

Promoting Critical Thinking in Online and Hybrid Classes

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Abstract

The shift to fully online and hybrid instruction due to COVID-19 pandemic mandates that faculty examine means of enhancing critical thinking strategies into the online and hybrid setting. Research support the use of discussion and reflection in promoting students' critical thinking skills. The purpose of the current study is to examine students' application and perception of critical thinking strategies when learning in an online or hybrid environment. Results indicate that the use of online discussion threads and reflective forms promote active engagement with the course and enhance critical thinking. Findings suggest that the faculty members should incorporate discussion threads and reflective forms throughout the online and hybrid courses to enhance students' engagement and critical thinking.

Keywords: online classes, hybrid instruction, asynchronous threaded discussions, reflective forms, online learning, critical thinking, engagement

Introduction

The relevance of critical thinking in higher education is mandatory as students are being prepared for life. Research (Fettahlioglu & Kaleci, 2018) indicates that university faculty and administration continuously work on promoting critical thinking. In essence, a minority of faculty members succeed to incorporate critical thinking activities in their courses. Critical thinking is a difficult abstract concept. As explained by Sudiat mika, & Selamat (2018) it entails the use of cognitive skills to understand and evaluate, solve problems, and formulate inferences. The six Aristotelian critical thinking questions, "what, when, where, how, who, and why," though widely respected in philosophy; are not predominately used in faculty classes though they are cornerstones of inquiry. The incorporation of Aristotelian critical thinking questions in online and hybrid classes are often disregarded though they can easily be incorporated in discussion threads and reflective forms. Reflective forms can also incorporate questions on cause and effect, future application and relevance of content to local setting. Reflective forms can be designed according to the course content and the teacher can use different reflective forms throughout the course.

Despite the emphasis on the relevance of critical

thinking, there is an ongoing disregard on the incorporation of critical thinking activities in online and hybrid classes to foster higher-order thinking skills and enhance 21st century skills. Challenges of such incorporation include the unfamiliarity of instructors of ways of incorporating discussion threads and reflective forms in their classes. In addition, such discussion threads should be designed to support students' understanding and ability to analyze, criticize, and advocate ideas. While this goal is straightforward, implementation is a daunting task, regardless of whether the mode of instruction is face-to-face, hybrid or online.

Literature Review

A plethora of research has been done on the value of various instructional strategies for the promotion of students' critical thinking abilities (Acker, 2003; Braun, 2004; Koenig et al., 2011). Instructional strategies that integrate constructivist, active-learning, student-centered techniques enhance students' critical thinking (Arum & Roksa, 2011; DeAngelo et al., 2009; Walker, 2003; Wlodkowski, 2004) are advocated. Critical thinking activities should be infused in all classes whether face-to-face, online or hybrid. There is a gap in research concerning the integration of critical thinking activities in online and hybrid classes.

Some researchers claim that critical thinking skills can be domain-specific, others believe that the continuous practice of critical thinking activities

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create informed and creative consumers of information (Kuncel, 2011). As such, faculty members should try to imbue critical thinking activities in their courses even though it is time consuming. Jonathan Harber enforces in *Critical Thinking* (2020) that critical thinking is a 21st century skill that should be taught, practiced and assessed through different levels (24, 35). Unfortunately, it is not taught or practiced enough in all educational institutes (33). Harber enforces that critical thinking practices create better citizens, policy makers and educators (47). Teaching critical thinking will shatter logical fallacies and cognitive biases. Sandra L. Love and Rebecca Stobaugh (2018) enforce the teachers' role in scaffolding students and emphasizing reflection, flexibility and creativity. Katherine Hibbs Pherson and Randolph H. Pherson in their book *Critical Thinking for Strategic Intelligence* (2020) explain that teachers should push students to think and contemplate effectively. Critical thinking is a pivotal life quality that activates interaction, integration, and positivity. Paul and Elder (2002) explains the relevance of critical thinking stating: "Critical Thinking is about becoming a better thinker in every aspect of your life: in your career, and as a consumer, citizen, friend, parent, and lover. Discover the core skills of effective thinking; then analyse your own thought processes, identify weaknesses, and overcome them. Learn how to translate more effective thinking into better decisions, less frustration, more wealth, and above all, greater confidence to pursue and achieve your most important goals in life (p.xix). Instances of flourishing educational models depends on the infusion of critical thinking activities. Schools and faculties in the US incorporate critical thinking activities with field work and in interdisciplinary studies (Pascarella and Terenzini, 2005; Arum & Roksa, 2011). The integration of critical thinking in different syllabuses nourishes the spirit of applying new ideas and creates agents of change.

