CHAPTER I
INTRODUCTION

1.1 Background of the research

The application of 21st century learning strategies is essential in the age of globalization. Simply put, 21st century learning is instruction that equips students with 21st century abilities like cooperation, communication, creativity, and critical thinking (Panggabean et al., 2021). These 21st century skills are needed to develop and make students globally competitive. Curious autodidacts are not a product of the twenty-first century; individuals have always been insatiably curious and have pursued knowledge by any means possible (A. Lian et al., 2017). Competency-based learning is a common term used to describe 21st century learning. The educational approach known as competency-based learning (CBL) places a strong emphasis on helping students acquire the particular abilities, know-how, and dispositions required for practical applications. This technique caters to specific student needs and connects educational results with job market expectations, hence boosting education quality (Cruz-Sandoval et al., 2023). Competency-based learning represents a policy shift from the industrial and agricultural eras to a mode of production that values mobility, innovative thinking, and research and development; these are new developments, and the skills required are commonly referred to as 21st Century Learning Skills (Kell & Vogl, 2012). The emphasis on competency-based learning is reflected in the numerous Qualifications Frameworks and new higher education standards produced throughout Southeast Asia (A. Lian, 2018).

In the twenty-first century, people still appear to have a voracious appetite for knowledge, and they are more free than ever to take advantage of the flexibility to manage their own educational demands as they emerge (in contrast to organized, even institutionalized, needs like going to college) (A.-P. Lian, 2016). In this 21st century, technology helps us in all aspects, especially in learning. In this 21st century, technology helps us in all aspects,

especially in learning (A.-P. Lian, 2011). Technology-based help systems should offer comprehensive resources and empower learners to find solutions to their own queries, especially in today's self-directed society. The incorporation of technology in our daily lives helps us access the global environment. We can communicate with people from all over the world easily and quickly. However, this must be accompanied by our language skills. That's why, in the 21st century, bilingualism is essential for global communication (Wastam et al., 2023). Effective language instruction promotes bilingual academic performance.

At the end of 2020, World Economic Forum (WEF)said that there are 10 skills that must be mastered for 2025. These skills include analytical thinking and innovation, active learning and learning strategies, complex problem solving, critical thinking and analysis, creativity, originality, and initiative, leadership and social influence, technology use, monitoring, and control, technology design and programming, resilience, stress tolerance and flexibility, and reasoning, problem solving and ideation.

Table 1. 1 - Comparison Between 2020 and 2025 Skills

2025/2020	In 2025		In 2020
1	*Analytical thinking and innovation*	***1***	*Complex problem solving*
2	*Active learning and learning strategies*	***2***	*Critical thinking*
3,1	*Complex problem-solving*	***3***	*Creativity*
4,2	*Critical thinking and analysis*	***4***	*People management*
5,3	*Creativity, originality, and initiative*	***5***	*Coordinating with others*
6	*Leadership and social influence*	***6***	*Emotional intelligence*
7	*Technology use, monitoring, and control*	***7***	*Judgement and decision making*
8	*Technology design and programming*	***8***	*Service orientation*
9	*Resilience, stress tolerance, and flexibility*	***9***	*Negotiation*
10	*Reasoning, problem-solving, and ideation*	***10***	*Cognitive flexibility*

The aforementioned table compares the top ten skills in 2020 and 2025. There is a difference in ranking where in 2020 complex problem

solving is ranked first and then in 2025 it drops to number 3, the same also applies to critical thinking and creativity, which in 2020 are ranked 2 and 3 then in 2025 drop to number 4 and 5. The most important ability in 2025 is analytical thinking and innovation, followed by the second ability, active learning and learning strategies, and then the top 3 skills of 2020 become the 3rd, 4th, and 5th in 2025, namely complex problem solving, critical thinking and analysis, and creativity, originality and initiative.

These skills will then be integrated in the Merdeka Curriculum. In 2020, Indonesia's Ministry of Education introduced the Merdeka Curriculum, an educational program. The Merdeka Curriculum, implemented by the Indonesian government in 2021, is a continuation of UNICEF's transformative curriculum, enacted in 2022, to accelerate the learning crisis caused by the COVID-19 epidemic. According to the framework, all children should be reached and kept in school, their psychological well-being and health should be promoted so that all children are prepared to learn, learning levels should be assessed, the teaching of the fundamentals (or necessities) should be prioritized, catch-up learning should be increased, and progress beyond what has been lost should be made (Sudimantara, 2023). Transformative learning engages students in making sense of their surroundings, leading to deeper and more meaningful learning experiences. Combining curriculum modifications with transformational learning can enhance Indonesia's educational system and prepare students for 21st century issues (Ellen & Sudimantara, 2023). It seeks to offer a more comprehensive and inclusive method of instruction that prioritizes the growth of critical thinking abilities, creativity, and character in addition to academic knowledge (Zidan & Qamariyah, 2023). The Merdeka Curriculum allows students to learn based on their interests and skills, which helps them comprehend and appreciate the teachings more. Researchers will find out whether the five skills have been implemented in the Merdeka Curriculum or not. Because, when viewed from its objectives, the Merdeka Curriculum should have involved these five skills.

1.2 Identification of the issues

1. The 5 WEF skills have not been applied in English language learning in the context of the Merdeka Curriculum.
2. There is a gap between theory and curriculum implementation, so the integration of top 5 skills has not been effective.

In this study, researchers want to develop phenomena related to the integration between the top 5 skills 2025 with the independent curriculum in Indonesia. The reason is that in the current era, it is not only the use of technology that is important to apply. analytical thinking, innovation, active learning and learning strategies, complex problem solving, critical thinking, creativity, originality, and initiative are abilities that must be developed by students to improve their abilities..

1.3 Limitations and focus of the study

1.3.1 Limitations

This research has limitations, such as the school analyzed is only one SMP and one MTS from many junior high schools that have used the Merdeka Curriculum, and this research only focuses on one of the four curriculum components. Of the ten 2025 skills released by WEF, only the top five are the focus of this research. The research subjects were also limited to three teachers for interviews and questionnaires and three classes for observation from each school.

1.3.2 Focus

This research focuses on finding out the application of WEF's five skills in the junior high school education level that has implemented the Merdeka Curriculum. Kemendikbudristek states that there are four components in the curriculum, namely objectives, content, methods, and evaluation. The focus of this research is the methods component to find out what strategies teachers use in implementing these five WEF skills.

1.4 Research questions

This research was conducted to answer several questions related to integrating the top 5 skills in the Merdeka Curriculum in English language learning.

1. How is the integration process of the five key skills according to WEF implemented in English language learning at school?
2. What are the factors that influence the successful integration of the top five skills according to WEF in English language learning?

1.5 Aims of the research

In order to address current issues, this study aims to:

1. Analyze the approaches and tactics used to incorporate the World Economic Forum's (WEF) five essential competencies into the English language learning framework within the framework of the Merdeka Curriculum.
2. To identify and analyze the factors that contribute to the successful integration of the top five skills according to WEF as experienced by teachers in English language learning settings.

1.6 Significances of the research

1.6.1 Theoritically

The integration of the five skills 2025 into the curriculum is the main emphasis of this study, especially as it relates to English language instruction in Indonesian junior secondary schools. Theoretically, this research aims to:

1) Improve understanding of integrating global skills like critical thinking, creativity, and leadership into language teaching.
2) Promote theory development in education for curriculum adaptation in the global era, particularly in English language education.

