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Factors Promoting Critical Thinking among Students at the Tertiary Level

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Abstract: The present study sought to explore the factors promoting critical thinking among the students at the tertiary level in Loralai. The objectives of the study were to identify the factors promoting critical thinking among male and female students at the tertiary level in Loralai. Male teachers and female teachers at the tertiary level comprise the population of the study. The number of tertiary-level teachers was 100. Out of the total population, 40 teachers were randomly selected from the tertiary level. In order to collect data from the respondents, a close-ended questionnaire containing 14 items based on the Likert scale was developed with the consultation of the superior in the objective of the subject. The majority of the respondents often use problem-based learning activities to promote critical thinking. More of the participants often ask the right questions to help foster students' critical thinking skills. Most of the subjects often promote collaborative learning for students' critical thinking. Half of the teachers often focus on projects. Most of the answerers often prefer writing assignments focusing on reflection and reasoning. For an understanding of the teaching practices used by the teachers, the sample size can be increased so that more accurate findings can be achieved. Teaching strategies promoting critical thinking abilities should be applied in the teaching-learning process to get maximum benefits.

Keywords: Critical Thinking, Students, Tertiary Level, Education, Female

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Introduction

Background of the Study

Any educator or instructor needs to be aware of the strategies and tactics that, when applied appropriately, can be very helpful in the classroom. When teaching in a traditional way, teachers sometimes overlook the importance of student participation, which, when done well, can yield many benefits (Brookfield, 2011). Numerous research has also demonstrated a positive association between critical thinking and student involvement (Barkley, 2009; Behar-Horenstein & Niu, 2011; Carini, Kuh & Klein, 2006). Additionally, by assisting students in doing a more comprehensive and logical analysis of every job and event, critical thinking can help students develop the skills essential to thinking clearly and behaving professionally in everyday circumstances (Beasley, 2010). Teachers and instructors must also foster an environment full of curiosity and reasoned thought in order to obtain the greatest results and to promote critical thinking among students both inside and outside of the classroom. Critical thinking requires, among other qualities, reflection, sincerity, and reason (Nosich, 2012). Asking the proper questions at the right moments and providing logical, reasonable answers to those inquiries are other traits of a critical thinker. There may be more strategies for fostering critical thinking in children if they are applied correctly and responsibly. Additionally, debate techniques, problem-solving techniques, and discussions could have a greater influence on students' critical thinking growth.

Statement of the Problem

The present study was designed to find out the factors that promote critical thinking among students at the tertiary level in Loralai.

Objectives of the Study

1. To identify the factors promoting critical thinking among male students at the tertiary level in Loralai.
2. To find out the factors promoting critical thinking among female students at the tertiary level in Loralai.

Research Questions

1. Which factors promote critical thinking among the male students at the tertiary level in Loralai?
2. Which factors promote critical thinking among the female students at the tertiary level in Loralai?

Significance of the Study

The findings of this study would be helpful to a variety of professionals who may find the research reliable to some extent, either in their own field or even just for a simple discussion and citation in research.

Delimitation of the Study

The study was delimited to the students of the Department of Education.

Related Literature

In order to achieve a good job, improve in real life, and contribute to society, critical thinking abilities are crucial for both teachers and students in the twenty-first century (Koenig et al., 2011). "Prudent, self-regulatory judgement which results in interpretation, analysis, evaluation, and inference, as well as an explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgement is based" is the consensus definition of critical thinking (CT) that was reached by a panel of 46 critical thinking experts (Facione, 1990, p. 2).

Everyone requires these kinds of skills in this cutthroat world if they want to secure and succeed in the future. Because of this, applying critical thinking techniques correctly and consistently throughout life can help one do this. In order to support students in using these abilities appropriately for advancement and to assist teachers in becoming more effective educators, these skills are seen as being more crucial in the classroom. The research found that professors believe that developing students' critical thinking skills and teaching them is crucial for higher education students, with over 99% of them citing it as "very important" or "essential" (DeAngelo et al., 2009, p. 3). Surprising research results from another study by Arum and Roksa (2011) showed that 45% of college students lacked significant critical thinking abilities. This suggests that teaching strategies and practices should be changed and that curriculum improvements and environmental changes should be made.

Furthermore, these kinds of abilities are necessary in the technology world, often known as the "global village," and they should be the aim of all forms of education (Olszewski-Kubilius & Thomson, 2015; Paul & Elder, 2012). When someone engages in any activity, they pick up knowledge from that specific circumstance, which is influenced by a variety of characteristics, such as communication abilities and mental processes. It is easier to acquire these qualities if we possess critical thinking skills and comprehension. From a wider angle, it can be defined as the amalgamation of diverse elements like attitudes, abilities, processes, and knowledge that are appropriately employed in specific scenarios that arise in everyday life (Lai, 2011). These elements are essential for students to improve, and it is the responsibility of educators and the educational system to provide an atmosphere that supports the development of these abilities. Additionally, it is the responsibility of students to equip themselves with the critical thinking abilities necessary to apply them in real-world scenarios, becoming effective adults capable of handling life's challenges and making informed decisions as a result.

