Barriers in fostering critical thinking in higher distance education: faculty members' perceptions

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ABSTRACT
Nowadays, the central role of Critical Thinking (CT) in Higher Education is a fundamental educational priority and its fostering in courses is a fundamental major concern that underpins contemporary educational approaches, both in conventional (face-to-face) and Distance Education (DE). However, literature has highlighted several barriers that prevent the fostering of CT, which concern faculty, students, higher education institutions, and the educational methodologies they apply. While such barriers have been explored mainly in face-to-face education, their systematic detection in DE environments is limited. In an attempt to fill this gap, the present study conducted a qualitative research design regarding the perceptions of tutors who are employed in DE courses of the Hellenic Open University (HOU) about the factors that hinder the fostering of CT. The findings showed that the most important barrier which is related to tutors themselves is the lack of training in CT. Concerning students, their stereotypes, worldviews, busy schedules, and lack of motives and expectations, act as deterrents to any attempt toward CT. Regarding the implementation of DE, tutors pointed out several communication barriers they face, being away from students.

KEY-WORDS
Critical thinking, Distance Education, barriers, tutors

RÉSUMÉ
De nos jours, le rôle central de la pensée critique (PC) dans l'enseignement supérieur est une priorité éducative fondamentale et son encouragement dans les cours est une préoccupation majeure qui sous-tend les approches éducatives contemporaines, tant dans l'enseignement conventionnel (face à face) que dans l'enseignement à distance (ED). Cependant, la littérature a mis en évidence plusieurs obstacles à la promotion du PC, qui concernent le corps enseignant, les étudiants, les établissements d'enseignement supérieur et les méthodologies pédagogiques qu'ils appliquent. Alors que ces obstacles ont été étudiés principalement dans l'enseignement en face à face, leur détection systématique dans les environnements d'éducation à distance est limitée. Dans le but de combler cette lacune, la présente étude a mené une recherche qualitative sur les perceptions des tuteurs employés dans les cours d'ED de l'Université ouverte hellénique (UOH) concernant les facteurs qui entravent la promotion du PC. Les résultats ont montré que l'obstacle le plus important, lié aux tuteurs eux-mêmes, est le manque de formation en PC. Quant aux étudiants, leurs stéréotypes, leurs visions du monde, leurs emplois du temps chargés et leur manque de motivation et d'attentes sont autant d'éléments dissuasifs à toute tentative de

PC. En ce qui concerne la mise en œuvre de l'ED, les tuteurs ont souligné plusieurs obstacles à la communication auxquels ils sont confrontés, étant éloignés des étudiants.

MOTS-CLÉS
Pensée critique, enseignement à distance, barrières, tuteurs

INTRODUCTION

Research on the development of Critical Thinking (CT) in higher education has evolved significantly in recent years. A vast literature deals with challenging issues such as preparing higher education students for lifelong learning, activating political participation, developing the workforce's CT skills and integrating them in the workplace, etc. (Dominguez et al., 2018; Szenes et al., 2015). One of the main aspirations of higher education is the enhancement of students' CT in order to prepare them to function in a complex and rapidly changing society. This implies a shift of focus toward a more active and dynamic education, where the desired outcome is to train students to think critically, going beyond the realm of mere knowledge accumulation (Jafarigohar et al., 2016). The ability to make decisions and solve problems, combined with a spirit of tolerance and skepticism, are elements that characterize critically thinking individuals (Fahim & Masouleh, 2012).

However, despite the acknowledgement of CT's importance, factors such as faculty members' traditional teaching practices, students' negative dispositions towards CT, and higher education's teacher-centered orientation, hinder its cultivation in academic environments (e.g., Gunawardena & Petraki, 2014; Kasalaei et al., 2020). What is more, such factors have been detected mostly in traditional face-to-face academic environments, and systematic research in Distance Education (DE) contexts is lacking. Effective tutoring in DE includes (among other things) the promotion of CT skills (e.g., Jefs et al., 2009). Yet, tutors and students are far apart, while learning is mostly a self-paced and self-regulated process on behalf of students. Such a context can pose several communicative, emotional, and pedagogical barriers to the learning process (Berge, 2013) which may negatively affect the fostering of CT.

