Chapter 58: Promoting Critical Thinking Skills in Students in Middle and High School to Achieve the Kingdom of Saudi Arabia's National Vision 2030

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Introduction

I aspire to promote critical thinking skills in middle and high school students in Saudi Arabia, especially

since students are lacking critical thinking skills, one of the challenges that the Ministry of Education in Saudi Arabia is currently facing. Furthermore, I noticed through the classes that I have attended back in Saudi Arabia that the teachers heard a lot about critical thinking skills and how important they are as one of the 21st-century skills but unfortunately, one of the most notable weaknesses that we have in Saudi Arabia is the gap between theory and practice.

During my school placement at Excel Academy in Chelsea, Massachusetts, I observed many classes in different subjects and have had the chance to interview Emily Lupo, the Dean of Curriculum and Instruction, about promoting critical thinking skills and implementing it in their classes. Therefore, it was a great chance to collect some data that helped create a logical conception of the methods and strategies used by teachers to stimulate critical thinking skills in their students. To be more precise, the educators follow the standards that were set by the state of Massachusetts. The state has shifted the Common Core standards and focused mainly on the skills that aimed towards learning the content, by obtaining the information, rather than simply retaining the information. Everything included in the curriculum when they create their assessments, unit plans, and daily materials is geared to help students master the state standards which are skill-based.

There are some key skills laid out in those standards. They have some practices that focus on the values that they want their students to be able to gain, such as asking good questions, having an opinion, and arguing and backing it up with evidence. In addition to that, their skill to debate in a satisfactory manner with one another, where students demonstrate their ability to analyze, research, argue, evaluate, and make decisions. For example, in reading and social studies classes, everything relates to analysis, hence why students need to understand the author's purpose, write their claims and thesis, and support their opinions by providing evidence from the text and how this evidence proves their answers or helps clarify their opinions. Moreover, in science, students learn how to explore the facts and information, and interpret data that qualify them to solve real-world problems. Moreover, in math, students practice how to solve many problems by using critical thinking skills so that they will be able to apply what they already know in upcoming problems. That being said, their focus is on how they can develop a skill to learn content instead of just being able to understand what the content is. I am also interested in learning more about the state standards, and how we can foster critical thinking skills in a way that is relevant to students because the key to engagement is relevancy, and how we get students to be critical consumers. Therefore, the

school immersion experience was meaningful and beneficial to me because the teachers represent a practical model that focuses on promoting critical thinking skills. In fact, I believe this is going to work for us in the Kingdom of Saudi Arabia. However, there are many factors that impact the application of these methods in teaching such as a large number of students in the classroom—which would affect giving each student the opportunity to share their perspectives. In addition to that, the level of the teachers' expertise varies from one another; in other words, their level of performance is different in which there are multiple ways one can perform their task, needless to say, their strategies are diverse.

Literature Review

Educators have long been mindful of the significance of critical thinking skills as a result of student learning. More as of late, the association of the 21st-century skills has distinguished critical thinking as one of the few learning and development aptitude fundamentals to get the students ready for both the post-secondary education and the workforce. The purpose of this literature review is to (a) illustrate the definition of critical thinking, (b) demonstrate the importance of critical thinking skills, (c) explain the barriers to critical thinking, and (d) explore methods and strategies to foster critical thinking skills in students.

The Definition of Critical Thinking

One of the essential skills required for 21st-century learning is critical thinking. Critical thinking as one part of higher-order thinking has various definitions. Several authors agree that critical thinking can be defined as the intellectual skills connected to logic. This includes the process of analyzing, making conclusions, evaluating, and reflecting (Lai, 2011; Irwanto et al., 2018; Snyder, and Snyder, 2008; Joseph, 2019). Furthermore, some researchers added to this definition. For example, Cottrell (2017, p.2) defined critical thinking as "A complex process of deliberation which involves a wide range of skills and attitudes." Other writers interpreted critical thinking as a process of conceptualizing, and decision making (Jerome, Lee, and Ting, 2017). In addition, Watanabe-Crockett (2019) emphasized that critical thinking is based on formulating opinions and to be open to other perspectives. Also, Parker and Watanabe-Crockett (2017, 2019) noted that critical thinking is based on making judgments after logical thinking. Despite the differences between the definitions of critical thinking, there exist areas of agreement. To further elaborate, critical thinking researchers regularly concur on several capacities enveloped by the definition. Lai's (2011) study elaborated on these similarities by pointing out that the critical thinking process consists of questioning, analyzing, arguing, setting claims or evidence, judging or evaluating, reflecting, synthesizing, making decisions or solving problems, and making inferences using inductive or deductive reasoning.