It is important to note that in addition to teaching reading, writing, and fundamental math skills, one needs to know how to use the right thinking techniques in order to reap the greatest rewards (Rhodes, 1961; Runco, 2014). In a similar vein, it is imperative to address the abilities necessary to deal with various challenges that arise in every sector (Segal, Chipman & Glaser, 1985). In this highly technologically sophisticated society, scientific understanding and the application of literacy skills are also highly necessary (Lawless & Brown, 2015; Tortop, 2013). The goal of the teaching and learning process should be to foster the development of these kinds of skills, and appropriate steps

should be taken to make the required adjustments to the curriculum, teaching strategies, and learning environment. It is important to teach students how to think critically in order to solve challenges and get the best possible outcomes. This is only possible if educators fulfil their crucial role in helping pupils develop these critical thinking abilities. One of the most important abilities that everyone in the 21st century and this technologically advanced period needs is critical thinking (Kharbach, 2012). Additionally, encouraging critical thinking in kids shapes their mental processes, which has several advantages (Hashemi, 2011).

While there are numerous instructional techniques and strategies that can help students build critical thinking skills, one such technique is inquiry learning (Prince & Felder, 2006; Kazempour, 2013). Additionally, by crafting pertinent questions based on the circumstances and identifying viable answers to those problems, this approach contributes to a more efficient thought process (Arends, 2012). It is the responsibility of educators to implement effective teaching strategies that, in the end, promote critical thinking.

Similarly, mind mapping is an additional method that helps students fully utilise their cognitive abilities. Both the left and right brain's cognitive abilities may be activated by it. Additionally, it helps students connect the right pieces of knowledge, which develops critical thinking. Carlson and Long (2011). In a similar vein, experts believe that using mind-mapping techniques in learning might improve the effectiveness and efficiency of the mental process. Additionally, this approach helps students develop their critical thinking skills (D'Antoni et al., 2010; Pudelko et al., 2012). When used in an online setting, information and communication technology can also be extremely helpful in helping students develop their critical thinking skills (Haghparast et al., 2013).

The purpose of this study was to identify the instructional tactics used by higher education instructors to help students acquire critical thinking skills. By investigating several approaches to teaching, the study sought to determine which methods would best support students in acquiring these abilities. Another tactic to encourage critical thinking and situation analysis in pupils is questioning. A variety of factors, including the questions themselves, influence how much students think at a given level. If implemented correctly and appropriately, teachers can use this method to help students reach their full potential in critical thinking (Orlich et al., 2013). In addition to helping students become more responsible individuals and critical thinkers, cooperative learning strategies can also help them communicate their ideas with teachers and peers (Slavin, 2011). According to Dennicka and Exley (1998), role-playing and simulations can also be useful in teaching students to think rationally and critically analyse various difficulties in real-world settings. Another strategy that teachers can use to help students develop their critical thinking skills in the classroom is debate. This tactic might be more effective because students respond as active rather than passive learners by posing questions, using reasoning to solve problems, and—most importantly—forming arguments through the use of cognitive skills. Additionally, Halvorsen (2005) and Rybold (2011) recommend teaching students how to debate in order to help them strengthen their critical thinking abilities.

Works that demonstrate the connections between problem-based learning and critical thinking abilities, such as those by Masek and Yamin (2011) and Burris (2005), produced favourable results for the students. Problem-based learning is an approach to multidisciplinary learning, according to Stentoft (2017).

Problem-based Learning

There are numerous benefits and effects that problem-based learning can have on both teachers and students. PBL can be an effective teaching strategy (Fatade, Mogari, and Arrigbabu, 2013; Mustafa, 2016; Sindelar, 2010); it can improve student performance (Polanco, Calderon, and Delgado, 2004); it can improve problem-solving skills and self-efficacy (Rokhmawati, Djatmika, and Wardana, 2016); and it can be an efficient learning strategy (Gorghiu, Draghicescu, Cristea, Petrescu & Gorghiu, 2014; Fatade, Mogari, and Arigbabu, 2013; Mustafa, 2016; Sindelar, 2010). Furthermore, compared to a class using conventional learning, Sungur and Tekkaya's (2006) research found that problem-based learning in the classroom has high intrinsic motivation, influences meaning in the work being done, increases the ability to think, and has metacognitive and self-regulated learning. Furthermore, as stated by Salandanan (2012), when students complete a task or problem, their learning becomes ingrained because it fosters critical thinking, instils

systematic work habits that last into adulthood, and raises their sense of accountability, creativity, and resourcefulness. Sahin and Yorek (2009) contend, in opposition to other studies, that the PBL technique has no beneficial effect on students' performance or expectations for physics and physics learning for this particular group of students. Demirel and Dagyar (2016) reported a low positive effect of PBL on students' attitudes, which is consistent with this finding. A similar conclusion was made by Anazifa and Djukri (2017): PBL has no discernible impact on students' critical thinking. The findings of the research by Dochy, Segers, van den Bossche, and Gijbels (2003) indicate that the effects of PBL that have been documented vary depending on which of the three knowledge structure levels is involved. Additionally, the group of Argaw, Haile, Ayalew, and Kuma (2017) contended that using PBL instruction did not significantly affect students' motivation.