There is a disregard of infusing critical thinking activities in the educational system in both Saudi Arabia and Egypt. This is basically because the culture is collective and is based on respecting elders and superiors (Stobaugh, 72). In addition teachers and students believe that critical thinking activities are time consuming and though relevant for preparing students for life, students are examined in the syllabus content rather than their view point on different issues (Pherson 10, 75). In addition, teachers and faculty members are not trained on incorporating critical thinking activities in their syllabus. Al-Miziny (2010); Al-Essa (2009);

Barnawi's (2011); Kafe (2009); Al-Sagoube (2009); Al-Qahtani (1995) and Elyas (2008) enforce that the Saudi education system lacked the integration of critical thinking. These scholars emphasized the relevance of the integration of critical thinking activities to reform the Saudi educational system. Elarab and Maddy (2020) enforce the idea that teaching critical thinking skills to pre-service teachers in Egypt is a must to create a generation of teachers who understand the relevance of critical thinking and know how to incorporate it in their syllabus.

The balance between the time spent on teaching content and nourishing critical thinking need careful consideration. This entails dedicating more time for the preparation and design of critical thinking activities. In addition, TESOL teachers in Arab countries should explain to their students how to support their ideas with supporting details, as EFL students in the Arab world are not well trained on expressing their ideas.

TESOL faculty members in the Arab world focus on content, language proficiency rather than developing higher order thinking skills. Learning activities are confined to knowledge and comprehension level and disregard application, analysis, evaluation and creation. Though faculty members maintain that learners should go beyond the information level, they evade incorporating critical thinking activities because of the idea that they are time consuming. Students in collective cultures dislike critical thinking activities as they may involve expressing opinions different from that of elders or policy makers. Critical thinking activities also involve sharing ideas which many dislike, doing research to understand better which is time consuming and listening to others' point of view a skill that they have not been trained on (Sudiat mika, & Selamat 2018).

Critical thinking practices create well-prepared citizens (Shaila and Trudell, 2010). Incorporating critical thinking in our classrooms will create learners good at analyzing problems from different perspectives which encompass respecting human rights, democratic norms and values, and individual freedom etc. As part of 2030 vision in Egypt and Saudi Arabia university administration, policy makers and faculty members are advocating critical thinking activities. Nonetheless, many teachers are not trained on such incorporation especially in online and hybrid classes.

The application of critical thinking in EFL and TESOL online and hybrid classes is possible. Strategies such as using Aristotle questioning, concept maps, Think-Pair-Share (TPS), quick write,

know-want to know-learned (KWL) forms, jigsaw, debates, discussion threads, and reflective forms can be incorporated in online and hybrid classes. Students can be given training on supporting their view points with supporting details. In addition, online reflective forms can be assigned as homework and then discussed in class time.

Research Questions and Purpose of This Study

The main research question is: what are students' perceptions of the incorporating of critical thinking activities in online and hybrid classes at King Saud University and Higher Technology Institute? This question about the inclusion of critical thinking activities and techniques in newly designed online and hybrid courses has not been undertaken before in Saudi Arabia and Egypt. Analyzing this issue also addresses a gap in the literature in critical thinking specifically in the Saudi and Egyptian context.

Method

College students enrolled in three classes, two online classes (n=20 and n=16) one studying MA TESOL program in King Saud University and the other studying general English in the Higher Technology Institute in Egypt and one hybrid class (n=20) studying general English in the Higher Technology institute participated in the study. Students were all introduced to the infusion of critical thinking activities in online and hybrid environments for the first time. Researchers infused the critical thinking activities in their online and hybrid classes via adding online reflective forms and online discussion threads. All students were treated in accordance with APA ethical standards.