The Importance of Critical Thinking Skills

As the world shifts to 'creative jobs', there are areas of agreement among educators about the criteria for

students graduating into the workforce that include the capacity to recognize and unravel complex problems, think critically about data, work viably and communicate clearly about their thinking. D'Alessio, Avolio, and Charles (2019) found in their study that critical thinking has a positive impact on the average academic performance of students. Engaging critical thinking skills in students is one of the fundamental skills that educators have been advocating for over a long period of time, as it is believed to raise students' academic

performance. Simply put, students who are able to think critically are able to interpret issues more deeply and accurately. That being said, having information or data alone is insufficient. To be successful within the workplace (and in their individual lives), students must be able to solve problems and to make compelling arguments; they must be able to think critically and ingeniously (Snyder, and Snyder, 2008). Critical thinking not only expands our life expertise and helps us obtain diverse viewpoints, but also helps us deal with future obstacles (Parker, 2017).

Likewise, Cottrell (2017) described the importance of critical thinking in three points, which are the following:

1) honing our minds, 2) benefiting one's academic and professional life, and 3) boosting one's practical self-examination. Muhlisin et al. (2016) reported that the lack of the students' abilities to communicate and argue is closely related to their inability to trigger their critical thinking skills. Furthermore, Watanabe-Crockett (2019, p.1) explained that

"Teaching critical thinking skills is a necessity with our students because they are crucial for living life." Therefore, based on the aforementioned quote, all educators are compelled to include critical thinking skills in their lessons, regardless of the subject or grade being taught.

Barriers to Critical Thinking

Researchers agreed on the fact that the reason behind why teachers lack the ability to foster critical thinking skills in their students, is due to their lack of training and time constraints. To further elaborate, a study conducted by Razzak (2014) reported that when it comes to implementing these new curricula—that are rich with content, exercises, and evaluations which address profound learning and critical thinking—it is lacking due to several factors. The experienced senior teachers mentioned that the lack of time to plan and cover activities that address higher-order thinking skills, lack of know-how and expertise on how to execute such exercises, the pressure to cover content in terms of quantity at the expense of quality, the enormous classroom sizes and the lack of enough time with the students all elucidate why teachers lean towards skipping these skills. Moreover, Jerome, Lee, and Ting (2017) pointed out in their research that students lack critical thinking skills because of two main factors. One being the fact that, numerous students are simply lazy with little inspiration to think and develop cognitive aptitudes that permits them to be more inventive and analytical. Teaching critical thinking skills at all levels of education may not be as simple as one considers, because of the need for information, mindfulness, and preparation among students, instructors, and administrators. Second being, limited resources which Snyder and Snyder (2008) illuminated in their study—as in the lack of diverse methods, and biased perceptions (where people are acting on their prejudice thoughts)—conspire to hinder the learning environment that overall helps stimulate critical thinking skills. Cottrell (2017) brought to light the following obstacles to applying critical thinking skills among the teachers: confusing data with comprehension, over-assessing one's own thinking capacities, and the misconception of what is implied by criticism—in other words, whatever feedback they receive would be misinterpreted. The constraints that affect the application of critical thinking skills should be taken into account by educators when planning to incorporate critical thinking skills into their lessons.

Strategies and methods to enhance critical thinking skills

"Our job is to teach students how to think not what to think" (Joseph, 2019, p.1). In order to be critical thinkers, educators need to provide students with the strategies they need, which means focusing on the process of learning instead of the content itself (Snyder, and Snyder, 2008). Within the setting of 21st-century teaching and learning, lecturers are required to supply more complex and dynamic learning opportunities than conventional lecturing—where it is too long and boring therefore students would eventually zone out, hence why, they would not be able to obtain all of the information provided by the lecturer. (Irwanto et. al. ,2018).

Effective Questions

Several authors argue that the usage of strategies and methods such as "effective questions"—questions that challenge students' intellectuality and concentrate on the open-ended questions—which focuses on teaching students how to be pensive while thinking. Effective questioning is one of the most powerful teaching tools that stimulate brainstorming, and as a result, inspires students to make connections to real issues (Watanabe-Crockett, 2019; Snyder, and Snyder, 2008; Parker, 2017; Lai, 2011; Nappi, 2017; Gul et al., 2014; Liewellyn, and Adams, 2013; Joseph, 2019; Shing, and Seepho, 2017). Researchers have noticed a connection between the kind of questions posed by educators and the students' ability to develop critical thinking skills (Gul et. al, 2014).