1.6.2 Practically

This research has important practical value for the benefit of education. From a practical standpoint, this study should:

1) Provide recommendations for teachers, so that they can be better prepared in integrating these important skills in the learning process.
2) Improve students' readiness to face global challenges by making English as a means of developing applicable and relevant 21st century skills.

1.7 Theoritical foundation

1.7.1 21st Century Learning

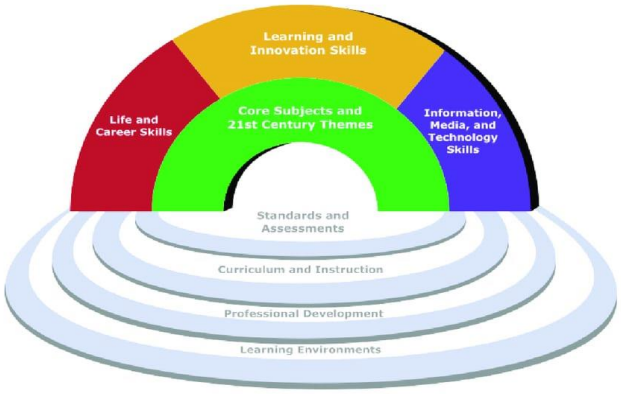
Simply put, 21st century learning is instruction that equips students with 21st century abilities including critical thinking, creativity, communication, and teamwork (Panggabean et al., 2021). These 21st century skills are needed to develop and make students globally competitive. The implementation of 21st century learning also helps to add variety to learning in the classroom, so that students do not feel bored with the same teaching methods.

21st century learning will provide many benefits for students. Teaching 21st century skills will make analysis, evaluation, and innovation more extensive for students (Ratama, Padmadewi, & Artini, 202). In terms of higher education, digital communication and transnational learning are increasingly becoming part of the strategic approach to the internationalization of higher education globally (Odeba, Bello, & Onah, 2022). These benefits can be obtained by students if teachers and schools implement 21st century learning well. That way, the quality of our students will improve rapidly along with the improvement of technology in this country.

21st century learning will provide many advantages when established. English teachers will have more variety in learning. The use of technology in learning will also make students feel less bored. As long as it can be directed properly, students will not misuse the existing technology. Since technology is viewed as an

important tool for learning, and the importance of using social media is proven by learners' average daily usage (Gopo, 2022).

Figure 1. 1 - 21st Century Learning



1.7.1.1 Core subjects and 21st century themes

Multidisciplinary themes of the twenty-first century are equally crucial for fostering comprehension of academic material at far higher levels. Among these themes are:

a. Global awareness, which includes knowledge of various countries, cultures, and global issues.
b. Financial, economic, business, and entrepreneurial literacy, which includes understanding the function of the economy in society and being able to make wise financial decisions
c. Civic literacy, which includes exercising one's rights and responsibilities as a citizen and knowing how to engage in civic life effectively
d. Health literacy encompasses the ability to obtain, assess, and understand fundamental health information and services as well as preventive measures for mental and physical health.
e. Environmental literacy, which entails solving environmental problems both individually and collectively as well as demonstrating an

understanding of the environment and the circumstances and events that impact it.

1.7.1.2 Learning and innovation skills

When discussing 21st century skills, these are the abilities that are most frequently mentioned. The characteristics that set apart pupils who are prepared for the increasingly complex life and work environment of the twenty-first century from those who are not are increasingly being recognized.

a. Critical thinking and problem-solving abilities, including the capacity to evaluate and examine arguments, assertions, facts, and beliefs critically; to find both conventional and innovative solutions to a variety of new problems.
b. Effectively express ideas and thoughts through written and spoken communication in a range of formats and situations.
c. Cooperation, such as exhibiting the capacity to collaborate with diverse teams in an efficient and courteous manner.
d. Creativity and Innovation: To generate fresh and valuable ideas, employ a variety of idea generation methods.

1.7.1.3 Information, media, and technology skills

a. Information literacy, which includes the ability to handle the flow of information from a wide range of sources and to critically and properly acquire and analyze information.
b. Media literacy, which includes knowing how and why media messages are created as well as how to use

the best media creation tools, traits, and norms to produce media products.

c. ICT (Information, Communications, and Technology) literacy, which includes using technology to gather, arrange, assess, and share information.

1.7.1.4 Life and career skills

The demands of the workplace and daily life extend far beyond critical thinking skills and subject-matter expertise. To develop the ability to navigate the complex environments of both work and life, students must carefully consider gaining enough life and career skills. Adaptability and Flexibility

a. Initiative and Self-Direction
b. Social and Cross-Cultural Skills
c. Productivity and Accountability
d. Leadership and Responsibility

1.7.2 Transformative Pedagogy

Pedagogy, according to Alexander (2008), is the practice of teaching combined with the discussion of educational ideas, ideals, data, and logic. This speaks to the skills and information you will require in order to make and defend the different types of decisions that comprise teaching. A transformative cycle with "action stages" intended to effect change is described by Lewin (1948). Therefore, a shift in the way students are taught is known as transformative pedagogy.

The 'transformative pedagogy' elements that support self-directed language learning and instruction are identified by Farren, P. (2019). Along with traits that support language instructors in becoming more fully realized as professionals, researchers, and leaders, they cover a range of "new" literacies, such as intercultural literacies. Promoting change and pushing students to critically

examine and evaluate their integrity and firmly held beliefs are the cornerstones of transformative learning as a teaching methodology (Lian, 2022). It is about how students relate to the world around them to generate greater cultural and social, moral, and emotional awareness. Thus, transformative learning really focuses on students, how they interact, how they understand themselves, and how they understand the world around them.

1.7.3 Merdeka Curriculum

Merdeka Learning has changed to satisfy the demands of the educational system in the Industrial Revolution's 4.0 era. In the age of Industrial Revolution 4.0, the primary goal of education is to prepare pupils to understand new literacy skills (Pranajaya et al., 2022). A Merdeka Belajar Curriculum prioritizes intracurricular learning and provides ample time for pupils to explore concepts and build competencies. Teachers can customize learning materials based on students' needs and interests (Kemendikbudristek, 2022). Merdeka Learning has changed to satisfy the demands of the educational system in the Industrial Revolution's 4.0 era. In the age of Industrial Revolution 4.0, the primary goal of education is to prepare pupils to understand new literacy skills (Pranajaya et al., 2022). This policy is part of the government’s initiatives to provide schools, teachers, and students more autonomy and control over the learning process. The Merdeka Curriculum aims to create education that is more relevant, adaptive and in line with the needs of the times and learners.

1.7.3.1 Pancasila Students Profile

A component of Merdeka’s curriculum is the Pancasila Student Profile. According to Regulation Number 20 of 2020 for the Education and Culture Strategic Plan 2020–2024, the Ministry of Education and Culture intends to achieve the Pancasila student profile (Nurdyansyah et al.,

2022). A competency framework that promotes attaining Graduate Competency Standards at all educational levels and is in line with Pancasila objectives is part of the Pancasila student profile (Rachmawati et al., 2022).

The Ministry of Education and Culture in Indonesia claims that Pancasila students fall into six categories:

1) faithful, devoted to God Almighty, and noble,
2) independent,
3) cooperative,
4) global diversity,
5) critical thinking, and
6) creative.