The study utilized qualitative, action-based research in which students' perception and opinion expressions were evaluated after the incorporation of focused critical thinking activities in their online and hybrid classes. The online tools used to incorporate critical thinking activities were Blackboard, Zoom, Microsoft teams, and Microsoft Forms. Blackboard, Zoom and Microsoft teams allowed online discussion threads. Microsoft forms were used to design reflective forms. On each lecture a discussion thread was posted at the end of the lecture to discuss the content taken in the lecture and its relevance to the local context. Students were asked to send an initial comment and then access the online environment at least twice a week to read their colleagues views. They were also asked to comment on at least two students' posts. In addition, reflective forms were sent on weekly bases. The forms encompassed KWL

, Reading Reflection, Writer's Message, and Cause and Effect forms. Two online questionnaires were used to collect data. The first questionnaire was used prior to the integration of critical thinking activities and the second was conducted at the end of the course.

Data Analysis

Findings and Discussion

The main themes that emerged from the first questionnaire was the relevance of critical thinking. Students explained that they rarely critically analyzed what they studied in school or college as it was rarely introduced as a concept or practice by their teachers. Most students were happy that they will practice critical thinking, will have a say on what they learn, and connect what they learn to their local context and their lives.

The answers to the questionnaire asserted the relevance of the learning experience and its importance in preparing students for life. Students enforced that they will always think critically about the content they study, connect it with their local environment, and follow the ethics of expressing opinion. Students F, G, and N in Saudi Arabia explain "we are not encouraged to express our view as it may lead to fights." Most students in Saudi Arabia and Egypt enforce that faculty members should train students on expressing their views politely and respecting other point of view. Students agree that they should be trained on respecting authority but criticize wrong doing in a polite and respectable manner. Students C, H and L in Egypt enforce "society and culture does not teach us to respect other views".

The questionnaire also discussed how students presented their opinions on social media. Students expressed that Facebook and Twitter was a great outlet for opinion. Many students liked expressing their opinions online but most had no idea about internet ethics, net etiquette and discussion rules. Student A from Saudi Arabia stated that "the experience is inspiring as it gave me the tools and ideas on how to add up critical thinking activities in my syllabus." Student B from Saudi Arabia expressed her perception on the relevance of critical thinking stating: "I believe that critical thinking will enable me to deal with different life matters and solve difficult problems" Student H from Egypt stated: "I liked the addition of thinking activities as it helped me learn that I have a say. I can weigh matters and my opinion is important" Student Q from Saudi Arabia explained "I believe critical thinking is important as it will train me on solving problems, to know how to express my

opinion and to choose the best options." Student S from Egypt explained: "Critical thinking is not only related to educational achievement. It is related to life at large." Student D from Saudi Arabia explains that critical thinking can create open minded youth. S/He states: "Critical thinking activities helped me learn to employ reason rather emotion and to listen to and respect other people opinion."

Most students liked giving opinion online as the virtual environment gave them power. They are used to speaking up and expressing their thoughts online. Student E from Saudi Arabia states: "I get superpowers online. I like the idea that we will reflect on the syllabus content, discuss materials with our colleagues and connect what we are learning with our daily realities." Student C from Saudi Arabia adds: "It never hit my mind that we will use online tools to discuss and reflect on what we are studying. It is really impressive." Student B from Egypt stated: "I like the idea that we will speak up our minds online. We do it on Facebook, Twitter and Instagram, but we never did it on what we are studying." Student F from Egypt explains: "It is inspiring that we will use the web to express our ideas, connect, build on each other ideas and work on improving our common realities."

Most students expressed that giving opinion is time consuming but beneficial as a learning tool as they weigh matters, understand main themes, and know facts from opinions. Student F from Saudi Arabia elucidates: "It takes time to order my thoughts, brainstorm and write my idea. Still, it is highly beneficial as I feel I fully processed the main concepts and know how I will use them." Student G from Egypt said: "Writing my thoughts definitely takes times. Nonetheless, I never feel that I fully understood something expect when I have a say on it.