Problem-Based Learning

Watanabe-Crockett; Gul et al.; Jerome, Lee, and Ting; Lai; Joseph, (2014, 2017, 2011, 2019) suggested encouraging critical thinking skills by implementing problem-based learning that requires real-life solutions, which evidently, helps engage students who struggle to get a handle on theoretical concepts. In other words, problem-based learning is a teaching strategy where intricate real-life problems are used to enhance student learning of concepts and fundamentals, in contrary to direct demonstration of facts and notions.

Discussions /Cooperative learning

Planning lessons that provide opportunities for discussions allows building critical thinking skills in students, where students will learn how to critique and heighten their thinking. Moreover, critical thinking allows students to examine, criticize, and validate the ideas that are being discussed, which give students the opportunity to understand challenges and problems more thoroughly. Furthermore, discussions help enhance students' intellectual agility, which is imperative today to face real-life related challenges. To add on to that, students also compare their ideas to their peers so they are more open to other peoples' critiques and opinions (WatanabeCrockett, 2019; Jerome, Lee, and Ting, 2017; Parker, 2017; Lai, 2011; Perin, 2011; Chowning, and Peterman,

2015; Wang, and Sepho, 2017). According to the study *Instructional Strategies That Enhance Higher Order Thinking Skills (HOTS)* conducted by Jerome, Lee, and Ting (2017) at the University of Malaysia at Sarawak (UNIMAS) the data that was collected from 120 undergraduates, students pointed out specific forms of instructional strategies—such as Problem-based Learning, Cooperative Learning, and Discussion—that they collectively agree are most effective in enhancing their HOTS, or in other words, their critical thinking skills. The bar graph highlights the students' views on the strategies they think are most useful in

helping them enhance their HOTS. 25% of students agree that Discussion enhances their HOTS, 27.5% agree that Cooperative Learning enhances their HOTS, while 30.8% agree that Problem-based Learning is much more efficacious.

Argumentation

(Mesa, Pringle & Hayes, 2013; Cottrell, 2017; McNeill, 2011; McNeil & Martina, 2011; Perin, 2019; Chowningand & Peterman, 2015; Llewellyn, & Adams, 2013) proposed the argumentation method where students can collect data and evaluate evidence for their claims that are related to their conclusions.

Challenge their assumptions

Researchers encourage educators to boost high-order thinking skills by teaching students to challenge their assumptions, which in turn, teaches them how to search for facts in order to broaden their horizons (Cottrell, 2017; Heickp, 2019; Llewellyn & Adams, 2013). A study by Irwanto, et.al. (2018) claims that information acknowledged by the students is narrow, hence why, they are less competent in generating self-sufficiency. In this manner, students tend to face difficulties in comprehending the issues that require thinking and investigating abilities, difficulties in clarifying concepts, and thus having the tendency towards being detached. The aforementioned strategies and methods can be very effective in enabling educators to activate critical thinking skills among their students, therefore resulting in the production of a generation that is capable of utilizing the knowledge they have gained, instead of simply consuming it thus rendering them capable to keep up with the pace of knowledge in the modern world.
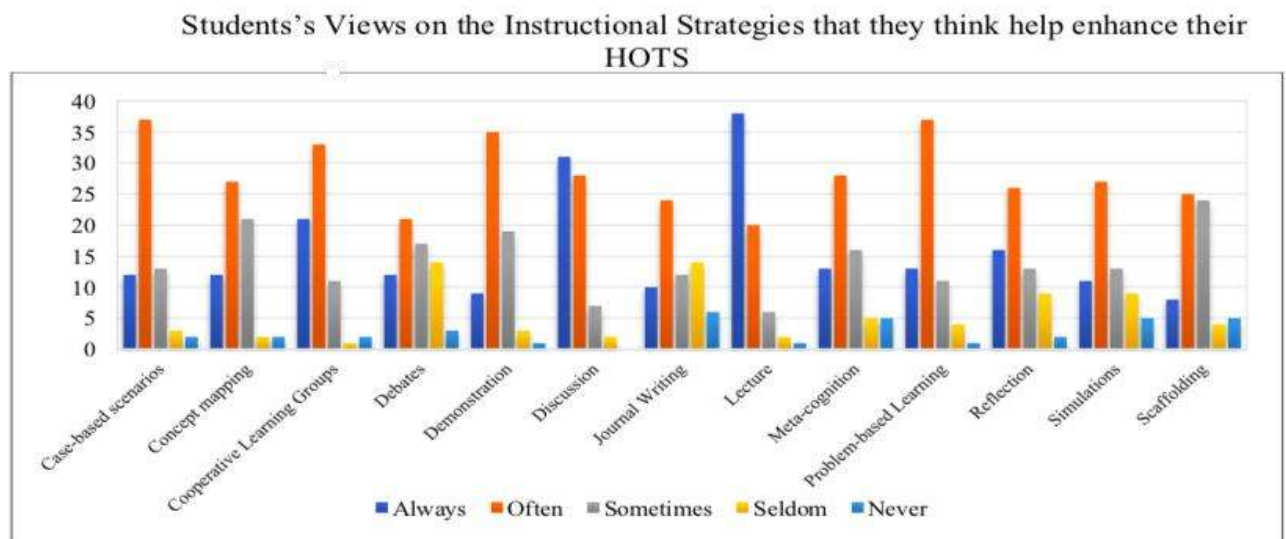