1.7.3.2 Excellence of the Merdeka Curriculum

According to Hadi et al. (2023), the Merdeka Belajar Curriculum has several advantages, including being:

a) Easier and more in-depth. Prioritize vital topics and enhance students' competencies in specific phases.
b) Learning becomes more meaningful, less rushed, and enjoyable, while also increasing independence. Teachers can tailor their instruction to students' current levels of success and development.
c) Schools are empowered to create and oversee curricula and instruction in accordance with the requirements of their student bodies and educational units, guaranteeing interaction and relevance. Students can explore environmental, health, and other issues through project-based learning, which enhances their character and competencies (Pancasila Student Profile).

1.7.3.3 The obstacles of Merdeka Curriculum

According to Hadi et al. (2023), several hurdles exist while implementing the Merdeka Belajar Curriculum in schools, including:

a) Some teachers still don't fully understand what Merdeka Belajar is, therefore while implementing learning, they still use the traditional model of learning style, meaning the lecture technique, and pupils listen.
b) Some teachers are confined by the Merdeka Belajar platform, which should be a learning partner for the teacher to acquire convenience in conducting modules; nevertheless, the Merdeka Mengajar platform is still not in accordance with what the teacher needs.
c) Some teachers still do not use the Merdeka Mengajar platform because they don't fully comprehend.
d) During the assessment process, the teacher still assigns values based on true and false in the form of numbers. Not based on individual student's learning achievements.

1.7.4 Higher Order Thinking Skill (HOTS)

Throughout history, thinking has been characterized in a variety of ways, including axiological, ontological, and epistemic elements. For example, Aristotle emphasizes the human element of thinking through reasoning (logismos) and defines it as "making connections between ideas, distinct from imagination (phantasia)" (Mccready-Flora, 2014). Plato also emphasizes the cognitive and objective aspects of thinking when he defines it as "the mental

process of representing an object in a way that accurately reflects its true nature, without any distortion or inaccuracy" (Wolf, 2013).

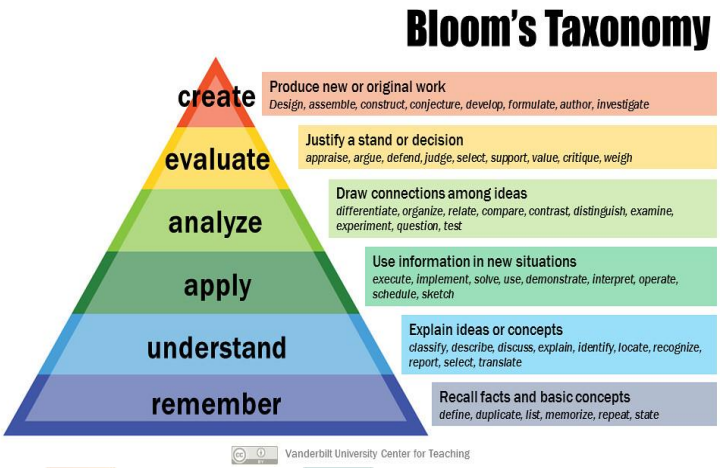
Higher-order thinking (HOT) and lower-order thinking (LOT) are the two domains into which cognitive thought is commonly divided in the literature. Benjamin Bloom's Taxonomy of Educational Objectives (ToEO) must be taken into consideration in order to differentiate between lower- and higher-order thinking. Remember, comprehend, apply, analyze, evaluate, and create are the six primary levels that make up the ToEO. HOT includes the categories of analyze, evaluate, and create, whereas LOT includes the categories of remember, understand, and apply (Sulastri, Rintayati, & Sarwono, 2019). This distinction makes it clear that HOT is a way of thinking that goes beyond simple observation, memorization, and recall.

1.7.4.1 Bloom's Taxonomy

In the subject of education, Bloom's Taxonomy is a well-known framework that is used to categorize learning objectives based on their degree of detail and complexity. Developed in the 1950s by Benjamin Bloom and his colleagues, this taxonomy provides a systematic approach to assessing and fostering pupils' diverse cognitive capacities. Its primary objective is to enhance higher-order thinking abilities beyond simple memorization so that educators may design lessons and tests that encourage deeper comprehension and critical thinking. Bloom's Taxonomy primarily seeks to motivate students to learn more deeply and think critically by providing a systematic framework for learning objectives. Bloom's Taxonomy assists educators in creating courses, exercises, and evaluations that go beyond simple memorization to more

sophisticated ways of thinking by classifying cognitive abilities into hierarchical stages.

Figure 1. 2 - Bloom's Taxonomy



Bloom's Taxonomy promotes the growth of critical thinking skills by placing an emphasis on higher-order thinking abilities. Students must be able to:

1) Analyze, dissect complicated information into its component pieces and look for relationships at higher taxonomic levels.
2) Evaluate, make well-informed decisions by applying standards and criteria.
3) Create, integrate data to generate unique concepts and answers.

Students must use introspective, analytical, and creative thinking in order to complete these cognitive activities. These abilities are critical for solving problems and making decisions in the real world.

1.7.4.2 Characteristics Assessment HOTS

Widana (2017) mentions several characteristics of Higher Order Thinking Skill (HOTS) assessments, including:

a) Measuring a high level of proficiency. The capacity to solve issues (problem solving), think critically (critical thinking), think creatively (creative thinking), reason (reasoning), and make decisions (decision making) are examples of strong thinking abilities. The skills of analysis (C4), evaluation (C5), and creation (C6) are all necessary according to Bloom's Taxonomy.

b) Based on surrounding factors. Assessment The majority of the time, HOTS loads stimulation as a case. Students may be inspired to use their knowledge in different circumstances by a stimulus (the capacity to transfer concepts). Examples of instances that can be separated from the real conditions in everyday life (contextual) are global challenges related to science, economics, information technology, health, education, character, and infrastructure.

The following is a description of the five attributes of contextual assessment, or REACT for short: Assessments for a) relating, which are closely linked to the context of real-life experience; b) experiencing, which stresses excavation, discovery, and creation; c) applying, which calls for students to use what they have learned in the classroom to solve real-world problems; d) communicating, which calls for students to be able to communicate conclusions models at the end of the problem; and e) transferring, which entails assessing students who must be able to apply concepts learned in the classroom to a new situation or context.

c) Not usual (unfamiliar). Evaluation HOTS are not routine in-class tests. Since the HOTS assessment has never been used previously, it is frequently utilized on the same test taker to evaluate memory (recall). Because the challenges faced are ones that have never been faced or completed before, the HOTS unusual assessment demands that students apply their creativity.

1.7.4.3 The Ability of HOTS

a. The Ability to Analyze
b. Ability to Evaluate
c. The Ability to be Creative
d. Problem Solving Ability
e. Reasoning Ability

1.7.5 Skills of the Brain

1.7.5.1 Neuroscience

Neuroscience is a field of study that examines the nervous system, especially the brain, and how it works to control human bodily functions, behavior, and thoughts. Information from biology, psychology, chemistry, and medicine is combined in neuroscience. The study is divided into a number of distinct sections, such as neurobiology, which examines the cellular and molecular components of the nervous system, and cognitive neuroscience, which looks into how brain activity influences cognitive abilities like memory and perception (Lian et al., 2020).

