

# ENHANCING ENGLISH LANGUAGE TEACHING THROUGH 21ST-CENTURY COMPETENCE: INSIGHTS FROM ALL MALE INSTRUCTIONAL DESIGN CLASS

# Hilma Pami Putri

Universitas Islam Negeri Sjech M. Djamil Djambek Bukittinggi hilmapamiputri@uinbukittinggi.ac.id

Keywords	Abstract
Instructional Design, Critical Thinking, Problem-solving, Collaboration, Creativity	As the world becomes more interconnected, the ability to swiftly adapt to changes has never been more crucial. Consequently, the Indonesian government has proposed that all educational institutions promote 21st-century competencies in every subject, including English lessons. In language teaching classes, preservice teachers must evolve to meet the demands of future competencies, which are essential for participating in global commerce, diplomacy, and multicultural societies. These competencies include critical thinking, collaboration, creativity, and communication. This study aims to investigate how preservice teachers conceptualize these competencies and the strategies they use to enhance language teaching. The data was gathered from male students enrolled in an Instructional Design Class who received material on 21st-century skills. The findings reveal that all male instructional designers meet the demands of future competencies and are actively incorporating strategies to develop these skills in their language teaching practices. These strategies include integrating technology, promoting a scientific approach, and preparing for the demands of an interconnected, globalized world. However, there is still a need to focus on effective teaching techniques to achieve the desired learning outcomes in language education. This study highlights the importance of continuous adaptation and innovation in teaching methodologies to equip students with the necessary skills for the future.

## 1. INTRODUCTION

Along with the rapid changes in every aspect of life- economy, industry, transportation, technology, information, and communication- all relevant practitioners must adapt to survive and remain competitive. This change must be able to be participated in systematically and structured by all parties, including educational stakeholders such as school principals, teachers, parents, and universities as educational institutions. They must consider their graduates' overall success. The focus is not only on academic abilities but also

on skills that enable them to compete in today's developing global and digital worlds. One of the ways done by the government is commending to incorporate 21st-century skills into the implementation of the learning process in the classroom.

Some experts mention that the 21st-century skills of creativity, critical thinking, communication, collaboration, and IMTS are not novel to today's educational and business settings (Silva, 2009)(Rotherham, A., & Willingham, 2009). These skills have been integral elements throughout human history; however, how these skills are taught and developed has evolved. According to Karim (2017), the National Education Standards Agency (BSNP) describes the 21<sup>st</sup> century as a century of knowledge, with information easily disseminated and technology rapidly evolving. It is distinguished by an increasingly interconnected world of science, characterized by the use of information and communication technology in all aspects of life, accelerating synergy between them. Hence, (Nofrion, 2018) responding to such challenges and opportunities in the twenty-first century will require a lot of skills, the capacity to think and communicate more creatively and dynamically as well as think logically, analytically, systematically, synthetically, creatively, critically, and be able to solve actual problems.

In connection with government programs to improve the quality of learning activities, Instructional Design course plays an important role for preservice teachers. It prepares them to be good future teachers to understand, create, and design learning tools properly and correctly. The learning tools start from creating effective week details, semester and annual programs, analyzing core competence, creating question grids, to creating learning implementation in the form of Lesson Plans that are integrated with the 21st century which has become a topic that has been discussed a lot in recent times.

Michaels, at al (2015) identify a model of 21st-century skill development for teacher education programs that has three phases: (a) personal development, b) applied development and professional development. Others delve into the aspects of teacher education that emphasize creativity, critical thinking, communication, and collaboration, as described in student documents. These components are critical in preparing educators to effectively guide and nurture these skills in their students, resulting in a well-rounded educational experience that fosters both individual and collective growth.

The first aspect is creativity. In the rapidly changing educational landscape, the value of creativity in the teaching and learning process cannot be overstated. Michaels, at al (2015) define creativity is the ability to develop, choose, and integrate novel, unconventional, and innovative approaches to teaching and learning. It is not only making something that doesn't exist but also renewing something that already exists with various innovations so that it can survive and compete with the times.