Fig. 1

Educational Reform Plan

This is a proposal for a change in Saudi Arabia to enhance critical thinking skills in students. This proposal was based on the distribution of a practical model that supports the application of intellectual abilities as one of the basic skills of the 21st-century. These skills are

considered one of the challenges the Ministry of Education in Saudi Arabia is currently facing, and one of the basic pieces of knowledge and skills that all students should acquire, as mentioned in the Education plan, to achieve Vision 2030 and in the general objectives of education 2020. Which is why, critical thinking skills is an essential skill that will undoubtedly help the ministry reach the country's Vision 2030. Furthermore, students must master these skills in order to be prepared for workforce needs.

This diagram is from the Ministry of Education and it represents the intended objectives of the education system.
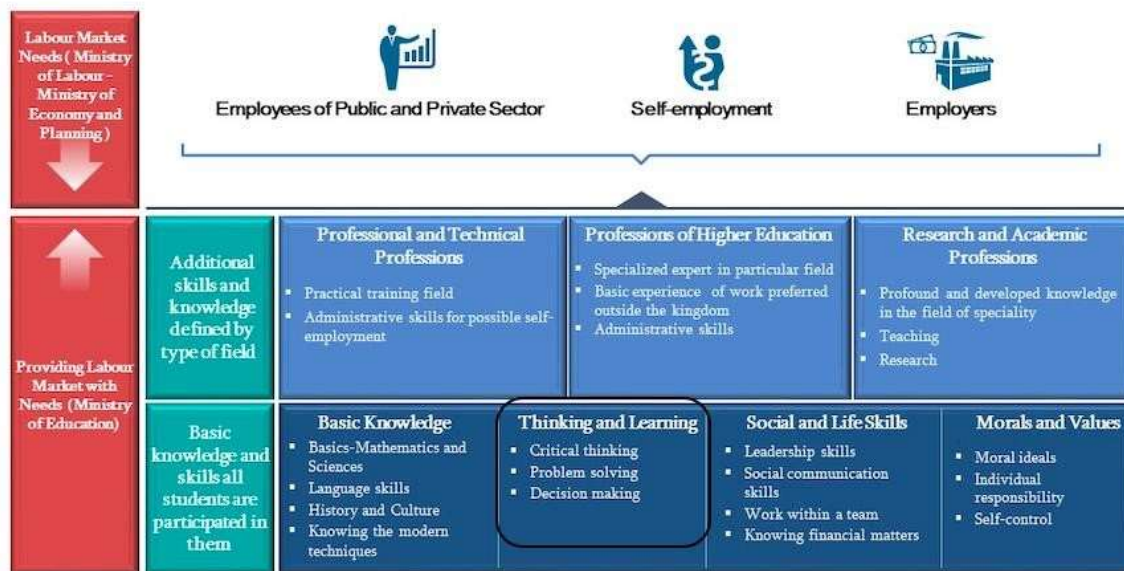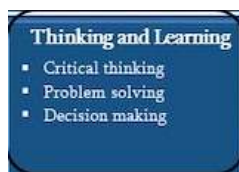
System