1.7.5.2 Aesthethic

Aesthetics in learning refers to the use of aesthetic principles to create more engaging, meaningful and immersive learning experiences. The term is derived from the concept of aesthetics which encompasses the

appreciation of beauty, art and sensory experiences that affect one's emotions, perceptions and understanding. According to Stephens and Boland (2014), aesthetics refers to how we as humans interpret the forms we meet in the world around us, whether they be other people, a process we watch or participate in, or things we come across or make. Organizational aesthetics is the body senses' awareness of the holistic elements of the people, processes, objects, and interactions that are met in organizations, according to Strati (1992, 1999; Taylor & Hansen, 2005).

1.7.5.3 Reading for Emotions

Finding, comprehending, and evaluating the feelings that emerge in a text—both those experienced by the story's characters and those the reader is supposed to experience—is the goal of the reading strategy known as "reading for emotions." This method is frequently used to examine the emotional elements of a story or written work in literary education, psychology, or reading skill improvement. A.B. Lian (2017) proposed a novel teaching technique called Reading for Emotion. This educational resource employs an emotional approach. Studies by Immordino-Yang (2009) and Damasio and Immordino-Yang (2007) support the notion that people's emotions are the most basic mechanisms via which they comprehend their environment. According to "I feel therefore I am" (Damasio, 1995), emotions are the fundamental factors that shape our lives.

1.7.6 Top 5 skills of 2025

In order to improve international cooperation in tackling global issues like economics, education, climate change, technology, and sustainable development, the World Economic Forum (WEF) was established in 1971 and is headquartered in

Geneva, Switzerland. Additionally, the group creates publications and forecasts the future, including the Future of Jobs Report, which charts the skills that employers will need in the workplace of the future. Ten skills that people would need to master by 2025 were predicted by the World Economic Forum (WEF, 2020). These skills involve problem solving, self-management, working with people, and technology use and development.

In this study, researchers will only discuss the top 5 skills out of 10. These abilities include analytical thinking and innovation, active learning and learning strategies, complex problem-solving, critical thinking and analysis, and creativity, originality, and initiative.

1.7.6.1 Analytical thinking and innovation

1.7.6.1.1 Analytical thinking

The capacity to solve issues or reach logical, methodical conclusions by examining a variety of accessible data is known as analytical thinking. According to Amer (2005), Developing the ability to think critically, intelligently, solve issues, evaluate information, and retain and apply knowledge is known as analytical thinking. By motivating people to exert more mental effort and overcome heuristics and biases that result in inaccurate answers, analytical thinking might enhance their performance on stock flow problems (Baghaei & Ghaffarzadegan, 2016). Analytical thinking is essential in many fields, including business, science, technology and management, as it helps in making sound decisions based on data rather than assumptions or intuition.

Analytical thinking is critical to the precision of the solution. Sujadi (2008) claims that analytical

cognition explains the veracity of a statement since it is proof of non-intuitive cognition. It is critical for grasping the various components of a situation, as well as the ability to evaluate and break down data. However, there is a difference or variance in how to solve these challenges. Differentiation or variety is defined as the features of analytical thinking. The qualities were pre-analytical, partial-analytical, semi-analytical, and analytical (Qolfathiriyus et al., 2019). However, this does not fully contradict intuition; for example, reading is a sophisticated ability, but it is something we typically do without any analytical thought (Durning et al., 2015). According to experts, analytical thinking is essential for helping children tackle English challenges.

1.7.6.1.2 Stages of analytical thinking

a) Defining a topic, concern, or problem
b) Collecting data through test results and observations
c) Creating solutions or expanding your knowledge of the subject
d) Attempting to test innovative solutions or ideas to the test based on the information you've learned
e) Conduct a post-analysis or review of what solutions did work to evaluate and implement your new knowledge.

1.7.6.1.3 Indicators of Analytical Thinking

According to Cabanilla (in Fitriani & Fadly, 2022), analytical thinking skill have indicators such as:

1. Identify a problem
2. Finding and knowing relationship patterns carefully
3. Identify and evaluate various errors
4. Summing up the main idea

1.7.6.1.4 Innovation

The introduction of novel concepts, techniques, or resources with the goal of enhancing the teaching-learning process is referred to as innovation in education. Developing the capacity to have conversations at the highest levels is the essence of innovation. Our creative ideas, no matter how unimportant they may appear to us, will stay untapped and undeveloped without participation and exposure (A. Lian, 2020). Educators define learning innovation as the interaction of many practices, methodologies, and designs used in higher education to enhance teaching and learning (Kim & Maloney, 2020). Kwangmuang et al. (2021) claim that by combining theoretical ideas with media elements, learning innovation improves higher-order thinking skills like creativity, critical thinking, and problem-solving.

1.7.6.1.5 Elements of innovation

a) Collaboration

One popular kind of group involvement in community development is collaboration.

There are many of collaborative projects. Due to the prevailing competitiveness and strife within and between enterprises, collaboration has never been easy. We can be left with calm (or less than peaceful) coexistence rather than partnership in communities since everyone would rather avoid conflict.

b) Ideation

During the ideation stage of the innovation process, new concepts and ideas are developed through a multi-step procedure with phases and gates. According to Kurt et al. (2017), it is the process of creating, collecting, and evaluating ideas within a cooperative network.

c) Implementation

Implementing innovation is essential because it turns original concepts into workable answers to pressing issues. Innovation is crucial because it transforms novel ideas into practical solutions for urgent problems. The four fundamental stages of the innovation strategy implementation model are as follows: Make sure the database is accurate, awareness of organizational modifications, Make the shift to managing innovation processes and lateral thinking (Hittmár et al., 2014)

d) Value Creation

Value creation is the process of developing new ideas (products/services) or improving existing ones that benefit customers,

stakeholders, and/or the company. It entails discovering unmet or unrecognized requirements and creating inventive solutions to meet those needs.

1.7.6.2 Active learning and learning strategies

1.7.6.2.1 Active learning

When employing the active learning technique, students participate directly and actively in the educational process. Settles (2009) claims that query learning in machine learning and, more generally, artificial intelligence, as well as optimal experimental design in statistics, are other names for active learning. The active learner strives for high accuracy with the fewest labeled instances to reduce the expense of acquiring labeled data.

1.7.6.2.2 Indicators of Active Learning

According to Braxton, Milem, & Sullivan (in Alrashidi, 2016), active learning have indicators such as:

1. Group work
2. Elaborated feedback
3. Situated learning
4. Information Communication Technology

1.7.6.2.3 Active vs passive learning

Active learning is distinct from passive learning. Students actively participate in debates, group projects, experiments, problem-solving, and other hands-on activities during active learning. This is different from passive approaches, such as listening to lectures, where students mostly receive

information without interaction. Sivridag & Mani (2024) states that passive learning refers to a circumstance in which children are given knowledge about an object chosen by someone else, such as a trial that requires joint attention to an object.