Lemke (2003) mentions the characteristics of creative learners into three, show innovation and risks that must be taken, be internally motivated, and introduce complex personalities. In showing innovation, they can generate ideas phrases, and items naturally and uniquely, demonstrate skills in one domain, dare to take risks, and not be afraid of making mistakes. Besides, when they are internally motivated, they are going to introduce curiosities, favorites, thought patterns, and interests, be flexible and adaptable, become motivated to take on interesting learning for intrinsically existing reasons tolerate doubt well, and respond spontaneously and wisely. Furthermore, their internal motivation drives them to pursue their interests and curiosities, resulting in flexible and adaptable thought patterns and preferences. These characteristics demonstrate the significant impact that creative learners can have in a learning environment, enhancing their own educational experience while also contributing to a dynamic classroom environment.

Creativity is the ability to generate novel, diverse, and distinct ideas. Thinking creatively entails seeing things from a different perspective and not being limited by rules, customs, or norms. The ability to generate or discover original, diverse, and novel ideas is known as creative thinking skills. (Szobiova, 2006), defined creative thinking as thinking that results in unique and innovative products. The following are five characteristics of creative thinking: (1) creativity is closely related to willingness and effort; (2) creativity can produce novel things; (3) creativity requires more internal evaluation rather than external evaluation that relies on our own standards; (4) the idea is not limited and orients on a new and proper solution; and (5) creativity emerges when doing something. These five characteristics highlight the complexities of creative thinking, demonstrating how it thrives on intrinsic motivation and a willingness to push beyond conventional boundaries. Understanding and fostering these characteristics allows teachers and learners to create conducive environments that can have a significant impact on both educational and professional settings.

(Sternberg, 2007) emphasizes the importance of creative abilities. He asserts that successful people are those who are creative and motivated to create visions for a better world for all, possess analytical intellectual skills, share meaning, and wisdom, and ensure that their vision is not solely for their benefit. This is consistent with an international writer, Daniel Pink, who stated in (Association., 2012) that only creative and empathic people with divergent minds will survive and make the future vibrant and meaningful. Sternberg and Pink's perspectives demonstrate the growing consensus that creativity, combined with a deep understanding and concern for the human experience, is critical for creating a prosperous and inclusive future constantly changing global landscape.

The second is critical thinking. There are several conceptualizations of critical thinking in the literature, and each has different implications for the guidelines and instructional strategies used to teach critical thinking. According to Johnson, at al (2010) critical thinking is the ability to evaluate the systematic weighting of personal and other people's opinions. Meanwhile, (Dewey, 2024) mentions that it is an active process in which people thinks about various things in depth, propose questions to ask themselves, and discover relevant information for themselves rather than accepting things from others.

(Raj et al., 2022) mentions four reasons for students need critical thinking abilities. First is because it increases curiosity and creativity. When students are trained to think critically, they develop an insatiable curiosity about the world around them, want to evaluate and process information, and experience, and get their creative juices flowing while searching for solutions logically and sensibly. Besides, it also encourages self-awareness and self-reflection. This activity helps the students reflect and understand their perspectives, making it central to learning because they learn from mistakes which are valuable skills in both personal and professional settings. The other importance of critical thinking is improving job possibilities. This was because it is not limited to students in the classroom, could be virtually. A person with strong critical thinking skills will be valued in a rapidly changing workplace. The fourth reason is supporting innovators and problem solvers. A skilled critical thinker must distinguish between facts, opinions, and fiction while also evaluating the subject from various perspectives to solve a problem. They will be able to provide answers. Critical thinkers will come up with innovative and long-term solutions (Alsaleh, 2020). The other reason is developing related life skills, like organization, planning,

open-mindedness, and communication. Critical thinking is a valuable skill for overcoming challenges in both personal and professional settings. It fosters self-confidence and independence, leading to successful lives. The last reason is saving time. Critical thinking can help prioritize work and identify relevant resources and information, ultimately saving time and lead to desired outcomes.