Critical Thinking Skills

The first step towards raising the calibre of human resources is education. Teachers should adapt their curricula to the demands of the modern world in order to enhance the calibre of their human resources. It represented the idea of critical thinking as taught by Socrates, Plato, and Aristotle, among other Greek philosophers (Staib, 2003; Burbach, Matkin, & Fritz, 2004). Utami, Saputro, Ashadi, Masykuri, and Widoretno (2017) assert that the primary objective of education is the development of critical thinking abilities. Whitten and Brahmasrene (2011) discovered that when the critical thinking scores and their components were grouped by college classification, high school GPA, high school rank, SAT verbal and math scores, gender, race, and major, there were significant variances and connections. The critical thinking abilities of female higher education instructors are impacted by the organisational learning culture (Sabri, Ilyas, & Amjad, 2015). According to Ozyurt's (2015) research, there was little evidence of a substantial correlation between students' problem-solving abilities and their critical-thinking disposition.

Horenstein and Niu (2011), however, found that depending on how the intervention is used, the same instructional interventions could produce varied outcomes. Based on the teacher's observations, the study's characteristics revealed whether or not the pupils exhibited critical thinking abilities.

According to Solomon (2005), cooperative learning, information processing theory, and contextual learning are the theoretical foundations of PBL. Superior problem-solving abilities are the outcome. In their 2014 study, Pagander and Read demonstrated how constructivism serves as an anchor for PBL as a ―student-centered‖ approach. PBL entails bargaining with students, emphasising the beginning point that every student brings to the process and giving them more autonomy over the course and subject matter of their education. In light of this, various jobs give these elements varying amounts of weight. Orig (n.d.) asserts that Socratic questioning in problem-based learning can be applied to modern teaching practices. Multiple questions that students come across in class make up an issue.

Method and Procedure

Nature of Study: The research was descriptive in nature in this type of research design. The objective of the study was achieved through a questionnaire, which was sought through the questionnaire made by the current researcher.

The population of Study: Male teachers and female teachers at the tertiary level comprise the population of the study. The number of tertiary-level teachers was 100.

Sampling of the Study: Out of the total population, 40 teachers were randomly selected from the tertiary level.

Research Instrument: In order to collect data from the respondents, a close-ended questionnaire containing 14 items based on a Likert scale was developed with the consultation of the superior in the objective of the subject.

Data Collection: The researcher personally met with the sampled students for data collection and distributed the questionnaire among the respondents.

Analysis of Data: The collected data was presented in tabulated form. Frequency and percentage were used as statistical tools in order to analyze data.

Analysis of Data

Table 1

I use problem-based learning activities to promote critical thinking among students.

	A	O	S	R	N
Frequency	10	22	6	2	0
Percentage	25	55	15	5	0

Graph 1

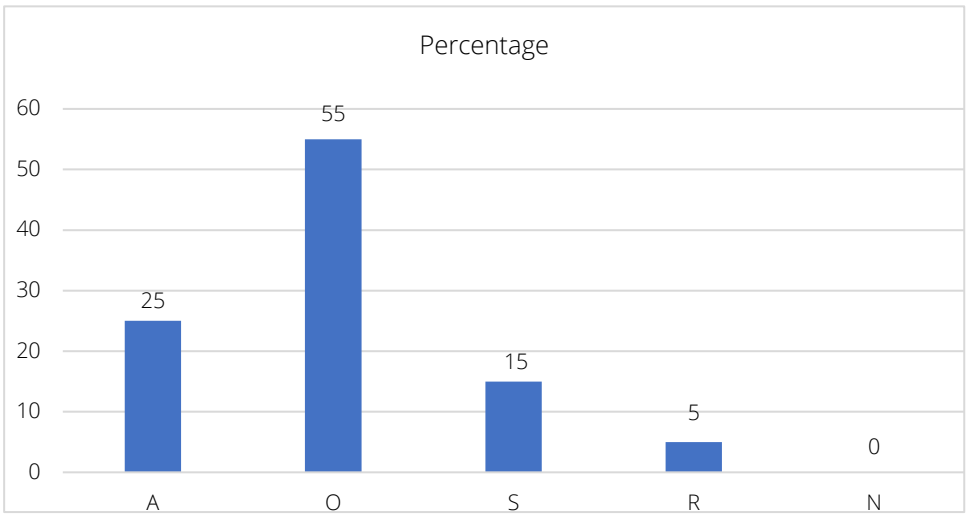

Table 1 showed 80% of the respondents often use problem-based learning activities to promote critical thinking.

Table 2

I ask the right questions to help in fostering students' critical thinking skills.