The present study aimed to explore barriers to CT according to the perceptions of tutors who are employed at the Hellenic Open University (HOU). HOU is the largest university in Greece which offers exclusively DE courses for almost two decades. Despite the acknowledged experience and expertise of its faculty members in DE, to the best of our knowledge, there has never been an exploration of the barriers they may face in cultivating CT.

The findings of the present research will inform researchers and stakeholders in the academic community about possible barriers to CT in order to design effective DE courses. Detecting such barriers is important, especially nowadays, where DE came to the fore as a forced choice for many universities worldwide, due to the COVID-19 pandemic, and this abrupt shift from in-person to distance teaching and learning was accompanied by many challenges for faculty members, students and universities (Faridah et al., 2021).

THEORETICAL FRAMEWORK

CT is a concept that is difficult to define. A look at the relevant literature reveals that the definitions that have been formulated so far usually approach various partial aspects of it, making it difficult to precisely define its meanings and the educational practices that would enable it. Both Moon (2008) and Barnaby (2016) refer to the existence of a strikingly wide variety of definitions and approaches. However, following the historical development of the

concept, we could refer to three partially overlapping and intersecting 'waves' of critical thinking (Kahlke & White, 2013). The first wave refers to the so-called 'technical' or 'instrumental' approach to CT which focuses mainly on logical argumentation, problem-solving, evidence, evaluation, and reflection (e.g., Facione & Gittens, 2016; Lau, 2011). The second wave concerns the 'humanistic' approach to CT, which criticizes the reduction of CT to a set of universal and abstract skills and processes. This approach emphasizes the socially prefabricated nature of thinking and has many affinities with social constructivism and its relevant epistemology (e.g., Gibbons & Gray, 2004). The third wave concerns the so-called 'emancipatory' approach, which highlights the contribution of CT in unveiling the dominant ideologies that are uncritically and unjustifiably incorporated into human practices and reproduce the established social and pedagogical hegemonies (e.g., Brookfield, 2005; Giroux, 2020; Mezirow et al., 1990).

In higher education, CT becomes crucial in helping students to make connections between knowledge pieces, as they use information from many different sources and experiences, gaining a broader perspective and deeper understanding. Critical thinkers raise questions, articulate them clearly, use influential ideas, reflect freely and communicate effectively with others (Jafarigohar et al., 2016). Many faculty members agree that cultivating CT skills is an essential aspect of academic research, as these skills allow students to penetrate beneath the surface of several issues and engage in a wider critical dialogue (Barnaby, 2016).

Despite the importance given to CT in higher education, there are various barriers to its cultivation. For example, regarding faculty members, the lack of resources and time for preparing materials and activities for CT is mentioned in the literature (Bissell & Lemons, 2006; Reynolds, 2016). Students' lack of motivation, their exclusive interest in grading, their resistance to active learning and, in general, their limited expectations, act as barriers to the cultivation of CT (Aliakbari & Sadeghdaghigh, 2013). In addition, various cultural-social conditions often hinder CT. An established cultural context can reinforce intellectual dogmatism and reproduce traditional teaching methods that make teaching and learning a standardized routine process (Kasalaei et al., 2020). Many times, within such a context, faculty members focus on providing all the necessary educational materials for completing the curricula, believing that in doing so they help students to think critically, while in reality what they promote is knowledge transmission (Choy & Cheah, 2009). The above indicative barriers are mainly explored in universities that offer face-to-face teaching and there is a lack of systematic research in universities that offer DE.