According to Ennis (2011) six basic guides of critical thinking need to be known by the abbreviation FRISCO (Focus, Reason, Inference, Situation, Clarity, Overview). To get focus means identifying focus or central concern. Then, get the reason by identifying and judging the acceptability of the reason. After that, judge the quality of the inference, assuming the reason to be acceptable. Regarding the situation means paying close attention to the situation. Turning to clarity means check the language is clear. The next part is overview which means step back and look at it all as a whole. All of these principles can be combined to create an effective strategy for conceptualizing and evaluating the preservice teachers' ways in critical thinking.

The other aspect is communication. In the field of education, effective communication is critical to creating a positive learning environment. According to Michaels, at al (2015), communication is the ability to successfully use interpersonal skills and components of literacy (reading, writing, speaking, and listening) to contribute to teaching, learning, and development. Effective communication fosters a collaborative environment in which ideas can be freely exchanged, allowing teachers and students to become deeply involved with the subject matter. Individuals who master these skills can clearly articulate their thoughts, comprehend complex information, and provide constructive feedback, all of which are necessary for academic and personal development. Furthermore, strong communication skills improve problem-solving abilities and foster critical thinking, both of which are essential for navigating the challenges of the modern world. Thus, incorporating comprehensive communication training into educational curricula is critical for preparing students to succeed in their future careers and make meaningful contributions to society.

Teachers must teach their students how to communicate with one another about lessons and other topics, both with the teacher and with the students. The language that students use to communicate will have an impact on them. The use of inappropriate language in communication has a negative impact and the messages cannot be received by the intended recipients. This will cause errors when receiving messages, which can lead to misunderstandings or conflicts in interactions. Using good words in communication has a positive effect on students. The students will feel satisfied because the desired goal has been achieved, which will boost the students' self-confidence. Therefore, it must be led by the communicative teachers.

Miller (1988) proposes four guidelines for effective communication in the classroom, viewing it as the ultimate environment. 1. The classroom should offer a variety of stimuli. 2. The classroom should provide a secure and comfortable atmosphere. 3. The classroom should be adapted to accommodate the activity. 4. The classroom should allow for some privacy and individuality. Effective communication begins with the environment. Good teachers listen to both verbal and nonverbal messages, recognize student needs, and use appropriate signals such as boredom, interest, agreement, and disagreement. They use facial expressions, speak clearly, and use humor when appropriate.

Effective communication in education and learning is the process of transferring science and technology texts from teachers to students in the hopes that they will understand the information and make positive behavioral changes. Interpersonal

communication is a skill that is used face-to-face with students throughout the learning process. This can facilitate proper and effective communication between communicators and communicants, making learning enjoyable. Learning materials are easily consumed by students and can provide useful feedback. Throughout the learning process, the teacher communicated with the students to explain the material, instruct, and motivate. Teachers must explain the material in an easy-to-understand manner.

The last aspect is collaboration everyone will be successful by working together, and there is no one can achieve that alone. Most work environments require collaboration, so these skills are essential. This ability is possessed and must be honed by all individuals including students. Collaboration means, synergy, responsibility, and adapting in various roles to strengthen the team members. The higher the skills for working together, the easier it will be to get a job and will be the workforce that will be sought after in the 21st century (Reevy, Chamberlain, & Stein 2013). In the learning process, teachers are expected to use collaborative learning so that students can improve their ability to work together (Harefa & Suyanti 2019). The collaborative team does not prioritize someone's desires but can work together to achieve a common goal.

According to Barkley at all (2004), there are four roles need to do by the teachers to forming good collaboration in a group, (1) focus on goals and objectives of the learning process, (2) formulate the duration of group work, (3) compile the tasks to complete the learning process, and (4) ensuring each group are active. Collaboration in a 21st-century context requires the ability to work in teams, learn from and contribute to others' learning, use social networking skills, and demonstrate empathy when working with diverse others. Reevy at al (2013) said that the higher the skills for working together, the easier it will be to find work and will be the workforce in demand in the twenty-first century. Furthermore, students must be able to collaborate to solve problems or answer questions, work effectively and respectfully in groups to achieve a common goal, and accept shared responsibility for task completion.