Table 1. 2 - Active vs Passive Learning

Active Learning	Passive Learning
It involves reading of ideas	It involves reading of words
The goal is to learn something new	The goal is to finish reading
Requires self-motivation and responsibility to arouse interests in reading material	No self-motivation and absence of responsibility to arouse interest
Critical thinking required	No critical thinking process
The mind is focused on reading material	Mind wanders during reading
Full involvement in the reading process	Partial involvement in the reading material

1.7.6.2.4 Learning strategies

Students use a collection of abilities known as learning strategies to comprehend a variety of assignments. This enables them to select and successfully implement the best approach to finish tasks or meet certain learning goals. Nearly all students' reproduction performance (surface learning) was considerably enhanced by different learning modes. Learning strategies assist students in developing more intentional learning strategies and consolidating deeper thinking. These abilities

include peer tutoring, group learning, evaluation, self-verbalization, self-questioning, self-monitoring, self-explanation, introspection, problem-solving, critical thinking, and problem-solving phases (Hattie & Donoghue, 2016).

1.7.6.2.5 Types of learning strategies

Three categories of learning strategies exist:

1) Metacognitive techniques like planning, which control the learning process;
2) Cognitive techniques like elaboration, which enhance comprehension of the subject matter;
3) Self-efficacy and other motivational techniques to encourage oneself to learn.

1.7.6.3 Complex problem-solving

1.7.6.3.1 Definition of complex problem-solving

Complex problem solving (CPS) is the capacity to identify, comprehend, and address complex and dynamic situations. Complex problem solving is carried out to reduce the distance between a specified start condition and an anticipated target state by utilizing behavioral and cognitive processes (Funke, 2012). Complex problem solving requires an efficient interaction between the task-specific conditions and the problem solver. Frensch & Funke (1995) suggest that it requires cognitive, emotional, and social resources, in addition to knowledge. CPS is vital in the modern world because many of the challenges we face, including as environmental

disasters, global wars, and technology concerns, necessitate a creative and critical mindset. Complex problem resolution involves both cognitive and emotional components (Funke, 2010). CPS is a dynamic process that involves multiple steps beyond knowledge acquisition and application. Schweizer et al. (2013) found that the more complex and open a scenario, the more options are available.

1.7.6.3.2 Characteristics of complex problems

Complex problems have unique characteristics and requirements that differ from simple problems. Traditionally, Funke (2003) identified five distinguishing features:

2) Complexity of the problem situation

   The quantity of variables in a system is typically used to characterize its complexity. Although this is a good place to start when measuring the difficulty of a problem, more criteria can get more accurate findings. Problem solvers must simplify by concentrating on the most important aspects of complex issues.

3) Connectivity between involved variables

   The connectedness between variables, rather than the quantity of variables themselves, determines the workload on problem-solvers. In a 100-variable system, each variable is only connected to one other, resulting in decreased connectivity compared to a system with

all variables connected. To understand reciprocal relationships, problem solvers need to create a connectivity model.

4) Dynamics of the situation

   This article demonstrates how interventions in a large, networked system can trigger unintended consequences. The own dynamic ("eigen-dynamics") is a unique version. The situation often evolves over time, rather than waiting for the problem-solver to make a choice. Dynamic issue solving takes consideration of "time."

5) Intransparency

   Think about the variables and establish the objective. Not all relevant details about the factors and objectives are given in an opaque situation. Issue solvers need to actively seek out information in order to overcome intransparency.

6) Polytely

   Setting and achieving goals can be challenging in complex situations. Complex situations often need consideration of multiple goals. Compromise and prioritization are necessary to resolve conflicts caused by opposing goals.

1.7.6.3.3 Indicators of complex problems

According to Barkman & Matctmes (in Hasin, 2018), complex problem-solving have indicators such as:

1. Define the problem
2. Analyze causes
3. Select solutions
4. Evaluate progress

1.7.6.4 Critical thinking and analysis

1.7.6.4.1 Critical thinking

In order to make wise decisions and effectively resolve problems, The ability to objectively and rationally assess, evaluate, and synthesize information is known as critical thinking. Critical thinking is the capacity to rationally and impartially analyze, appraise, and integrate data in order to reach well-informed conclusions and resolve issues. As 21st century skill, critical thinking enables people to base their decisions on the information at hand (Reilly et al., 2022). For more than a century, researchers and teachers have focused on critical thinking in education. John Dewey emphasized critical thinking as an educational goal, arguing that it may help students become fair-minded and democratic members of society. Critical thinking is an educational objective, contending that it may assist pupils in becoming democratic and fair-minded citizens. Before arriving at a conclusion, critical thinkers observe

facts, detect biases, question assumptions, and examine existing arguments and evidence.

1.7.6.4.2 Characteristics of critical thinking

There are several characteristics of critical thinking according to Willingham (2007).

a) Changing your perspective, acknowledging that other people may have a different viewpoint than you.
b) The application of strategies or mental abilities that increase the likelihood of a desired result.
c) Making thoughtful decisions on what to do or think.
d) Taking into account opposing viewpoints, staying open to fresh information that contradicts your convictions, exercising objectivity, demanding assertions backed up by proof, and drawing conclusions from the facts as they stand.
e) In reality, critical thinking is a subset of three different ways of thinking: problem-solving, judgment, and reasoning.

1.7.6.4.3 Indicators of critical thinking

Facione says there are five main indicators in critical thinking, namely interpretation, inference, explanation, analysis, and evaluation (Harahap et al., 2020).

a) Interpretation

   Interpretation entails being able to understand and interpret the information

offered to you, as well as express its meaning to others. Understanding and communicating the importance or meaning of a broad range of circumstances, facts, events, judgments, norms, beliefs, rules, processes, or standards is what it means to "interpret" (Facione, 2015). Classifying, determining significance, and elucidating meaning are all part of interpretation.

b) Inference

A logical conclusion derived from an analysis of objects, feelings, occurrences, facts, and ideas that seem reasonable given the available information is called an inference. Factual data allows us to make verified, factual deductions. According to Facione (2015), "to infer" means finding and acquiring the elements required to reach logical conclusions; developing theories and hypotheses; considering relevant data; and formulating conclusions regarding the ramifications of facts, assertions, guidelines, proof, assessments, convictions, viewpoints, ideas, inquiries, or other types of representation. Experts say that analyzing the evidence, developing hypotheses, and coming to conclusions are sub-skills of inference.

c) Explanation

Clarifying ideas, claims, or phenomena is the process of explanation. The ability to

communicate the results of one's reasoning in a consistent and logical way is known as explanation. In order to accomplish this, one must give a thorough overview, justify and explain their reasoning in terms of the conceptual, methodological, criteriological, contextual, and evidentiary elements that served as the foundation for their conclusions, and present their reasoning in the form of strong arguments, according to Facione (2015). Explaining methodologies and findings, defending procedures, providing comprehensive and well-reasoned arguments, and presenting and defending conceptual and causal explanations of events or points of view with persuasive arguments are all necessary to reach the best understandings.

d) Analysis

Analysis is the process of breaking down or dissecting anything into smaller sections in order to better comprehend its structure, components, or meaning. The inferential links between claims, inquiries, concepts, descriptions, or other representations intended to convey opinions, facts, judgments, experiences, or beliefs are examined (Facione, 2015). Analysis experts list understanding concepts, identifying arguments, and evaluating arguments as subskills. To

detect patterns, connections, or useful discoveries, analysis might be applied to data, text, systems, or a particular issue.

e) Evaluation

One form of critical thinking is evaluation, which involves analyzing information before coming to a conclusion. The conclusion and explanation are the two sections that make up an evaluation claim. Evaluation is the process of determining the logical strength of the actual or intended inferential relationships between statements, descriptions, questions, or other forms of representation, as well as the accuracy of statements or other representations that are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion (Facione, 2015).