Fig. 2: The Intended Objectives of Education System.
https://www.moe.gov.sa/en/Pages/vision2030.aspx

The diagram below is from the Ministry of Education and it represents the challenges facing the education system in the Kingdom of Saudi Arabia.
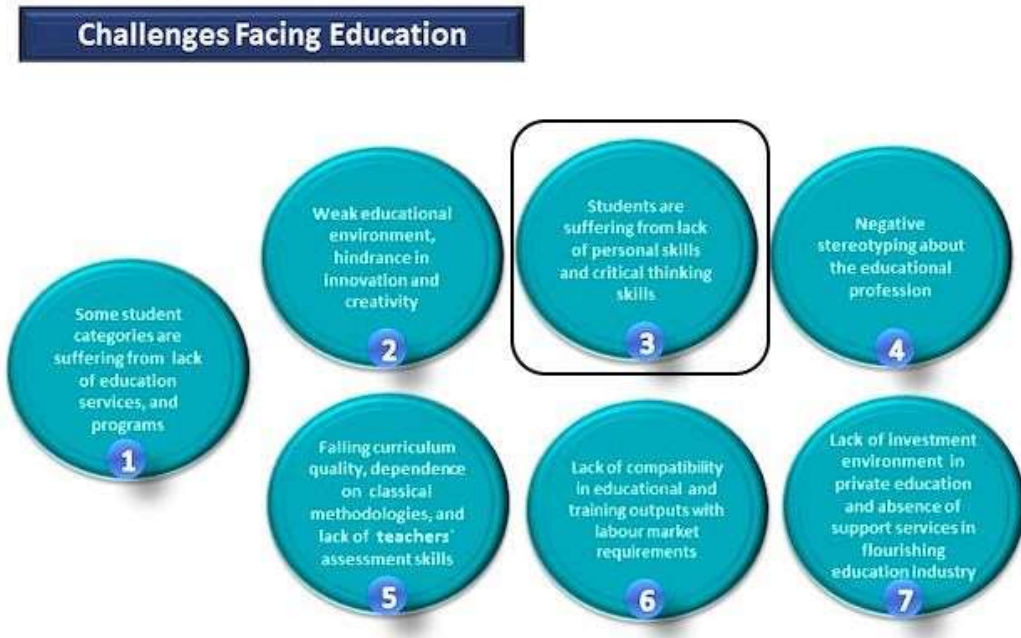
Fig. 3: Challenges Facing Education in KSA
https://www.moe.gov.sa/en/Pages/vision2030.aspx

As you can see in the diagram below, the Ministry of Education has indicated that the development of teachers, methods of education, and improving of students' values and skills are some of general objectives of 'Education 2020.'

Fig.4: General Objectives of Education 2020
https://www.moe.gov.sa/en/Pages/vision2030.aspx

1) **Rationale:**

It is the objective of the ministry of education to supply the Saudi labor market with the skills it needs. While Basic knowledge and skills such as basic mathematics and sciences are highly valuable, other thinking and learning skills are becoming hiring criteria for many employers. These skills include critical thinking, problem solving, and decision making. This enforces the needs of at least piloting the suggested program, where the potential to get desirable output is high. The collective research emphasized the importance of enhancing students' critical thinking skills as it is essential for everyone. As the world moves to 'creative jobs', there are areas of agreement among educators that, the criteria for students graduating into the workforce include the capacity to recognize and disentangle complex issues, think critically about information, work suitably, and communicate clearly. D'Alessio, Avolio, and Charles, (2019) recommend critical thinking skills as one of the fundamental skills that educators have been advocating to achieve for a long time, as it is believed that they can lead to higher academic performances. Students who are able to think critically are able to interpret issues more thoroughly and accurately. That being said, having information or data alone is insufficient. To be successful within the workplace—and in their individual lives—students must be able to solve problems and make informed decisions; they must be able to think critically and ingeniously.

The following points suggested by David Hitchcock strongly support the argument for critical thinking skills as essential for preparing young people to enter the future workforce (2018):

●   In Glaser and Watson (1941), the experimental group of students received 8 lessons in critical thinking while the control group received regular lessons. A pre-test and post-test of the students utilizing the Otis Quick-Scoring Mental Ability Test and the Watson-Glaser Tests of Critical Thinking (created in collaboration with Glaser's paper support, Goodwin Watson) were administered. "The average gain in scores on these tests was greater to a statistically significant degree among the students who received the lessons in critical thinking than among the students in a control group of four grade 12 high school classes taking the usual curriculum in English" (Hitchcock, 2018, p.1).