According to Mellyatul et al. (2020), the ability to collaborate is regarded as an essential core in learning because learning is enhanced when students interact with one another and exchange ideas to share information. Collaboration skills enable people to work effectively with others. These abilities include understanding multiple points of view, managing priorities from everyone in the group, and meeting expectations as a dependable team member. A cooperative spirit and mutual respect are essential for successful collaboration.

In the Indonesian context, the term collaboration known as cooperation or gotong royong as a part of social and cultural ethics that comes from humanity and triggers a sense of unity and diversity as a nation (Suryadinata, L., 2003). Gotong (2019) states that cooperation covers such values as (1) Togetherness, which means working in a team and showing a sense of caring for each other for better conditions; (2) Unity, which means making the community stronger that enables the people to solve any kind of problems; (3) Dedication, which means the team be willing to sacrifice dedicating their time, efforts, ideas, and materials for the community to achieve particular goals as a community; (4) Empathy, which encourages people to help each other, even with the slightest contribution; and (5) Socialization, which brings out human nature as a social creature who gets to know each other through constantly communicative interactions. The concept is the same to the students in the classroom.

Teachers' roles in collaboration include 1) classifying students in the classroom, 2) forming groups in creative ways, 3) monitoring group activities that require students to collaborate and negotiate, and 4) providing feedback to help students solve problems together. Collaboration in the classroom trains students to collaborate on ideas. Collaboration is important because students will most likely be working with others for the rest of their lives. Collaboration teaches students how to approach a problem, pitch solutions, and determine the best course of action. It is also beneficial for them to understand that not everyone shares their viewpoints.

According to (Saputri, Septiana. S & Aminatun, 2020), students' collaboration skills are becoming increasingly important and necessary in community life, as all behaviors and circumstances demonstrate societal collaboration and cooperation. Collaboration is the act of cooperating with others to achieve a common goal. According to (Bell et al., 2010), students can work or collaborate on projects as long as they are involved in the development process. The project allows students to work together, collaborate, and share their knowledge and ideas with others (Sholihah, 2017). It means that their collaboration skill is required in the implementation of learning in the class.

The current trend in 21st-century education is toward collaborative learning rather than teacher-centered learning. Students no longer see their peers as competitors, but rather as collaborators in their personal development. Every time is learning time, and every area is a class is the central concept that constantly expands students' knowledge. Collaboration skills are essential in classroom activities because they increase students' knowledge and help them achieve their learning goals. This collaborative learning environment encourages students to express and defend their points of view, as well as incorporate their ideas based on reflection.

Teachers can improve their collaboration skills during the learning process by participating in collaborative learning activities that are designed to meet learning objectives, both online and offline. For example, a teacher may assign authentic projectbased activities for students to complete in groups. Teachers can already use a variety of collaborative learning techniques, including role play, jigsaw puzzles, think pair share, roundtable discussions, and many other cooperative learning methods. Teachers have been provided with a variety of Collaborative Learning models in the form of online and offline activities that must be tailored to the classroom situation and student characteristics. Collaborative Learning can be successfully implemented, depending on how teachers manage their classrooms to create effective instruction. Students who are good at working together share tasks.

In conclusion, integrating 21st-century skills into education is crucial for preparing students to thrive in a rapidly changing global landscape. By focusing on creativity, critical thinking, communication, and collaboration, educators can create a well-rounded educational experience that fosters individual and collective growth. This study aims to investigate how preservice teachers conceptualize these competencies and the strategies they use to enhance language teaching.

## 2. RESEARCH METHOD

This research applies a qualitative design with content analysis to identify the students' way of conceptualizing 21st-century competencies and the strategies they use to enhance language teaching in the form of lesson plans. According to (Creswell et al., 2012) qualitative research in the case of educational research focuses on understanding the central

phenomenon that exists. The research focuses on comprehending the characteristics, processes, and contexts of instructional design as reflected in the students' work. Moreover, Ary (2006) states that content analysis focuses on analyzing and interpreting recorded materials, including textbooks, to learn about human behavior because there is a belief that a question can best be answered by studying certain documents.