The process of giving opinions online is interesting and easier than giving opinion in class. Student H from Saudi Arabia illustrates: "I use the internet on hourly bases. It is my friend who supports me. I never feel intimidated when I use it. It is easier for me to express myself online than in person." Student I from Egypt explains: "Using the internet to express our thoughts on what we are learning is easier than in class. We are familiar with it as we express our ideas on Facebook and Twitter every day. We do not express our opinion in class. We do not know how. Even if we took training, we will not do it as well as we do it online." In addition, most students liked the idea that they will use different tools, as it a 21st century skill to use more than one online tool and be digitally literate. Student D from Saudi Arabia states: "I am happy

that I am learning to use different tools. It is great and beneficial. I am expressing my thoughts and using new tools." Student F from Egypt demonstrates: "I am learning to express myself, my view points and using new online tools. I feel I am growing."

As for the end of term questionnaire most students enforced the effectiveness of practicing critical thinking activities in online and hybrid classes. They explained that the practice enhances the teaching and learning experience as it makes them link what they are studying with the local community, interact and collaborate and think about the core of matters. Students emphasized that they liked practicing critical thinking using online tools as it easy to use, make them digitally literate and prepares them for life. They liked the use of reflective forms and they wanted them to be incorporated in other courses. The forms made them evaluate matters, reflect and express their ideas openly but they were time time consuming. Students liked practicing critical thinking online more than in class setting though it was time consuming. Students recommended practicing critical thinking activities online as most students are familiar with online tools and thought that online tools enhance critical thinking as they were at ease in online environments as they spend a lot of time online. Students recommended the integration of online critical thinking activities in future online and hybrid classes as the experience was effective.

Students' Attitude

Although most students explained that school teachers and university staff play a definite role in infusing critical thinking activities, many students stated that practicing critical thinking activities a tiring experience though beneficial. Student R from Saudi Arabia elucidated: "Critical thinking is a practice that requires reflection. Reflection needs time to thinking and re-think, put your ideas on paper, and even discuss them with others." Student W from Egypt explained: "Many students' dislike critical thinking as it involves work, and they like being spoon fed. Any question that involves thinking is hard. In addition, they lack confidence. Williams (2005) enforces the unwillingness on the part of students to do critical thinking activities as it "requires hard work" and "many students would prefer that teachers just give them answers to complex questions" (p. 182). Likewise, Ijaiya, Alabi and Fasasi (2011) emphasize students' disengagement and detest for critical thinking activities. As explained earlier students were not

trained on critical thinking activities in schools and this makes the mission of staff members more difficult.

Infusing Critical Thinking Activities

Students in Saudi Arabia blamed the secondary and university educational system as they do not encourage using critical thinking activities. They enforces that the system encourage coverage of a large content rather than quality teaching and learning. Both students recommend adding a reflection component to all syllabus. Student H from Saudi Arabia stated "As our culture encourage respect for the elders, the administrators, teachers and even private tutors concentrate on the material coverage rather than its relevance and application in local context. Student I from Egypt states: "Whenever I asked about how what I was learning will affect my life, teachers and faculty members stated who have to study the rules and later you would figure out why these rules are relevant." Student R from Saudi Arabia stated: "Thinking critically will improve our lives as we will understand the logic about things, have reasons for our choices and will have amendments in our wrong administrative and executive systems." Student E from Saudi Arabia added "Critical thinking can be easily embedded in all syllabus by adding wh. Questions to all lessons." Student H from Egypt states: " Adding critical thinking activities was really helpful and made me understand the material better as I thought about the value of what I am learning and how it will support my environment and change my life." Student R from Egypt explained: "The educational system is improving as the country is trying to add up technology, enhance critical thinking and research-based learning."

Teachers in Saudi Arabia and Egypt need training on incorporating critical thinking and on using e-tools to embed these activities. E-tools like blogs, blackboard discussion thread, Microsoft Teams discussion posts, Edmodo discussion threads, and Padlet can be used in embedding critical thinking activities.

Conclusion

Students' view point concerning the relevance of incorporation of critical thinking activities in online and hybrid classes reveal that such activities support in making students' grow, be equipped with life skills and enhance the learning process. The programs at both Saudi and Egyptian context disregard the critical thinking component and concentrate on the content. Students need orientation on the relevance of

expressing opinion, thinking critically, ethics of expressing one's opinion, techniques of reflection and ways of supporting one's opinion. Students also need support and scaffold as they sometimes have difficulty expressing their thoughts in English.