● Modern political and business commanders express support for critical thinking as an educational goal. In his 2014 State of the Union address (Obama 2014), U.S. President Barack Obama mentioned critical thinking as one of six abilities, for the new economy that is focused on his Race to the Top program.

● In an article in the business magazine, *Forbes*, it was reported that the number one work skill, found in nine out of ten of the foremost in-demand employments, was critical thinking, characterized as "using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems" (Hitchcock, 2018, p.1).

● In reaction to the two points mentioned above, the European Commission has financed "Critical Thinking Across the European Higher Education Curricula", a nine-country study that aims to create rules for quality in critical thinking instructions, in European establishments of higher education, on the premise of the researchers' discoveries of the critical thinking abilities and dispositions that employers anticipate of later graduates (Hitchcock, 2018, p.1).

● The Centre for Educational Research and Innovation of the Organization for Economic Development (OECD) in early 2018, issued a call for teachers of higher instruction to take part in a two-year study, with control groups, of mediations in undergraduate or instructor instruction outlined to progress imaginative and critical thinking (OECD Centre for Educational Research and Innovation, 2018).

2) **Implementation Plan:**

● The Implementation Plan will focus on computer classes for the both middle and high schools, as they fall under my expertise and authority. The implementation plan for the proposed project is based on several stages and procedures.

● The implementation time for the whole project will be 4 years. The stakeholders that will benefit from this proposed model will be all segments of the educational community—students, teachers, educators, administrators, and parents.

Examples to demonstrate how critical thinking has been used to teach standards in Excel Academy Middle School in Chelsea, Massachusetts, U.S:

According to the interview with the Dean of Curriculum in Excel Academy in Chelsea Middle School,

Ms. Emily Lupo, the skills that the state wants students to master are the following:

1. Use of patterns

2. Use of data

3. Ask good questions

4. Have an opinion, argue, and defend their position

5. Use evidence from the text or the problem to be able to back themselves

6. Persevere when something is tough

7. Take something they know and apply it in a new situation

Example: The teacher has required the students to write an essay. In this essay, students should have a thesis, write claims—support their claims with evidence from the text or data, then give

explanations—in this stage, the students will be able to demonstrate how that evidence justifies their answer. Thus, students get the chance to both seek explanations and make decisions. Additionally, students in these situations learn how to practice, argue constructively, and analyze information, which is also very important.

Examples from our experience through school immersion:

(Excel Academy Middle School in Chelsea)

I have created a video to demonstrate examples of teaching strategies that lead to critical thinking that I observed at my placement at the Excel Academy Middle School in Chelsea, MA. Pleas click-on the link below to view these examples.

https://drive.google.com/open?id=1m9gnJ2ICqvslLbyPI3pHUJZrXvFMjQfI

Strategies and Methods that promote Critical Thinking Skills in Students

One of the effective teaching strategies that focuses mainly on the process of learning, instead of concentrating on the content. That being said, the focus will be on the skills that students will gain throughout the learning process.

Effective Questions

Questioning is often used by educators as an effective teaching strategy to foster critical thinking:

●	The goal of "effective questioning" is to use the various cognitive taxonomies such as analyzing, synthesizing, evaluating, and creating. These are the 'higher-order thinking skills' which should be applied instead of the 'lower-order thinking skills.'

●	Effective questioning focuses on stimulating brainstorming and having the ability to back their claims and find solutions for the problems mentioned.

●	Concentrate on the open-ended questions such as (Who, What, Where, When, Why, and How) which are essential and more-likely to foster critical thinking skills rather than the 'yes or no' questions.

●	Ask questions that require an extended response.

●	Use some strategies such as the NUMBERED-HEADS-TOGETHER or THINK-PAIR-SHARE, to involve everyone.

For more details please watch the attached link from the San Bernardino Unified School District

https://www.youtube.com/watch?v=DVfOJjKV5QEandfeature=share

Problem-Based Learning

With the help of 'problem-based learning', educators are now able to have a powerful tool on their side. It's a technique that will support students well in and out of school.

Problem-based learning is entirely characterized by the 6 Ds—Define, Discover, Dream, Design, Deliver, and Debrief.

Watch the short video below to learn more about these from Watanabe-Crockett:

https://youtu.be/6tGN8wnJ2eE

Discussions / Cooperative learning:

It is one of the strategies that can strongly impact students' thinking skills. Therefore, discussions ought to be used as a culture rather than just an activity, in other words, teachers need to plan how students will be conducting the discussion.