	A	O	S	R	N
Frequency	15	14	10	1	0
Percentage	37.5	35	25	2.5	0

Graph 2

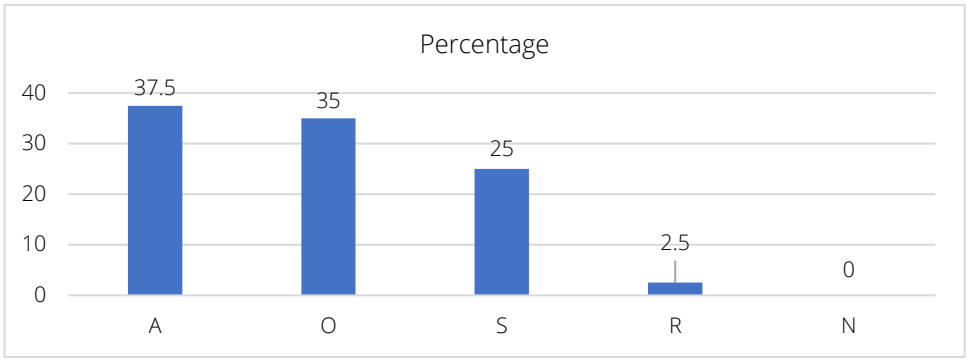

Table 2 showed that 72.5% of the participants often asked the right question to help foster students' critical thinking skills.

Table 3

I promote collaborative learning for students' critical thinking.

	A	O	S	R	N
Frequency	13	17	7	3	0
Percentage	32.5	42.5	17.5	7.5	0

Graph 3

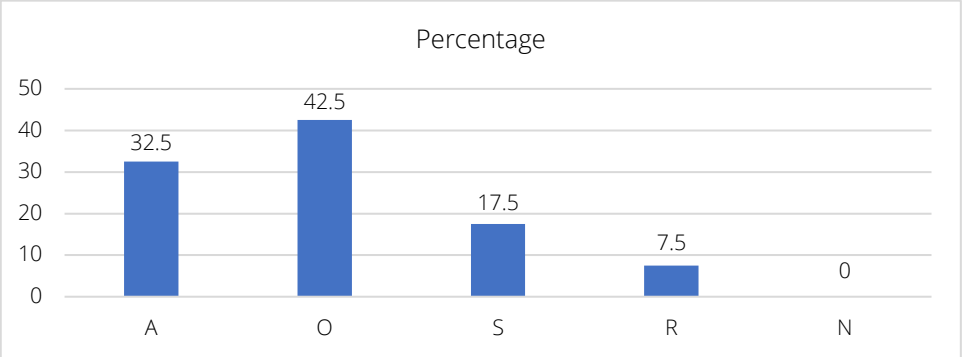

Table 3 showed 75% of the subjects often promote collaborative learning for students critical thinking.

Table 4

I focus on the project. Based learning for developing critical thinking skills.

	A	O	S	R	N
Frequency	10	13	9	6	2
Percentage	25	32.5	22.5	15	5

Graph 4

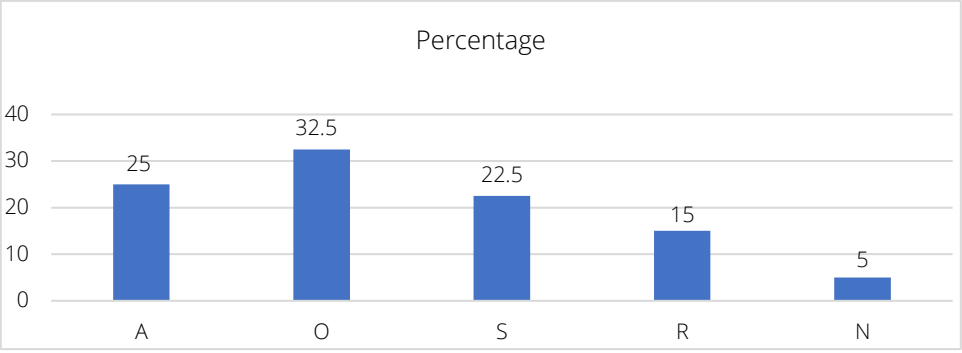

Table 4 showed 55% of the students often focus on projects. Based learning for developing critical thinking skills.

Table 4

I use a teaching strategy that works in groups to enhance the critical thinking abilities of students.