The participants are all male students enrolled in an Instructional Design class at Islamic university in Bukittinggi, Indonesia. They play a crucial role in the social and emotional development of other students. They bring a unique perspective and nurturing presence that complements the diverse needs of students. Their limited population contributes significantly to the social and emotional development of students by providing positive role models and fostering healthy relationship. They are all 5 male students in that grade. By focusing on male students, the study hopes to address potential gender-specific perspectives and experiences in the instructional design field, which could provide unique insights into their learning processes and challenges. Furthermore, this focus may reveal specific barriers that male students encounter, helping to develop more inclusive and supportive educational environments.

The data was obtained from their final test document at the end of the semester about the lesson plan. Each of them has a different material, and they have to be creative to develop and design the modules based on the categories given. The researcher scores their documents based on the teaching objective, teaching material, method and teaching strategy, teaching activities, scoring, or evaluation to ensure the students fulfil all the requirements of the lesson plan based on kemdikbud. Then, do analyses on how male preservice teachers conceptualize 21st-century competencies and the strategies they use to enhance language teaching in their lesson plan.

## 3. RESULT

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#### 4. CONCLUSION

The findings clearly show that all lesson plans prepared by these students meet 21stcentury skill standards. Looking back at the indicators, it is revealed that the challenges of the global world are frequently displayed in creativity, critical thinking, communication, and collaboration in their modules. Also, all components of the lesson plan completely exist in their module. They have implemented various strategies, including the use of multimedia media, project-based learning, group discussions, and role simulations, to effectively encourage students' active participation and practical application of English language skills in various settings. It is expected that with their conceptual abilities, they can create a dynamic and effective learning environment, which not only improves students' academic abilities but also equips them with the skills needed to face the challenges of the modern world.

However, it should be noted that the way they organize learning steps must be adjusted to follow Bloom's taxonomy hierarchy better. It is mandatory in teaching. Learning steps must be designed from basic skill levels such as remembering and understanding, then increasing to more complex levels such as applying, analyzing, evaluating, and creating. By arranging learning steps systematically and following this hierarchy, students will be better able to develop higher-order thinking skills in a structured and effective manner.

Furthermore, incorporating Bloom's taxonomy into the curriculum ensures that students establish a solid foundation before moving on to more difficult tasks. This structured approach enables educators to scaffold instruction, providing support at each level. For example, before students can analyze a concept, they must first demonstrate that they understand it completely. As students progress through the stages, they not only improve their knowledge retention but also develop their critical thinking and problem-solving skills. It helps them to develop more precise and measurable learning objectives. Besides, preservice teachers can create assessments that are appropriate for each stage of the taxonomy, ensuring that students have mastered each level before moving on. Clear learning goals and assessments allow both students and educators to track progress.

To improve lesson plan effectiveness, it is recommended that they include clear, structured guidance based on Bloom's Taxonomy. According to research, using Bloom's Taxonomy as a framework aids in effective scaffolding of learning, beginning with basic skills such as remembering and understanding, which are necessary for more complex tasks. Students, for example, learn to recall and comprehend information before moving on to higher-order thinking tasks such as applying, analyzing, evaluating, and creating. By progressing through these levels, students can systematically improve their critical thinking skills, resulting in deeper learning and retention. Implementing this structured approach not only improves the learning process but also ensures that students are well-prepared to tackle complex problems and think critically, both of which are essential skills in

The study's findings shed light on male instructional designers' preparedness to incorporate 21st-century skills into their teaching practices. The data show that these educators are effectively implementing strategies such as technology integration, promoting a scientific approach, and preparing students for an interconnected, globalized world. This demonstrates commendable alignment with future language education competencies.

Despite these positive findings, the study emphasizes the importance of refining and focusing on effective teaching techniques in order to achieve the desired learning outcomes. The continuous evolution of educational methodologies is required to keep up with the rapidly changing demands of the twenty-first century.