The following are some strategies and tips that will help lead discussions successfully as mentioned in the Center for Teaching Excellence, University of Waterloo website (2020):

- Set up ground rules for the students' participation in discussions.

- Clearly communicate how much time you've got for questions or discussion, and what you're trying to achieve within this range of time.

- Make a list of key points.

- Partner students up and give them the chance to brainstorm their ideas.

- Divide students into little groups to examine a particular question or issue sometime before inquiring them to share with the class as a whole.

- Pose a controversial issue and organize a casual debate about it.

- Allow students to ask questions or share their thoughts in lessons anonymously, such as writing them down on a piece of paper.

- Use online resources and content management frameworks to amplify lesson discussions.

- Optimistically reinforce student contributions by emphasizing the value of their responses by restating their comments, writing their ideas on the board, and/or making connections between their comments and the discussion in general.

For more details please watch the attached link from Michigan Department of Education.

https://m.youtube.com/watch?v=BGBLMdXnTmoandfeature=share

Argumentation

An argument is a claim that legitimizes conviction of information and evidence. "The *claim* is an assertion

or conclusion that attempts to answer the original question or summarize the findings of a scientific inquiry. The *evidence* is extracted from all the data collected in the form of observations and measurements. The *evidence* supports the legitimacy of the stated claim. The *explanation* summarizes the claim and provides an interpretation of the newly acquired knowledge. These element play an important role in designing argument-based investigations" (Llewellyn, and Adams, 2013, p.3).

Steps to engage in a debate in the classroom as mentioned by Llewellyn, and Adams in their article entitled

Turning the Science Classroom into a Courtroom (2013) are featured below

1. Asking questions

2. Creating and utilizing models

3. Planning and carrying out investigations

4. Analyzing and evaluating data

5. Utilizing arithmetic, data and computer technology, and computational thinking

6. Developing explanations

7. Engaging in arguments from evidence

8. Collecting, assessing, and communicating information

Challenge Assumptions

It is significant that students' assumptions are always being challenged. In addition, it is a good idea to

Show an often-debated issue and question students about their assumptions on the topic. The teacher can show a well-argued, objective video on the topic and after that asks the students to revisit their presumptions in a group.

At last, the teacher shares the students' thoughts with the whole class (Erik, 2016).

Analysis and Evaluation:

● *Analysis:* In order to measure the impact of strategies and methods on students' acquisition of critical thinking skills, the data will be collected through multiple tools such as observations, field notes, assessments (rubrics), interviews, surveys (teachers, students, parents, and administrators), student work samples, photographs, audio or video excerpts, and reports. Following, the quantitative and qualitative data will be analyzed.

● *Evaluation:* In this process, we will be using those tools before implementing the proposal and after, to compare how well students have improved their critical thinking skills after applying those strategies and methods. Accordingly, the results will be drawn to determine the success of the project.

Example:

If the expectation is to teach students how to argue, they are supposed to learn how to analyze information, seek explanations, look up claims, support their claims with evidence from investigating and interpreting data to persuade their peers, and give reasoning by explanations, to defend their position. During this process, the evaluator can interview the students, observe how students argue in any case, record their answers, write down the students' answers to be assessed by a rubric. That being said, if seven out of ten students are able to argue supporting their claims with evidence, back up their claims with some facts, and are able to reason with

that, then the evaluator would be able to determine whether or not the students have reached the requirements the project has set out.

Table:3

General Objective	Educators apply strategies and methods that enhance students' critical thinking.	
Objectives	**Analysis**	**Evidence**
1) Educators and students can ask questions that will effectively foster critical thinking.	• Observations. • Rubrics.	70% of educators and students ask effective questions in order to promote critical thinking.
2) Activating problem-based learning in lessons efficiently.	• Observations. • Student work samples. • Checking teachers' lesson plans.	50% of the lessons are based on activating a problem-based learning method.
3) The ability of teachers to lead classroom discussions that successfully promote critical thinking.	• Observations. • Rubrics. • Audio or video excerpts.	70% of educators can lead classroom discussions successfully.
4) Help students master the skill of debating by obtaining claims and supporting them with evidence.	• Observations. • Rubrics. • Reports • Fieldnotes. • Checking teachers' lesson plans. • audio or video excerpts.	70% of the students can master debating by using claims and supporting their claims with evidence.