DE largely supports self-directed learning, which is facilitated by tutor-to-student, student-to-student, and student-to-content interactions, in an environment framed by appropriate technologies (Moore & Kearsley, 2012). Self-directed learning requires adult students' control over learning, a significant degree of independence of thought, judgment, and action, as well as responsibility for planning, carrying out, and evaluating their learning experiences (Merriam & Caffarella, 1999). Autonomy, self-regulation, enhanced locus of control and responsibility are aspects of DE which may facilitate enhancing CT and maybe they are the reason why adult learners who attend DE courses outperform their peers in traditional face-to-face courses in two fundamental categories of CT: problem-solving and decision making (Dwyer & Walsh, 2020). Considering the above-mentioned context, it is of particular importance to investigate those barriers that hinder the fostering of CT in DE.

Taking into account the above theoretical framework and the related concerns, the aim of the present study was to explore barriers to CT according to the perceptions of HOU's tutors. More specifically, the following research questions were formulated:
1. What are the barriers related to students in fostering CT in DE?
2. What are the barriers related to faculty members in fostering CT in DE?
3. What are the barriers related to DE's implementation in fostering CT?

METHOD

Research design

Research design concerns the general framework of collecting and analyzing research data (Bryman & Bell, 2019). The present research was based on a cross-sectional research design since data were collected from a particular sample at a single point in time. More specifically, the research was conducted from March to April 2021. Data collection was based on a qualitative strategy, since the aim was to explore and understand deeply the experiences and perceptions of HOU tutors and bring out their own 'voice' and perspectives on the topic under investigation. For this reason, a semi-structured interview guide was used to record the ways tutors interpret and make sense of the relevant issues and events (see Appendix). The recorded interviews were in turn transcribed into text to be further processed. In particular, a thematic analysis was conducted in order to detect meaningful thematic patterns and codify them in types of barriers, through the systematic and repeated reading of the transcribed interviews (Guest et al., 2012).

Sample of the study

A maximum variation purposeful sampling was applied to select participants. This method was used to record responses from tutors who perform their duties in different graduate and post-graduate modules, in order to cover, as much as possible, the issue under consideration from a diversity of perspectives (Patton, 1990). Twelve tutors participated in interviews but only ten of them were selected as the finalized sample (Table 1). Two interviews were used to test the suitability of the interview guide and it was decided to exclude them from the final sample. Regarding experience in DE, tutors with five years' experience at HOU or more were selected. A consent form was given to participants including information about the anonymity process that would be followed and asking them to consent to the publication of the findings.

TABLE 1

HOU tutors' profile

Interviewees	Module	Level	Years of experience	Gender
I1	Principles of Software Technology	G	11	M
I2	Educational Research in Practice	P	5	F
I3	Quantitative Methods for Supply Chain Management	P	16	M
I4	Education in Europe: From the Middle Ages to the Modern Era	G	13	M
I5	Adults in Open and Distance Education	P	12	F
I6	Open and Distance Education: theory, institutions, and functions	P	25	M
I7	Contemporary approaches to adult education	P	8	F
I8	Open and Distance Learning	P	12	F
I9	Introduction to Computer Science	G	20	M
I10	Language Processing	P	7	M

G = Graduate, P = Post Graduate, M = Male, F = Female

Reliability and validity

To secure the qualitative reliability of the study (Creswell & Creswell, 2018), the authors checked the transcribed data to make sure that there were no transcription mistakes. Also, codes' definitions were checked repeatedly during the coding process to prevent shifts in code

meanings that could distort tutors' answers. To secure the qualitative validity of the study (Creswell & Creswell, 2018), divergent perspectives and disagreements between interviewees were stressed, and member checking was conducted by sending to the interviewees a report of the findings to verify their soundness and accuracy.

FINDINGS AND DISCUSSION

All interviewees stated that they implement practices that enhance CT in their classes, some more and some less systematically. In general, they promote CT using an immersive strategy, where CT principles are implicitly embedded in the subject matter rather than explicitly taught, either as a separate module or as one of the subjects in a module (Ennis, 1989). An exception is the module 'Contemporary approaches to adult education' where students are explicitly taught elements of CT through transformative learning theory (Mezirow et al., 1990). HOU tutors apply various teaching practices such as discussion and dialogue (in online meetings with students), written assignments feedback, etc. However, these actions are often hampered by various barriers which are summarized in Table 2 (the number of codes' occurrences is in parenthesis). Following Garland (1993), these barriers are identified and explained below as situational, dispositional, institutional, and epistemological.