	A	O	S	R	N
Frequency	18	11	9	0	2
Percentage	45	27.5	22.5	0	5

Table 5

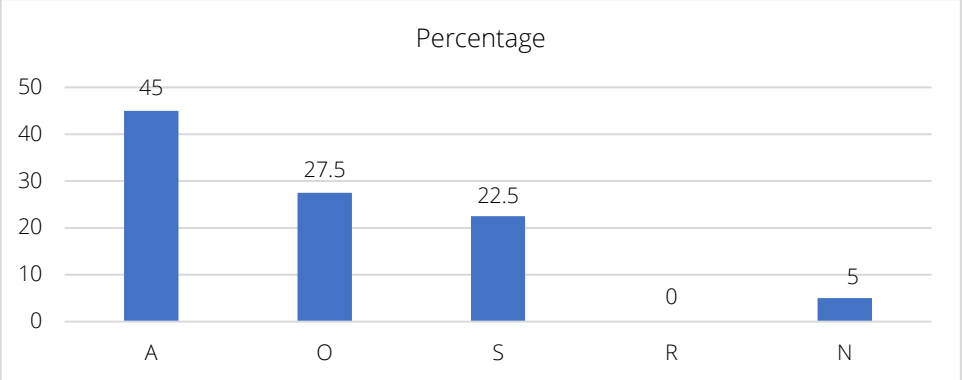

Table 5 shows that 72.5 % of the replies often use teaching strategies that work in groups to enhance the critical thinking abilities of students.

Table 6

I prefer writing assignments focusing on reflection and reasoning.

	A	O	S	R	N
Frequency	14	17	9	0	0
Percentage	35	42.5	22.5	0	0

Graph 6

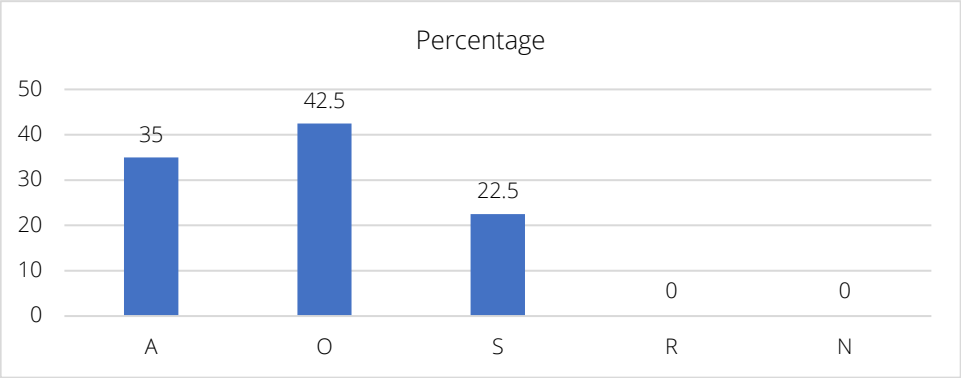

Table 6 showed that 77.5% of the answerers often prefer writing assignments focusing on reflection and reasoning.

Table 7

I utilize discussion methods for developing critical thinking among students.

	A	O	S	R	N
Frequency	21	15	3	1	0
Percentage	52.5	37.5	7.5	2.5	0

Graph 7

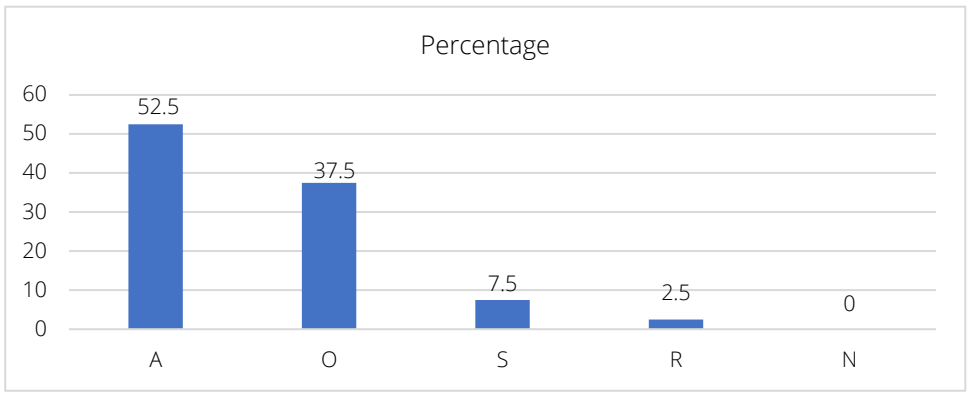

Table 4.7 shows that 90% of the opinions often utilize discussion methods for developing critical thinking among students.

Table 8

I apply teaching strategies promoting the decision-making ability of students for critical thinking.

	A	O	S	R	N
Frequency	14	12	14	0	0
Percentage	25	32.5	22.5	15	5

Graph 8

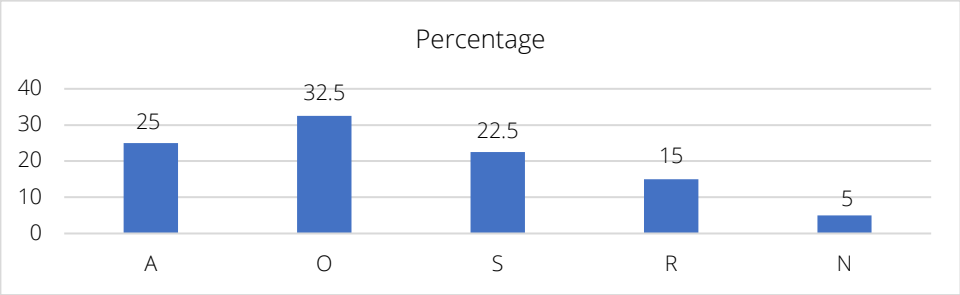

Table 8 showed 55% of the cooperators often apply teaching strategies promoting the decision-making ability of students for critical thinking.

