrom, 1996, as cited in Wannarka and Ruhl, 2008), seating arrangement, noise level, and presence or absence of peers or adults. Of particular interest is seating arrangement

because variables related to seating arrangement, such as classroom position, have been shown to impact on educational interactions. According to Pace and Price (2005), classroom arrangement significantly impacts on student behavior, and there is evidence to suggest that it impacts on achievement as well (as cited in Wannarka and Ruhl, 2008).

4. Peer Tutorial Strategy

A. The Definition of "Peer Tutoring" Strategy

Many varying definitions exist for peer tutoring from simply one child helping another child to more in-depth criteria. Many definitions for the tutoring process involve an expert student assisting a novice student yet this is not always the case (Kalkowski, 1995 as cited in Grubbs and Boes, 2009). At times students were randomly paired to provide assistance. Peer tutoring also transpired when same-age students were paired, and when students were paired with older tutors. Mastropieri et al. (2006) described peer tutoring as groups of two or three combining lower achieving students with higher achieving students for assistance. Further confusing the matter, Mastropieri et al. interchanged peer tutoring and peer assisted learning. Colvin (2007) suggested peer tutoring occurred within same societal groups and may be formal or informal, may be one-on-one or in small groups, and may involve furthering classroom discussions or solving specific problems. For purposes of this ARS, Goodlad and Hirst's (1989) definition will be utilized which states "peer tutoring is a system of instruction in which learners help each other and learn (themselves) by

teaching". Peer tutoring implies that teaching is not being completed by a professional.

Peer teaching refers to the process of having learners help each other on a one to one basis Two types of this kind of peer teaching are found in adult literacy and basic education: (1)" near peer" in whom one learner is more advanced than the other and (2)"co-peer" in which the learner share fairly well matched in skill level. Examples of near peer pairings include more academically capable learners working with those experiencing difficulty. When co-peer share pair, learner share able to work together as equals and gain a better understanding of the materials by learning from each other. Although peer tutoring is done with pairs of learners, sometimes having learners work in groups of three better meets the needs of both the learners and the learning task.

B. Procedure of Peer Tutoring Strategy by Gordon

Gordon (2005) the following are some ideas for implementing peer tutoring that is described by Gordon there are:

1) The students are paired

2) The first student is stronger and the second students is weaker

3) Each of students has opportunity to be a tutor

4) The students read the story together

5) The students sight the word (vocabulary practice)

6) Find the meaning of unfamiliar word together 1111

7) The students complete reading comprehension task together

8) The students discuss assigned reading

9) Each session is ended with a debriefing time when tutors and tutees provide positive feedback to each other. This is also a time when the supervising teachers provide specific feedback to the tutors and tutees.

C. The Advantages of using Peer Tutoring Strategy

☐ Can helps students understand the contents of the text

☐ Can develop the students reading skill

☐ Can increase students' motivation and self-confidence

☐ Can reduce teacher dominancy

☐ Can make students active

Kalkowski (1995) indicated improvements in academics, social behavior, discipline, peer relations, self-esteem, subject attitudes, and school attendance as benefits of peer tutoring. Interestingly, benefits were reported for the tutor as well as tutee. The greatest improvements were for short, structured programs designed to teach lower-level skills. Kalkowski found tutees were less intimidated by peer tutors than adults. Therefore, tutees felt less vulnerable when questioning and exploring, which allowed more complex higher-order thinking (as cited in Grubbs and Boes, 2009). Obiakor, as cited in Roswal & Mims (1995) reported students often fail and drop out because of low self-esteem.

Therefore, improving self-esteem could decrease failures. When research found peer tutoring improved self-esteem, improvements in

dropout rates were also demonstrated. Roswal and Mims also reported greater benefits for students both with and without disabilities using peer tutors versus traditional teacher-only education. Bond and Castagnera (2006) indicated peer tutoring is a small-scale society because students must learn to work together. Therefore, benefits went beyond individual students or schools, positively impacting society as a whole. Coenen (2002) reported that one-on-one teaching also allowed tutees to proceed at their own pace and permitted better understanding of material. Additionally, peer tutoring was reported as a low-cost method to address academic concerns (The Access Center, n. d.). At a time when education funding is being drastically cut, this may present a great benefit to school systems. The most significant benefits to academic achievement as well as self-esteem are seen in effective peer tutoring programs.