TABLE 2
Barriers to CT in DE according to HOU tutors

Categories of barriers	Codes from thematic analysis
Barriers related to tutors	• Lack of training on CT (5) • Attachment to traditional teaching practices (3) • Downgrading of the significance of CT (1) • No barriers at all (4)
Barriers related to students	• Busy schedule (7) • Lack of motives and expectations (7) • Stereotypes attitudes and worldviews (8) • Educational background (4)
Barriers related to DE's implementation	• Communication (8) • Standardization and orientation of DE (5) • Lack of personalized tutoring (3) • The disproportion between the number of meetings with students and the amount of subject matter to be taught (4) • Learning material (4) • Written assignments (3) • No barriers at all (4)

Barriers related to tutors
Regarding barriers on behalf of tutors in promoting students' CT, interviewees mainly pointed out the insufficient or incomplete training of some HOU tutors on CT. They stated that some tutors lack the necessary pedagogical skills in distance education and also, they lack adequate pedagogical knowledge, training, and skills to cultivate students' CT.

The lack of tutors' training on CT is a finding that is consistent with the findings of relative studies in the literature regarding traditional higher education (Aliakbari &

Sadeghdaghigh, 2013; Kasalaei et al., 2020; Mangena & Chabeli, 2005; Snyder & Snyder, 2008). In the case of Greece, although the cultivation of CT is defined as one of the main objectives of Greek higher education, there is a lack of training of faculty members in modern teaching methods as well as an absence of a general organizational plan that would clearly define its priority (Gougoulakis et al., 2020). Thus, many faculty members from traditional face-to-face universities participate in HOU's courses without being trained previously on CT. What is more, HOU itself doesn't provide tutors with any specific training on CT. In this sense, we could here rather talk about institutional barriers (Garland, 1993) that tutors face, that is factors related to the organizational structure, priorities, and policies of HOU itself, which pose restrictions on fostering CT.

Adherence to traditional teaching practices was highlighted as an additional barrier. Tutors' conservative thinking, insecurity towards modern teaching approaches, and compromise with established teacher-centred approaches are some of the reasons why several tutors refuse to be receptive to approaches that promote CT. '*There are tutors who behave like an authority on their subject and they attend online meetings with the aim doing lecturing. Then clearly there is no possibility that CT will be promoted [...]. Willingness and open-mindedness are needed to do that*'. As literature shows, faculty members' adherence to conservative teaching models is a dispositional barrier (Hayward-Wyzik, 2009) which hinders the implementation of innovative methods that renew students' learning interest and encourage the promotion of CT (Dwee et al., 2016; Kasalaei et al., 2020; Mangena & Chabeli, 2005).

For the aforementioned views, one responder stressed that tutors tend to ignore or underestimate the importance of CT. The lack of recognition of CT's importance may be because a portion of faculty members do not have a clear understanding of CT and the necessary practices for its development (Choy & Cheah, 2009; Pithers & Soden, 2000). As Jafarigohar et al. (2016) mention, faculty members' perceptions of CT determine their disposition to develop CT skills and subsequently, the degree to which they familiarize their students with CT.

However, some interviewees considered that there are no substantial barriers on behalf of tutors (Table 1). Any barrier to CT arises from the absence of an inquiring spirit on behalf of students and their focus on accomplishing the minimum of their requirements to complete the module. In addition, interviewees considered that the organizational structure of their module strongly promotes CT. Many HOU tutors are experienced enough in their domain, they have valuable experience to transfer to students, they have the training and skills to cultivate CT, and most importantly, they recognize its value.

Barriers related to students

Regarding the barriers related to the students themselves, interviewees mentioned that students' busy schedules negatively affect the promotion of CT. Most HOU students are both employees and parents, which means that they are not always able to study systematically. Multiple roles and responsibilities are characterized, according to Garland (1993) as situational barriers.