Table 9

I focus on debate strategy for enhancing critical thinking among students.

	A	O	S	R	N
Frequency	7	15	15	3	0
Percentage	17.5	37.5	37.5	7.5	0

Graph 9

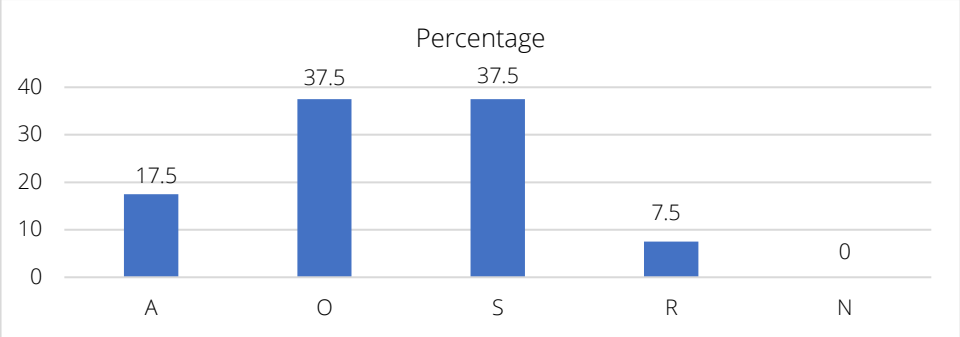

Table 9 showed 75% of the students often focus on debate strategy for enhancing critical thinking among students.

Table 10

I apply mind mapping to enhance critical thinking among students.

	A	O	S	R	N
Frequency	12	13	13	2	0
Percentage	30	32.5	32.5	5	0

Table 10

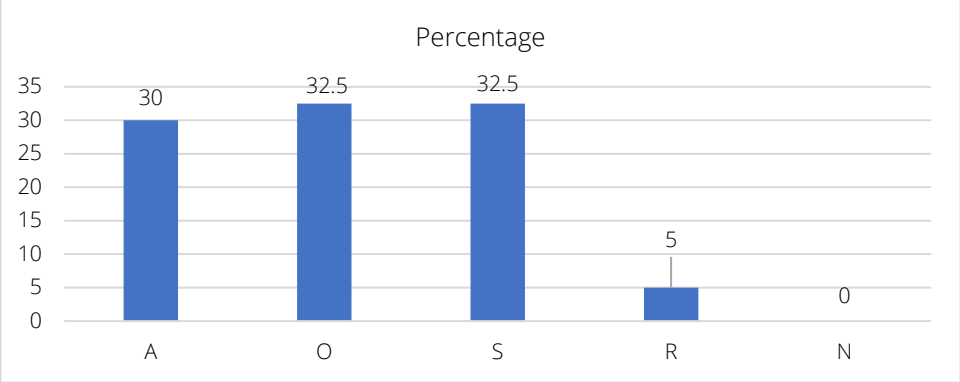

Table 10 showed 65% of the respondents often apply mind mapping to enhance critical thinking among students.

Table 11

I prefer using information and communication technology to promote critical thinking skills.

	A	O	S	R	N
Frequency	9	8	16	7	0
Percentage	22.5	20	40	17.5	0

Graph 11

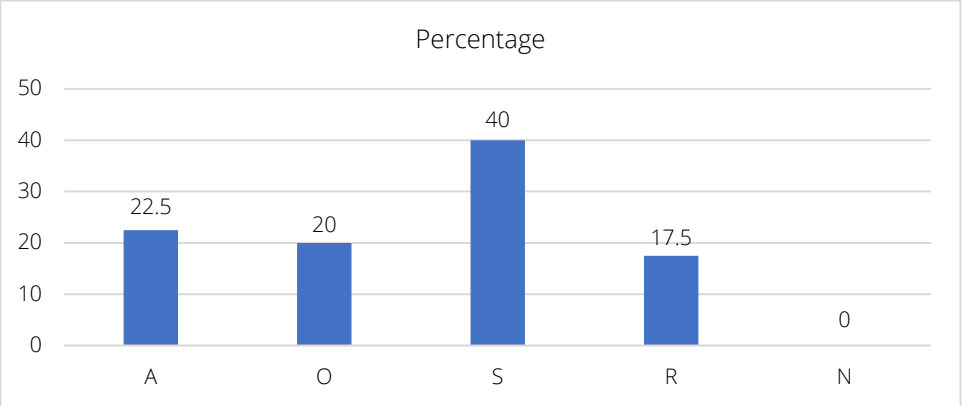

Table 11 showed that 62.5% of the subjects often prefer using information and communication technology to promote critical thinking skills.