1.7.6.4.4 Analysis

Analysis is the process of dividing or dissecting something into smaller portions in order to better understand its structure, components, or significance. Inferential connections between claims, queries, ideas, explanations, or other representations intended to convey opinions, facts, judgments, experiences, or reasons were examined (Facione, 2015). According to analysis experts, subskills include grasping concepts, identifying arguments, and assessing arguments. To uncover patterns, relationships, or useful discoveries,

analysis might be performed to data, text, systems, or a specific issue.

1.7.6.5 Creativity, originality, and initiative

Creativity, originality and initiative are three qualities that are frequently associated with a person's ability to think and act creatively.

1.7.6.5.1 Creativity

Creativity is the capacity to generate new ideas, possibilities, solutions, and chances in a unique and creative way. Creativity requires more accurate and practical definitions because it is a vast notion. Zhou et al. (2013) describe creativity as the flexible and process-oriented use of higher-order thinking in humans. This approach requires adaptability and problem-solving skills to address any challenges. Creativity is a complicated entity that cannot be measured directly or holistically (Lucas, 2016). Creativity stems from an individual's intelligence, which is inherited from their parents (Tae et al., 2019). According to Burns et al. (2017), parents' influence on their children's creativity is crucial.

1.7.6.5.2 Indicators of creativity

According to Bott et al. (in Megawan & Istiyono, 2019), creativity have indicators such as:

1. Fluency
2. Flexibility
3. Originality
4. Elaboration

1.7.6.5.3 The factors that support creativity

According to Tae et al. (2019), research suggests that a household with a high socio-economic position may lead to a child's higher level of creativity. A supportive atmosphere, both at school and at home, can positively impact children's creativity. In addition, a teacher's teaching strategy can foster student creativity.

1.7.6.5.4 Originality

Originality is a trait that refers to creating something entirely new or distinct from what currently exists. Originality is the quality of created or invented works that distinguishes them from replicas, clones, frauds, or significantly derivative works. Along with key ideas and explanatory words, the uniqueness factor includes new and unique ideas as well as combinations of inherent parts (Oktavia et al., 2022). Divergent thinking is impacted by the ability to think creatively. Divergent thinking aims to address issues in several ways, irrespective of the limitations imposed by existing knowledge. Divergent thinking-based decisions will prioritize original responses and fresh approaches to issues pertaining to originality (Chen et al., 2020).

1.7.6.5.5 Initiative

Initiative is the ability to assess and act on a situation independently, frequently by taking the initial step toward a goal or job without being encouraged. The dictionary defines initiative as the

ability to start things, an enterprise, the initial step, or the power or right to begin, whereas initiate implies to originate, begin, or set things in motion (Oxford, 1984). It requires proactive thinking, decision-making, and a willingness to take risks in order to accomplish something new or better a situation. Since initiative is often linked to controlling the discourse flow, designing mixed-initiative systems requires an awareness of the metaphor of conversation (Cohen et al., 1998). The impulse to act without waiting for other people's approval is known as initiative. It demonstrates one's eagerness to act on an idea or opportunity, generally in order to start something new or better an existing situation.

1.7.7 Quality of Education in Indonesia

1.7.7.1 Common European Framework of References (CEFR)

The Common European Framework of Reference for Languages (CEFR) is a global standard for defining language proficiency. It measures language proficiency on six points: beginning (A1), elementary (A2), intermediate (B1), advanced (C1), and competent (C2). This makes it possible for everyone involved in language instruction and assessment, including instructors and learners, to quickly assess the caliber of various credentials. The following layers make up the CEFR Framework:

Table 1. 3 - Common European Framework of Reference (CEFR)

No	Level	Description
1.	**A1**	1. Able to understand and employ commonplace language and simple

		phrases to satisfy the concrete types demand. 2. You can introduce yourself and other people and ask about personal details like his residence, acquaintances, and what he thinks is his property. 3. Interacts with others easily as long as they talk slowly and clearly.
2.	**A2**	1. Able to understand commonly used phrases and idioms in contexts that are directly relevant (e.g., jobs, shopping, local geography, basic personal and family information). 2. Capable of communicating in everyday contexts that call for a straightforward and easy flow of information on typical subjects. 3. to use straightforward language to describe background knowledge, the immediate area of need, and the surrounding surroundings.
3.	**B1**	1. Acknowledges the essential elements of succinct, standard input on topics frequently encountered in professional, academic, and leisure contexts. 2. Capable of handling the majority of situations that could arise when

		traveling to a place where the language is spoken. 3. Able to produce brief, related pieces on subjects of broad or individual interest. 4. Capable of giving succinct explanations and justifications for beliefs and plans, as well as describing experiences, events, dreams, desires, and objectives.
4.	**B2**	1. Capable of comprehending the main concepts of complex texts on both tangible and intangible topics, including technical discussions in their area of expertise. 2. The ability to communicate with native speakers fluently and spontaneously allows for widespread interaction between the two parties. 3. Capable of writing in-depth articles on a range of subjects and outlining opinions on current affairs, including the advantages and disadvantages of different solutions.
5.	**C1**	1. Able to understand and identify the implied meanings of a wide range of longer, more complicated texts.

		2. Able to communicate concepts clearly and naturally without any trouble. 3. Capable of using language in social, intellectual, and professional contexts in an efficient and adaptable manner. 4. Capable of producing thorough, well-structured prose on challenging subjects, exhibiting mastery of cohesion devices, connections, and organizational patterns.

1.7.7.2 Human Development Index (HDI)

The Human Development Index (HDI) summarizes three key facets of human development: knowledge, a long and healthy life, and a decent standard of living. The HDI is defined as the geometric mean of the normalized indices for each of the three dimensions.

The health component is assessed using life expectancy at birth, while the education dimension is measured using the mean number of years of education for people aged 25 and over and the expected number of years of education for children beginning school. One indicator of the standard of living is gross national income per capita. The HDI illustrates how money loses significance as GNI increases using the logarithm of income. The scores for the three HDI dimension indices are then combined into a composite index using the geometric mean.

Table 1. 4 - Human Development Index (HDI) Indonesia

Year	Life Expectacy at Birth	Expected Years of Schooling	Mean Years of Schooling	GNI per Capita (2011 ppp $)	HDI Value
1990	62.3	10.1	3.3	4,399	0,525
1995	64.3	10.1	4.2	5,838	0,560
2000	65.8	10.6	6.7	5,422	0,604
2005	67.3	10.9	7.4	6,506	0,633
2010	69.2	12.2	7.4	8,234	0,667
2015	70.8	12.8	7.9	10,029	0,696
2016	71.0	12.9	8.0	10.419	0,700
2017	71.3	12.9	8.0	10,811	0,704
2018	71.5	12.9	8.0	11,256	0,707
2019	71.3	12.9	8.3	11.300	0,718
2020	71.4	12.9	8.4	11.011	0.712

2021	71.5	13.0	8.5	11.156	0,707
2022	71.8	13.1	8.6	11.479	0,713
2023	73.9	13.1	8.7	11.899	0,721
2024	74.1	13.2	8.8	12.341	

1.7.7.3 English Proficiency Index (EPI)

The EF English skill Index (EF EPI) assigns a ranking to nations based on the equitable distribution of English language skill among test takers. The global education firm EF Education First developed it, and it bases its conclusions on data from free online English assessments.