Students' lack of motives and expectations of their studies are often barriers to the development of CT. Some students are interested only in obtaining a degree. They fulfil their academic obligations formally and sometimes they do not participate in online meetings. '*They do not want to study deeper; they want to learn only what is necessary to complete the module. They don't want a master's degree to stay in contact with science, but only to get credits. So, they are not interested in joining a scientific team, attending conferences, doing research*'. Lack of motivation, absence of an exploratory spirit, and low expectations of students are phenomena that are also highlighted in the case of conventional, face-to-face higher education (Aliakbari & Sadeghdaghigh, 2013; Kasalaei et al., 2020). Lack of motives and expectations may be partly due to epistemological barriers that students face, e.g., the gap between content's presentation

and students' expectations, the gap between content's interest and their expectations, etc. (Garland, 1993).

Stereotypes and student resistance to new forms of learning often prevent the cultivation of CT. '*There is a sense that I will write a lot, I will use a lot of literature citations, so I will get a good grade, while CT is something abstract to obtain. This is a stereotype*'. Students' stereotypes and resistance to new forms of learning are in part remnants of an educational system that prioritizes reproduction and memorization over a critical approach (Gunawardena & Petraki, 2014), and also, are partly related to their dispositions toward CT (e.g., the learning styles they prefer – see Garland, 1993). Students' attitudes and worldviews may negatively influence their acceptance of CT. According to respondents, HOU students have a pre-formed value and belief system, which is difficult to reject or revise in turn. In this sense, they are not always receptive to new ideas and approaches. Mezirow (1997) refers to those pre-formed beliefs and worldviews that direct and shape the way we feel, judge, and act upon the world as 'habits of mind'. Habits of mind do not easily change; they are characterized by stability and they are not easily called into question. They are a challenge in fostering CT for adult students.

Students' educational background seems to negatively affect the cultivation of CT (Dwee et al., 2016; Gunawardena & Petraki, 2014), a factor that was also pointed out by the interviewees. Usually, students' prior knowledge and skills do not help them much in performing their academic tasks and comprehending the educational material, so they have difficulties in approaching it critically, and rather restrict themselves to studying it only to meet the module requirements. '*Students have not learned to study, they lack academic literacy, they do not know how to write an assignment and they waste time in deciding whether to put a cover page or not*'. Garland (1993) considers the lack of prerequisite knowledge and skills as an epistemological barrier.

Barriers related to Distance Education's implementation
Regarding the factors related to DE itself that hinder CT, interviewees mentioned six types of institutional barriers (Table 1). Eight tutors mentioned communication barriers. More specifically, physical distance makes it difficult for tutors to attract and maintain students' interest, gain their trust and direct them effectively towards enhancing CT skills. In addition, tutors often fear that a sense of loneliness and isolation may overwhelm their students, making them lose their interest and enthusiasm, and forcing them to drop out prematurely. The pedagogical, psychological and physical distance between tutors and students are fundamental challenges for communication in DE, the dysfunctional persistence of which can affect the latter's quality (Anjum et al., 2020; Berge, 2013). Although HOU tutors are always willing to communicate with students, there is no response from the latter, which is disappointing and far from contributing to the development of CT. The lack of frequent face-to-face contact cannot be fully met by electronic communication either. Some interviewees complained that e-mails are a relatively time-consuming process, sometimes inefficient, as the questions are too general and the answers cannot be specific, and telephone contact is not a feasible solution due to the inability to meet the demands of a large number of students. Admittedly, effective social interaction and collaboration through digital technologies are not always given, since they do not allow the same range of social cues, and more effort to build a social presence is needed (Berge, 2013).

The standardization, uniformity, and strict structure of the curriculum often leave no room for tutors for taking initiatives that foster CT. For some interviewees, the main orientation of DE seems to be the transmission of knowledge, the processing and understanding of information, the awakening of students' learning interest, and their motivation in general, elements which to some extent shape the ground for the subsequent cultivation of CT.