Findings, Conclusion and Recommendations

Findings

1. Table 1 showed 80% of the respondents often use problem-based learning activities to promote critical thinking.
2. Table 2 shows that 72.5% of the participants often ask the right questions to help foster students' critical thinking skills.
3. Table 3 shows that 75% of the subjects often promote collaborative learning for critical-thinking students.
4. Table 4 showed 55% of the teachers often focus on projects. Based learning for developing critical thinking skills.
5. Table 5 showed 72.5 % of the respondents often use teaching strategies that work in groups to enhance the critical thinking abilities of students.
6. Table 6 showed that 77.5% of the answerers often prefer writing assignments focusing on reflection and reasoning.
7. Table 7 showed 90% of the opponents often utilize discussion methods for developing critical thinking among students.
8. Table 8 showed 55% of the cooperators often apply to teach strategy promoting the decision-making ability of students for critical thinking.
9. Table 9 showed 75% of the teachers often focus on debate strategy for enhancing critical thinking among students.
10. Table 10 showed 65% of the respondents often apply mind mapping to enhance critical thinking among students.
11. Table 11 showed that 62.5% of the subjects often prefer using information and communication technology to promote critical thinking skills.

Conclusion

The majority of the respondents often use problem-based learning activities to promote critical thinking. More of the participants often ask the right questions to help foster students' critical thinking skills. Most of the subjects often

promote collaborative learning for students' critical thinking. Half of the teachers often focus on projects. Based learning for developing critical thinking skills. More of the respondents often use teaching strategies that work in groups to enhance the critical thinking abilities of students. Most of the answerers often prefer writing assignments focusing on reflection and reasoning. The seniority of the opinions often utilizes discussion methods for developing critical thinking among students. Half of the cooperators often apply teaching strategies promoting the decision-making ability of students for critical thinking. Most teachers often focus on debate strategy to enhance critical thinking among students. The superiority of the respondents often apply mind mapping to enhance critical thinking among students. More of the subjects often prefer using information and communication technology to promote critical thinking skills. The majority of the participants often use cooperative learning strategies to foster critical thinking skills. A mass of the repliers often focuses on peer reviews in the teaching-learning process to enhance critical thinking. More of the cooperators often use argumentative strategies for fostering critical thinking among students.

Recommendations

1. For an understanding of the teaching practices used by the teachers, the sample size can be increased so that more accurate findings can be achieved.
2. There is a need for time to conduct studies regarding teaching practices applied by teachers at college as well as university levels.
3. Teaching strategies promoting critical thinking abilities should be applied in the teaching-learning process to get maximum benefits.
4. To develop critical thinking among students, ample opportunities should be provided to learners, and they should be involved in different activities to enhance these skills.
5. Curriculum might be according to the current demands of rapid changes in the world to compete and make learners critical thinkers for better decision-making in real-life situations.
6. Parents and society also play a major role in shaping the overall personality of learners.
7. Teachers might be trained in using proper techniques and strategies to foster critical thinking among students for future decision-making.
8. Media may play a vital role in developing these skills and disseminating information necessary for creating a conducive environment in which individuals may progress and utilize their potential accordingly.

References

Aizikovitsh-Udi, E. (2012). *Developing Critical Thinking through Probability Models, Intuitive Judgments and Decision-Making under Uncertainty*. (Doctoral dissertation, Ben Gurion University of the Negev).

Aizikovitsh-Udi, E. (2010). *Developing Critical Thinking Through Probability Models, Intuitive Judgments and Desicion-making Under Uncertainty* (Doctoral dissertation, Ben Gurion University of the Negev). Arends, R.I. (2012).Learning to Teach. 9th. New York: McGraw-Hill.

Arum, R., & Roksa, J. (2011). *Academically Adrift: Limited Learning on College Campuses.* Chicago: University of Chicago Press.

Barkley, E.F. (2009). *Student engagement techniques: A Handbook for college faculty*. San Francisco, CA: Jossey-Bass.

Behar-Horenstein, L. S., & Niu, L. (2011). Teaching critical thinking skills in higher education: A review of the literature. *Journal of College Teaching & Learning (TLC)*, *8*(2). https://doi.org/10.19030/tlc.v8i2.3554

Bensley, D.A. (2010). A Brief guide for teaching and assessing critical thinking in psychology. Observer, 23(10). 49-53.

Brookfield, S.D. (2011). *Teaching for critical thinking: Tools and techniques to help students question their assumptions.* San Francisco, CA: John Wiley & Sons.

Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages*. *Research in Higher Education*, *47*(1), 1-32. https://doi.org/10.1007/s11162-005-8150-9

Chan, Z. C. (2013). Exploring creativity and critical thinking in traditional and innovative problem-based learning groups. *Journal of Clinical Nursing*, *22*(15-16), 2298-2307. https://doi.org/10.1111/jocn.12186

D'Antoni, A. V., Zipp, G. P., Olson, V. G., & Cahill, T. F. (2010). Does the mind map learning strategy facilitate information retrieval and critical thinking in medical students? *BMC Medical Education*, *10*(1). https://doi.org/10.1186/1472-6920-10-61

DeAngelo, L., Hurtado, S., Pryor, J. H., Kelly, K. R., Santos, J. L., & Korn, W. S. (2009). The American college teacher: National norms for the 2007-2008 HERI faculty survey. Los Angeles, CA: Higher Education Research Institute.

Dennicka, R., & Exley, K. (1998). Teaching and learning in groups and teams. *Biochemical Education, 26*(2), 111-115. http://dx.doi.org/10.1016/S03074412(98)00028-4

Haghparast, M., Hanum, N. F., & Abdullah, N. (2013). Modeling an E-lEarning tool to cultivate critical thinking in students based on information needs and seeking behavior. *Proceedings of 2013 IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE)*. https://doi.org/10.1109/tale.2013.6654492

Hashemi, S.A. (2011). The Use of Critical Thinking in Social Science Textbooks of High School: a Field Study of Fars Province in Iran. International Journal of Instruction, 4(1):63-78.

Kazempour, E. (2013). The Effects of Inquiry-Based Teaching on Critical Thinking of Students.Journal of Social Issues & Humanities, 1 (3): 23-27.

Kharbach, M. (2012). *The 21st Century Skills Teachers and Students Need to Have.* Halifax: Creative Commons Attribution Mount Saint Vincent University.

Koenig, J., Herman, J. Duncan, G., Knapp, D., Kyllnonen, P., Sackett, P. &Iverson, K. (2011). *Assessing 21st-century skills: Summary of a workshop.* Washington, DC: National Academies Press.

Lai, E. R. (2011). *Critical thinking: A literature review.* New York: Pearson Education.

Lawless, K. A., & Brown, S. W. (2015). Developing scientific literacy skills through interdisciplinary, technology-based global simulations: GlobalEd 2. *The Curriculum Journal*, *26*(2), 268–289. https://doi.org/10.1080/09585176.2015.1009133

Long, D. J., & Carlson, D. (2011). Mind the map: How thinking maps affect student achievement. *Networks: An Online Journal for Teacher Research*, *13*(2), 262-262. https://doi.org/10.4148/2470-6353.1083

Newbill, P. & Baum, L. (2012). Design creativity, Learning and Leading with Technology. ISTE-International Society for Technology in Education.

Nosich, G. (2012). *Learning to think things through. A Guide to critical thinking across the curriculum. (4th ed).* Boston, MA: Pearson.

Olszewski-Kubilius & Thomson, (2015). *Critical thinking: Tools for taking charge of your learning and your life.* Upple Saddle River, NJ: Prentice Hall.

Orlich, D. C., Harder, R. J., Trevisan, M. S., Brown, A. H., & Miller, D. E. (2016). *Teaching Strategies: A Guide to Effective instruction*. Cengage Learning.

Prince, M. J., & Felder, R. M. (2006). Inductive Teaching and learning Methods: Definitions, comparisons, and research bases. *Journal of Engineering Education*, *95*(2), 123–138. https://doi.org/10.1002/j.2168-9830.2006.tb00884.x

Pudelko, B., Young, M., Vincent-Lamarre, P., & Charlin, B. (2012). Mapping as a learning strategy in health professions education: A critical analysis. *Medical Education*, *46*(12), 1215-1225. https://doi.org/10.1111/medu.12032

Rhodes, M. (1961). An Analysis of Creativity. *The Phi Delta Kappan*, *42*(7), 305–310. http://www.jstor.org/stable/20342603

Runco, M. A: (2014). *Creativity theories and themes: Research, development and practice.* (2nd ed.) USA: Elsevier Inc.

Rybold, G. (2011).Debate praxis in second language education: Developing a route towards critical thinking during oral communication. Doctoral dissertation, Beijing Foreign Studies University, China.

Segal, J. W., Chipman, S.F., & Galser, R. (1985). *Thinking and learning skills: relating instruction to research*. New York: Routledge.

Slavin, R. E. (2011). *Instruction based on cooperative learning. In R. E. Mayer, & P. A. Alexander (Eds.),Handbook of research on learning and instruction*, (pp. 344-360). New York: Routledge.

Tortop, H. S. (2013). A new model program for academically gifted students in Turkey: Overview of the education program for the gifted students bridge with University (EPGBU). *Journal for the Education of the Young Scientist and Giftedness*, *1*(2), 21-21. https://doi.org/10.17478/jeysg.201329004

Tsui, L. (2001). Faculty attitudes and the development of students' critical thinking. *The Journal of General Education*, *50*(1), 1-28. https://doi.org/10.1353/jge.2001.0008

Zohar, A., & Dori, Y. J. (2003). Higher order thinking skills and low-achieving students: Are they mutually exclusive? *Journal of the Learning Sciences*, *12*(2), 145-181. https://doi.org/10.1207/s15327809jls1202_1