5) Educators can challenge the students' assumptions skillfully.	● Observations. ● Checking teachers' lesson plans.	70% of educators can challenge their students' assumptions skillfully.

Resources:

Source of Project Funding	Cost
1-Professional Development place (Educational Training Center, Schools)	0 Saudi Riyals
2-Hiring experts from the educational field.	0 Saudi Riyals
3-Training Guidance, Practices (electronic copies)	0 Saudi Riyals
4-Training Requirement (will be provided by the host)	0 Saudi Riyals
5-Technology (will be provided by the host)	0 Saudi Riyals
Total	0 Saudi Riyals

From my experience as a supervisor, the ministry prefers to establish projects with minimal costs. What was challenging is that how can we convince them. So we worked hard to set up an implementation plan that mostly utilizes internal resources.

Conclusion

As an administrator, it is my first time working on such a detailed project. I always had a passion to explore new and unique trends. I was honored to work with educational professionals in one of the most valuable and strongest universities in the United States. Through my research on critical thinking, I have learned a lot about what critical thinking is, and its impact on our personal and professional lives. Surprisingly, I figured out that this topic is quite broad and profound compared to my previous understanding of it. Therefore, I look forward to establishing the project and applying it to other subjects for all academic levels. Moving on to my experience in one of the greatest schools—Excel Academy Middle School in Chelsea in Boston, I was amazed by how sincere the administrative and educational staff were while performing their job. Being around such an encouraging and supportive environment helped me a lot in expanding my educational knowledge. Nevertheless, the duration was quite short—which in my opinion took its toll on my overall perception of the whole school immersion experience, especially since I wasn't granted the chance to thoroughly acquire the teaching techniques. Nonetheless, I am pleased by the amount of information I have obtained through the learning strategies and methods that I'm unequivocally planning to apply to our educational system. Furthermore, I consider this experience to be very precious to me—especially because of the reputation that the American educational system upholds—and to be granted the chance to explore and encounter new cultures, and in addition to that, develop my English skills is undoubtedly enrapturing. In addition, this experience had a great impact on me as it refined my personality and made me a stronger and independent person. Another advantage during my stay in the United States was getting the chance to make new acquaintances, that in return improved my communication skills. To wrap up, I would highly recommend educators in Saudi Arabia not to hesitate to take this opportunity and get the most out of it, as it will enhance both their and our beloved country's future.

Personal Biography of Researcher / Educator:

Wallaa Mohammed AlShakhis got a bachelor's degree in Education in Computer from Imam

Abdulrahman Bin Faisal University. She has worked as a computer supervisor and the head of the Computer and Information Technology Department at Alqatif Educational Office in the eastern province in the Kingdom of Saudi Arabia for eight years. Ms. Alshakhis has many certificates in the profession and in personal development. She has a certified trainer license from the World Board for Human Development and certification as a trainer from the Gulf Council for Human Development. In addition, she has a diploma in INLPTA (INTERNATIONAL NEURO-LINGUISTIC PROGRAMMING TRAINERS ASSOCIATION) that qualifies her to work as a teacher professional development trainer by coaching and leading computer teachers to achieve her vision, which is "Contribution to assemble an innovative generation that is capable of achieving the national vision." She has several notable achievements. She received the Award for the Best Quality Initiative at the Regional Level in 2015-2016 and 2019. She co-authored a book entitled, *Self-management for Computer Lab* with the help of the Computer Department staff in 2019. She presented a paper, "The Art of Leadership and Effectiveness" at the Second Education Management Forum 2019, and she presented another paper, "Smart Lessons" at the Arab Innovations Conference 2018 in Dubai. Furthermore, she has led many initiatives such as the Creathon (Competition) Technological Innovations in 2019. It is a competition for students interested in creating

entrepreneurial technological ideas and turning them into innovative technical projects. Which, in return would help contribute to enhancing the ability of the education system to meet the requirements of the labor market—in order to reach the vision 2030 in KSA. In 2015, she established the idea of Smart Lessons. Smart Lessons is a project that introduces teachers to the use of technology to assist in lesson planning. Currently, she is dispatched to Boston University, Boston, MA by the Ministry of Education for one of their programs to achieve the national Vision 2030 for the Kingdom of Saudi Arabia, entitled, Building Leadership for Change Through School

Immersion: Innovative Approaches to Education Reform in the 21st Century.

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