5. Giving Reward

All classrooms should be using strategies to foster the development of intrinsic motivation. In order to do this, there first needs to be an autonomous classroom climate. The students need to be given options, the opportunity to make decisions, and to feel that they have some control over the environment and their learning (Adelman, 1989: Amabile and Gitomer, 1984; Kohn, 1993; Ryan and Grolnick, 1986 as cited in Baranek, 1996). Students also need to receive instruction in self-reliant behaviors such as goal setting (DeCharms, 1972; Fewell, 1984 as cited in Baranek,

1996). Teachers can have an easier time dealing with misbehavior if they try to recognize the motivational basis of misbehavior (Adelman and Taylor, 1990 as cited in Baranek, 1996). There are many actions teachers can take in order to improve student motivation, one of them is reward. Reward is a thing given in recognition of one's service, effort, or achievement.

Baranek (1996) stated that poor student achievement is often attributed to a lack of motivation and rewards are given in an attempt to increase that vital student motivation. Students with learning disabilities are very often unmotivated because school is one failure after another to them. The statement, "If they would only try harder, then, they would do better on tests, take more risks, or earn better grades" is often heard regarding these students. When rewards are given, they often have the opposite effect of what was intended. High student achievement comes from students who are motivated from inside. Therefore, instead of giving rewards, teachers need to consistently teach students to become intrinsically motivated.

E. Science, Technology, Engineering, and Mathematics (STEM) and Science, Technology, Engineering, Art and Mathematics (STEAM) Education

STEM Education was originally called Science, Mathematics, Engineering and Technology (SMET) (Sanders, 2009 as cited in White, 2014), and was an initiative created by the National Science Foundation (NSF). This educational initiative was to provide all students with critical thinking skills that would make them creative problem solvers and ultimately more marketable in the workforce. It is perceived that any student who participates in STEM Education, particularly in the K-12 setting would have an advantage if they chose not to pursue a post-secondary education or would have an even greater advantage if they did attend college, particularly in a STEM field (Butz et al., 2004 as cited in White, 2014).

According to White (2014), the four strands of STEM; Science, Technology, Engineering, and Mathematics, have been staple forms of all students' academic careers; particularly science and mathematics. They are defined as:

Science: the systematic study of the nature and behavior of the material and physical universe, based on observation, experiment, and measurement, and the formulation of laws to describe these facts in general terms (Science, 2012).

Technology: the branch of knowledge that deals with the creation and use of technical means and their interrelation with life, society, and the environment,

drawing upon such subjects as industrial arts, engineering, applied science, and pure science (Technology, 2012).

Engineering: the art or science of making practical application of the knowledge of pure sciences, as physics or chemistry, as in the construction of engines, bridges, buildings, mines, ships, and chemical plants (Engineering, 2012).

Mathematics: a group of related sciences, including algebra, geometry, and calculus, concerned with the study of number, quantity, shape, and space and their interrelationships by using a specialized notation (Mathematics, 2012).

The example of STEM such as:

- Providing mobile device for students (sometimes in the forms of computer labs, and other times in the form of 1:1 – a single device for each student).
- After-school STEM clubs or programs.
- STEM curriculum, where projects using STEM practices are embedded.
- BYOD initiatives (bring your own device).
- STEM days to encourage hands-on exploration within each of these disciplines.
- Robotic programs.

Based on Riley as cited in http://educationcloset.com/steam/what-is-steam/, beside of that, creativity is a board and complex construct, difficult to define and to quantify, assumed to introduce new impulse into science education (STEM), and leading to better acceptance of science by adolescents. Therefore, increasing efforts are being undertaken to integrate traditional

creativity (Arts), in modifying STEM to STEAM. STEAM is a way to take the benefits of STEM and complete the package by integrating these principles in a through the arts. STEAM is an educational approach to learning that uses Science, Technology, Engineering, the Arts, and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking. The end results are students who take thoughtful risks, engage in experiential learning, persist in problem-solving, embrace collaboration, and work through the creative process. These are innovators, educators, leaders, and learners of the 21st century. STEAM takes STEM to the next level: it allows students to connect their learning in these critical areas together with arts practices, elements, design principles, and standards to provide the whole pallet of learning at their disposal. STEAM removes limitations and replaces them with wonder, critique, inquiry, and innovation.

F. Review of Previous Studies

Some previous studies have been conducted related curriculum 2013 for English teaching. The previous study is a research entitled "*The Implementation of Scientific Approach in English Instruction based on 2013 curriculum at MTsN Kunir Wonodadi Blitar*". This research is arranged by Ulfatun Nikmah who graduated from English Education Program of State Islamic Institute of Tulungagung in 2017.

The difference between the previous study with the newest research is the newest one is conducting based on the application of Semester Credit System (SKS) as the implementation of curriculum 2013 and the newest learning process that is 21st century learning. So, the researcher wants to know the practices of English teaching applying SKS as a 21st century learning. Besides, the main subject of the newest research is the English teacher, who teaches in the school which applies the implementation of education of 21st century era, that is Semester Credit System (SKS). So the subject that will be used is the teacher of 4th semester class that applies Semester Credit System.