Several limitations should be noted in this study. First, the sample was limited to male students in a specific instructional design class, which may limit the findings' applicability to a larger population. Furthermore, the study relied on self-reported data, which may be biased or inaccurate. Future research should aim for a more diverse sample, including both male and female instructional designers from a variety of educational settings. Furthermore, future research could benefit from using a longitudinal approach to assess the long-term effectiveness of the strategies used. Investigating the impact of specific teaching techniques on student outcomes in language education would also yield more detailed insights into best practices for developing 21st-century skills.

#### REFERENCES

- Alsaleh, N. J. (2020). Teaching Critical Thinking Skills: Literature Review. Turkish Online Journal of Educational Technology-TOJET, 19(1), 21-39. *Turkish Online Journal of Educational Technology-TOJET*, 19(1), 21-.
- Ary, et al. (2006). Introduction to Research in Education Eighth Edition. Nelson Education, Ltd.
- Association., N. E. (2012). Preparing 21st century students for a global society: An educator's guide to the "Four Cs". *Alexandria, VA: National Education Association.*
- Bell, C. A., Wilson, S., Higgins, T., & McCoach, and D. B. (2010). No TitleMeasuring the Effects of Professional Development on Teacher Knowledge: The Case of Developing Mathematical Ideas. *The National Council of Teachers of Mathematics, Volume 41:* https://doi.org/https://doi.org/10.5951/jresematheduc.41.5.0479
- Creswell, J. W., Columbus, B., New, I., San, Y., Upper, F., River, S., Cape, A., Dubai, T., Madrid, L., Munich, M., Montreal, P., Delhi, T., Sao, M. C., Sydney, P., Kong, H., Singapore, S., & Tokyo, T. (2012). *Planning, Conducting, and Eva I uati ng Quantitative and Qua I itative Research FIFTH EDITION*. Pearson Education.
- Dewey, J. (2024). Democracy and education. Columbia University Press.
- Ennis, R. (2011). Critical thinking: Reflection and perspective Part II. Inquiry: Critical thinking across the Disciplines,.
- Johnson, S., Winch, C., & Siegel, H. (2010). *Teaching thinking skills*. Bloomsbury Publishing.
- Lemke, J. L. (2003). Mathematics in the middle: Measure, picture, gesture, sign, and word. *Educational Perspectives on Mathematics as Semiosis: From Thinking to Interpreting to Knowing*, 1–14.

http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED430792%5Cnhttp://www.jaylemke.com/storage/Math-in-the-Middle-2002.pdf

- Michaels, R., Roshandel, S., Truesdell, E., & Urbani, J. M. (2015). Developing and assessing 21stcentury skills across teacher education programs. *California Council on Teacher Education Newsletter*.
- Nofrion, N. (2018). Panduan Pelaksanaan Model Pembelajaran Exo Olo Task (Mengembangkan Keterampilan Berpikir Tingkat Tinggi (Hots) Dalam Pembelajaran). https://doi.org/10.31227/osf.io/wh2mp
- Raj, T., Chauhan, P., Mehrotra, R., & Sharma, M. (2022). Importance of Critical Thinking in the

Education. *World Journal of English Language*, *12*(3), 126–133. https://doi.org/10.5430/wjel.v12n3p126