Table 1. 5 - English Proficiency Index (EPI) Indonesia

Year	Score	World Rank	Asia Rank
2018	51.58	51	13
2019	50.06	61	13
2020	453	74	15
2021	466	80	14
2022	469	81	15
2023	473	79	13
2024	468	80	12

1.7.7.4 Programme for International Students Assessment (PISA)

The Program for International Student Assessment (PISA) is a test that is administered by the Organization for Economic Cooperation and Development (OECD) to

determine the quality of educational achievements across the globe. PISA evaluates the reading, arithmetic, and science skills of randomly selected 15-year-old students from various countries every three years.

Table 1. 6 - Programme for International Students Assessment (PISA) Indonesia

Year	Science	Mathematics	Reading
2009	383	371	402
2012	384	375	388
2015	403	386	397
2018	386	379	371
2022	383	366	359

Reading is a challenge in Indonesia. The majority of the evidence suggests that the ordinary Indonesian adult's comprehension and utilization of written information is remarkably low, even though the country's adult literacy rate is reported to be 95%.

1.8 Previous Studies

Some previous studies were taken from online journals or books. These studies were selected based on a common theme, namely the implementation of the top 5 skills according to WEF into the Merdeka Curriculum. The five skills include analytical thinking and innovation, active learning and learning strategies, complex problem solving, critical thinking and analysis, creativity, originality, and initiative. Some of these studies include the following.

First, research conducted by Kamila & Agus (2023) investigates how the Merdeka Curriculum is being used to raise standards at SMA 2 Jember. In an attempt to raise the standard of education, this study will conduct a thorough examination of the autonomous curricular policy's substance. This study uses a qualitative methodology, with data collected through in-depth interviews with school teachers.. In addition to interviews, the researchers

also conducted observations and analyzed existing documents at the school. The results of the research show that some of the top 5 skills according to WEF have been implemented, including:

1) Active learning and learning strategies

   This skill is applied in the classroom through teachers who stimulate with videos and assignments before class starts. By providing pre-lesson videos and assignments, students are encouraged to actively seek information and participate in discussions. This encourages them to relate theory to practice.

2) Complex problem solving

   This skill is applied in school bazaar activities, where students develop products to sell in the bazaar. Students have to think of the best way to market their products, facing challenges such as consumer appeal and competition.

3) Critical thinking and analysis

   This skill is applied in the classroom, where the teacher asks students to plant medicinal plants and then report the progress of the plants to the teacher. Students learn to evaluate the progress of the plant and consider the factors that affect its growth, exercising their analytical skills.

4) Creativity, originality, and initiative

   This skill is applied through the activity of processing materials into new products, where students must reprocess waste into a product. Students are creative with various materials to produce new products, which encourages them to think outside the box.

Second, the research conducted by Ferdaus & Novita (2023) investigates how Indonesian Vocational High Schools are implementing the independent curriculum in English courses. One of his research's goals is to gather detailed information about the appropriateness of the Merdeka Curriculum's implementation, which will aid future assessments by education stakeholders. This study's methodology is qualitative, and the

researchers interviewed English teachers at SMK PK to get data. In addition, the researchers also conducted observations. The result shows, in learning English, teachers implement some of the top 5 skills according to WEF, such as:

2) Analytical thinking and innovation

   This skill is applied indirectly in the classroom, where teachers encourage students to think analytically about the material being taught. This can help them develop critical and innovative thinking skills.

3) Active learning and learning strategies

   This skill is implemented by the teacher asking questions about students' understanding as well as opening space for students to share their opinions. The teacher encourages students to participate actively in the learning process by asking questions about their comprehension and barriers they confront. Allowing pupils to share their ideas and opinions encourages active participation and fosters an interest in learning.

Third, this research conducted by Latifa, Ratih, and Maryadi (2024) examines how junior high school English teachers intend to adopt the Merdeka Curriculum. The goal of this study is to describe how the Merdeka curriculum is used in English language training.. Researchers employ a qualitative approach, gathering information through documentation, interviews, and observation. As a result, 2 of the 5 top skills according to WEF have been implemented, namely as follows:

1) Active learning and learning strategies

   Exams at the end of the semester, midterms, and daily assessments are used to develop this skill. Exams at the end of the semester, midterms, and daily assessments all motivate students to participate fully in their education. These evaluation methods help students to understand their progress, identify

areas for improvement, and plan more effective learning strategies.

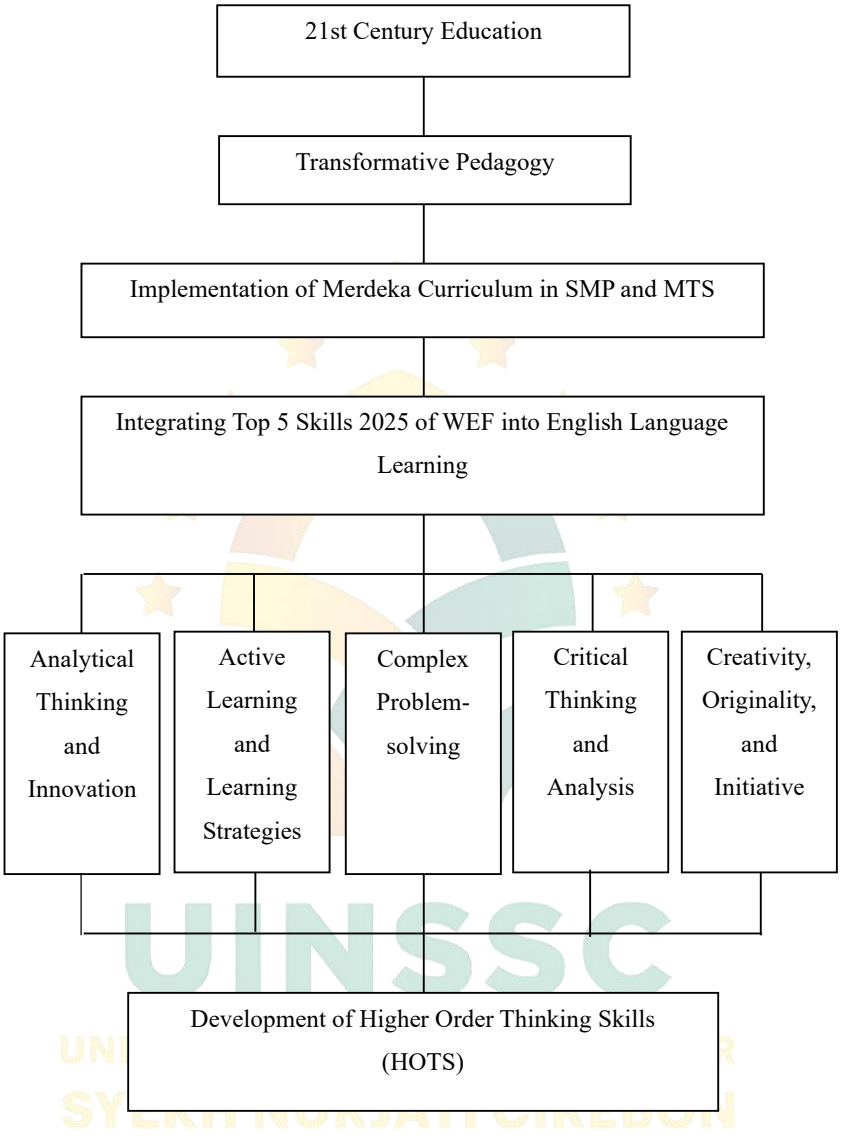
2) Critical thinking and analysis

   This skill is applied by teachers in learning through essay questions for summative and formative assessments. The essay question technique encourages students to think critically, analyze information, and structure arguments systematically. Students need to be able to evaluate different points of view and present their thoughts clearly, which is the core of critical thinking skills.