Students are satisfied that have a say in different issues, learning how to express their view and use supporting evidence, and find this method interesting, inspiring, include intellectual rigour, and challenging. The teaching methods are innovative, with lecturers perceived as facilitators and coaches. The curriculum was viewed advanced by students, focusing on quality. The data reveal an urgent need for incorporating critical thinking activities in online and hybrid classes to limit the continuation of the rote-learning method of teaching and learning and prepare students for life. Incorporating critical thinking activities in university level classes, specifically online and hybrid class is a reform step to the educational system and curricula that will certainly positively impact the culture in general in Egypt and Saudi Arabia, create active learners who are creative and progressive.

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Authors Biographies

Dr. Hind Al fadda is an associate professor in the field of teaching English as a second language at the department of curriculum and instruction at King Saud University – Riyadh. She earned her M.A and PhD in TESOL from Kansas State University, USA. She has several published researches in the field of CALL and several contributions in educational conferences.

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Appendices

Beginning of term questionnaire

QUESTIONNAIRE: Integrating Critical Thinking in Online and Hybrid Environments

Course:	Name:	Date:
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1=disagree totally

2= disagree

3=not strong opinion

4=agree

5= strongly agree

Attitudes to giving opinion

1 2 3 4 5

- | | | | | | |
|----|-------------------------------------------------------------------------------------------------------------|--|--|--|--|
| 1 | I think I will enjoy giving opinions online. | | | | |
| 2 | I will avoid giving opinion online. | | | | |
| 3 | I think giving opinion online will be time consuming. | | | | |
| 4 | I think giving opinion online rather than in class is easier. | | | | |
| 5 | I would be a better learner if I knew how to express and support my opinion using different tools. | | | | |
| 6 | Giving a different opinion from my classmates, teacher or writer intimidates me. | | | | |
| 6 | I would learn better if I learn how to express and support my opinion in class and online. | | | | |
| 7 | I'm very confident when it comes to expressing my opinion online rather than in face-to-face environments. | | | | |
| 8 | I want to use technology to reflect, express my views and support my opinion. | | | | |
| 9 | I always think about what I am writing online. | | | | |
| 10 | I question things I read online. | | | | |
| 11 | I evade discussion online. | | | | |
| 12 | I discuss issues thoroughly online. | | | | |
| 13 | I inquire, critique and reflect whatever I take in class. | | | | |
| 14 | I connect whatever I study with my localities. | | | | |
| 15 | I acknowledge that my practices in class or online can either contribute to, or hinder, my success in life. | | | | |
| 16 | I engage in constructive criticism during online discussions. | | | | |
| 17 | Online Reflection help one learn better. | | | | |
| 18 | Online discussion on social media make me aware of biases. | | | | |
| 19 | Online discussion make one suspend judgments and consider different options. | | | | |

For each indicator, please select the rating that best represents the current state of your practice. Use O (often), U (usually), S (sometimes), R (rarely), or N (never).

Statement	O	U	S	R	N
1 I am trained on thinking about what I take in class.					
2 Teachers encourage us to connect the syllabus with our lives.					
3 As a student, I love discussion as it makes me grow.					
4 Teachers encourage us to think and inquire about what we are learning.					
5 Teachers use technology to enhance critical thinking.					

End of Term Questionnaire

Age:

Gender:

Class:

1. Do you find critical thinking activities in online and hybrid classes effective?
2. Do you think that critical thinking enhances the teaching and learning experience?
3. Do you like practicing critical thinking using online tools?
4. Did you like the use of reflective forms?
5. What are the positives and negatives of using reflective forms?

6. Is it better to practice critical thinking online or in class setting?

7. What are the side effects of practicing critical thinking online?

8. What are the advantages of incorporating critical thinking in online and hybrid classes?

9. Do you recommend practicing critical thinking activities online?

10. What online tools do you think can enhance critical thinking?

11. Would you like the integration of online critical thinking activities in your future online and hybrid classes?