- Rotherham, A., & Willingham, D. (2009). ". (2009). 21st century" skills: Not new, but a worthy chal\_lenge. *Educational Leadership*, 1.
- Saputri, Septiana. S & Aminatun, T. 2020. (2020). The Importance of Improving Collaboration Skill in Confront an Earthquake with Mitigation Learning: A Content Analysis. *Advances in Social Science, Education and Humanities Research.*, 541.
- Sholihah, U. (2017). Project based learning to improve students' writing capability.
- Silva, E. (2009). Measuring Skills for 21st-Century Learning. *Phi Delta Kappan, 90(9)*. https://doi.org/https://doi.org/10.1177/003172170909000905
- Sternberg, R. (2007). Creativity as a habit. In Creativity: A handbook for teachers (pp. 3-25). *In Creativity: A Handbook for Teachers*.
- Suryadinata, L., E. N. A. & A. A. (2003). Indonesia's Population: Ethnicity and Religion in a Changing Political Landscape. *Singapore: ISEAS [Institute of South East Asian Studies].*
- Szobiova, E. (2006). The five personality dimensions in relation to creative thinking of adolescents. *Studia Psychologica*, *48*(*3*), *241*.
- Alsaleh, N. J. (2020). Teaching Critical Thinking Skills: Literature Review. Turkish Online Journal of Educational Technology-TOJET, 19(1), 21-39. *Turkish Online Journal of Educational Technology-TOJET*, 19(1), 21-.
- Ary, et al. (2006). Introduction to Research in Education Eighth Edition. Nelson Education, Ltd.
- Association., N. E. (2012). Preparing 21st century students for a global society: An educator's guide to the "Four Cs". *Alexandria, VA: National Education Association.*
- Bell, C. A., Wilson, S., Higgins, T., & McCoach, and D. B. (2010). No TitleMeasuring the Effects of Professional Development on Teacher Knowledge: The Case of Developing Mathematical Ideas. *The National Council of Teachers of Mathematics, Volume 41:* https://doi.org/https://doi.org/10.5951/jresematheduc.41.5.0479
- Creswell, J. W., Columbus, B., New, I., San, Y., Upper, F., River, S., Cape, A., Dubai, T., Madrid, L., Munich, M., Montreal, P., Delhi, T., Sao, M. C., Sydney, P., Kong, H., Singapore, S., & Tokyo, T. (2012). *Planning, Conducting, and Eva I uati ng Quantitative and Qua I itative Research FIFTH EDITION*. Pearson Education.
- Dewey, J. (2024). *Democracy and education*. Columbia University Press.
- Ennis, R. (2011). Critical thinking: Reflection and perspective Part II. Inquiry: Critical thinking across the Disciplines,.
- Johnson, S., Winch, C., & Siegel, H. (2010). *Teaching thinking skills*. Bloomsbury Publishing.
- Lemke, J. L. (2003). Mathematics in the middle: Measure, picture, gesture, sign, and word. *Educational Perspectives on Mathematics as Semiosis: From Thinking to Interpreting to Knowing*, 1–14.

http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED430792%5Cnhttp://www.jaylemke.com/storage/Math-in-the-Middle-2002.pdf

- Michaels, R., Roshandel, S., Truesdell, E., & Urbani, J. M. (2015). Developing and assessing 21stcentury skills across teacher education programs. *California Council on Teacher Education Newsletter*.
- Nofrion, N. (2018). Panduan Pelaksanaan Model Pembelajaran Exo Olo Task (Mengembangkan Keterampilan Berpikir Tingkat Tinggi (Hots) Dalam Pembelajaran). https://doi.org/10.31227/osf.io/wh2mp
- Raj, T., Chauhan, P., Mehrotra, R., & Sharma, M. (2022). Importance of Critical Thinking in the Education. *World Journal of English Language*, *12*(3), 126–133. https://doi.org/10.5430/wjel.v12n3p126
- Rotherham, A., & Willingham, D. (2009). ". (2009). 21st century" skills: Not new, but a worthy chal\_lenge. *Educational Leadership*, 1.
- Saputri, Septiana. S & Aminatun, T. 2020. (2020). The Importance of Improving Collaboration Skill in Confront an Earthquake with Mitigation Learning: A Content Analysis. *Advances*

in Social Science, Education and Humanities Research., 541.

- Sholihah, U. (2017). *Project based learning to improve students' writing capability.*
- Silva, E. (2009). Measuring Skills for 21st-Century Learning. *Phi Delta Kappan*, 90(9). https://doi.org/https://doi.org/10.1177/003172170909000905
- Sternberg, R. (2007). Creativity as a habit. In Creativity: A handbook for teachers (pp. 3-25). *In Creativity: A Handbook for Teachers*.
- Suryadinata, L., E. N. A. & A. A. (2003). Indonesia's Population: Ethnicity and Religion in a Changing Political Landscape. *Singapore: ISEAS [Institute of South East Asian Studies].*
- Szobiova, E. (2006). The five personality dimensions in relation to creative thinking of adolescents. *Studia Psychologica*, *48*(*3*), *241*.