From the three studies above, it can be concluded that the top 5 skills according to WEF that are often implemented are active learning and learning strategies. The three studies above have implemented this skill in different ways. The first study used video stimulation and assignments before class started, the second study used questions and answers between teachers and students, and the third study through assignments. Then, the second skill that is often implemented is critical thinking, where in the first study using evaluation of progress and aspects that affect plant growth, and in the third study using essay questions to think critically.

1.9 Frame of thought

Figure 1. 3 - Frame of Thought



Here the researcher will explain the meaning of the picture above. The Top 5 skills of 2025 consisting of analytical thinking and innovation, active learning and learning strategies, complex problem-solving, critical thinking and analysis, and creativity, originality, and initiative will be combined with English Language Learning. These two things will then be implemented in the Merdeka Curriculum in junior high schools and MTs.

1.10 Research method

1.10.1 Research design

Qualitative approaches are used in this study. It is called qualitative research because the data in this study are presented in descriptive form and are not numbers. As said by Aspers & Corte, (2021), qualitative research is defined as an iterative process that results in new important differences that are made by the scientific community as a result of getting closer to the issue being studied.

This qualitative study uses a descriptive qualitative research design. Research that outlines the features of a population or phenomenon under investigation is known as descriptive research design, according to Cresswell, (2012). Used mostly to understand a group or phenomenon. This includes obtaining data through direct observation, interviews, and surveys. Conclusions will be drawn after the gathered data has been presented in the form of descriptions.

There are several steps that must be taken in the process of preparing this qualitative research. According to Kaba et al., (2021), there are 10 steps, namely step 1: Research Topic and Formulation of the Title, step 2: Background and Rationale, Step 3: Aims and Objectives, Step 4: Formulation of Research Questions, Step 5: Theoretical Framework, Step 6: Methods, Step 7. Data Analysis, Step 8. Ethical Considerations, Step 9. Limitations and Strengths of the Proposed Study, and Step 10. Trustworthiness of the Proposed Study. In this study, only 7 steps will be used, namely:

1. Research Topic and Formulation of the Title,
2. Background and Rationale,
3. Aims and Objectives,
4. Formulation of Research Questions,
5. Methods,
6. Data Analysis, and
7. Limitations and Strengths of the Proposed Study.

1.10.2 Source and type of data

1.10.2.1 Sources data

In this study, data came from classroom observation notes and answers from interviews and questionnaires conducted with teachers. The data source was obtained from one of the SMP and MTs in Cirebon district. Despite being secondary schools, SMP and MTS are not the same. Under the Ministry of Education's jurisdiction, SMP teaches broad subjects in compliance with the Ministry of Education and Culture's regulations. Students must take more Islamic religious courses at MTS because it is run by the Ministry of Religious Affairs. The SMP and MTS were selected based on the school being the best school in the area.

1.10.2.2 Research subject

Three MTS teachers and three SMP teachers served as the study's subjects. The chosen educators include PPPK and civil servants teaching grade 8. Two SMP teachers are civil servants and one is a PPPK, while the three MTS teachers are civil servants. The reason for selecting these teachers is because certified teachers are expected to provide better answers based on their teaching experience. Grade 7 was still adapting to the change in level from elementary school and grade 9 was focusing on practice for the final exam, so grade 8 was chosen to be the subject of observation. Three 8th grade classes were

selected from each SMP and MTS, and all three classes selected were the top classes in their respective schools.

1.10.2.3 Type of data

Qualitative data is the kind of information that will be discussed in this study. The qualitative method demonstrates that an object's nature depends on its definition of quality. The researcher chose qualitative data to determine if the school used the five WEF skills for learning English based on the Merdeka Curriculum.

1.10.3 Data collection techniques and instruments

The data for this study was gathered through interviews and observation.

1.10.3.1 Interviews

Interviews are the first method of gathering data. An encounter between two individuals on a certain occasion, in which one person serves as the interviewer and the other as the interviewee, is commonly referred to as an interview (Ruslin, Mashuri, Rasak, Alhabsy, & Syam, 2022, p.22). The researcher will interview the English teacher at the school, asking whether the English learning at the school has integrated top five skills according to WEF or not. The interview questions are made through experts' definitions related to several indicators found in the title of this research.

1.10.3.2 Questionnaire

A questionnaire is a technique for gathering data that consists of several written questions prepared in a methodical manner to elicit information from respondents. Questionnaires are used in research or surveys to measure attitudes, opinions, behaviors, or certain characteristics of a group of people effectively and efficiently. Questions in a questionnaire can be in the form of multiple choices, rating scales, open answers, or

checklists, depending on the purpose of the research and the type of data to be collected. To gather information for this study, the researcher employed a checklist.

1.10.3.3 Observation

One method of gathering qualitative data is observation, which is seeing and documenting objects in their natural environments (Weston, Krein, & Harrod 2021). Researcher employ the field note observation technique, in which the researcher join the classroom, watch the students while they study, and record whether or not the five WEF abilities are being employed.

1.10.4 Data analysis

The data will be examined when it has been collected. Generally speaking, data analysis is linked to a particular methodology, theoretical framework, research tradition, and/or field (Lester Cho, & Lochmiller, 2020, p.95). The researcher will compare the results of observations that have been made in the classroom with the answers to the English teacher's interview. After obtaining the results of similarities and differences, the researcher then draws conclusions which ultimately become the results of this study.

1.10.4.1 Data reduction

The process of choosing, condensing, eliminating, and altering raw data from fieldwritten records is known as data reduction. As demonstrated by the researcher's choice of data collection method, study issue, and research theoretical framework, this process continues throughout the investigation, even before data is collected.

1.10.4.2 Data display

In qualitative research, data can be displayed in a number of ways, such as flowcharts, charts, categorization correlations, and succinct explanations. Nonetheless, narrative

prose is the most widely used technique for data display. The goal of this method is to help researchers obtain a deeper understanding of the phenomenon they are studying so they may strategically plan their next steps based on the knowledge they have gained.

1.10.4.3 Data verification

The methods and strategies used to ensure that the acquired data is correct, trustworthy, and credible are referred to as data verification. The findings were confirmed throughout the investigation. To guarantee validity, meanings drawn from data must constantly be verified for accuracy and suitability.

1.10.5 Research timeline

Table 1. 7 - Research Timeline

No	Activities	Time Allocation				
		December, 2024	**January, 2025**	**February, 2025**	**March, 2025**	**April, 2025**
1.	Applying Proposal					
2.	Proposal Seminar					
3.	Conducting Research					
4.	Collecting Data					
5.	Analyzing Data					
6.	Finishing Thesis Writing					