'*Criticism concerns ideological assumptions, stereotypes, worldviews, and the ideology surrounding a particular literature work. We don't do that in online meetings [...]. Criticism means judging. However, this is not the aim of the course but to understand the content of the texts and be able to respond to it with aptitude*'. Globalization, mass production, and commodification of DE have been recognized as critical issues which can negatively affect its quality (Evans, 1995). Furthermore, interviewees complained about the difficulties they face in providing personalized tutoring to students, a concomitant of DE's massification.

Often, the combination of a small number of online meetings with an extensive syllabus to be covered during the former does not allow tutors to intervene drastically in promoting CT. '*I constantly feel an unbearable time pressure to cover a huge amount of subject matter during a small number of online meetings. [...] There is no time left to cultivate CT*'. Two interviewees, however, stressed that in no way does time or the subject matter prevent the cultivation of CT. On the contrary, according to the theory of DE, it is the educational material that mainly teaches, not the tutor. The latter has a facilitating role. Therefore, '*[...] there is no question of not having time to cultivate CT because of the need to cover the subject matter*'.

Some interviewees stressed the inability of the educational material to cultivate CT, mentioning as the main reasons the absence of properly designed activities, the poor quality and structure of the material, and its orientation (which is more in the direction of consolidating the material and understanding the theory than in the direction of strengthening CT skills). The quality of educational material provided in DE is particularly critical for the effectiveness of the learning process. As Mena (1992) has pointed out, a material suitable for DE should promote student's reflection, discussion, and exchange of information with the aim of collaborative knowledge, searching creatively for solutions, and working out hypotheses to explain and solve various problems, that is, elements that promote CT. In addition, comments were made on the quality of the written assignments which seem to serve mainly the need to cover the material, and concerns were expressed about the increased rates of plagiarism. When assignments are properly designed and aimed at CT, they promote higher-order thinking and improve students' performance (Robinson-Beachboard & Beachboard, 2010).

Four out of ten respondents stressed that in general there are no barriers to CT related to DE itself. Physical distance is not a barrier to student-tutor communication nor does it impede the promotion of CT because adult students should want self-regulation and autonomy and DE positively contributes to this direction. As an interviewee stated: '*I believe that DE promotes CT because it promotes autonomy and self-regulation [...]. It is only when we don't have appropriate learning materials, only when we don't conduct our meetings with students properly, and only when we don't interact properly at a distance that CT is not cultivated*'.

CONCLUSIONS

The barriers to CT that HOU tutors mentioned were identified according to Garland's (1993) classification. On the part of tutors, lack of training on CT was pointed out as an important institutional barrier. Regarding the students, their stereotypes, attitudes, and worldviews, were recognized as important dispositional barriers. The main epistemological barrier that students face is the lack of motives and expectations. Their busy schedules also constitute a major situational barrier. Regarding the nature of DE, the major institutional barriers were mostly communication barriers. Not all interviewees agreed that there are substantial barriers related to HOU tutors. Furthermore, four tutors (I5-I8) stated that the nature of DE poses no barriers at all to CT. This divergence is explained probably because all of them are employed in modules where DE and Adult Learning are their expertise, thus they have a rather clear trust in DE and its affordance to cope with such barriers.

Although the HOU implements training courses for newly appointed tutors on DE methodology, it does not address the issue of fostering CT through their training in relative educational practices. Therefore, seminars and training programmes should be designed in this direction. Also, the use of appropriate educational content (educational materials and educational activities) to foster CT skills should be a fundamental orientation of the institution.

The present study has several limitations. The sample size of 10 HOU tutors was selected due to the small-scale nature of the research design, and time restrictions. As a result, it cannot represent the entire population of HOU tutors and the findings are restricted only to the participants. Nevertheless, the researchers considered that this sample size, in combination with the maximum variation sampling that was applied, were sufficient to produce a primary but comprehensive image of barriers to CT in DE according to the tutors' perceptions. The relatively small sample size of the study calls for additional research with a larger number of HOU tutors from different courses. What is more, the present study did not present students' perspectives on the issue of CT. It would be of particular importance to investigate the perceptions of students themselves and compare them with those of the tutors, in order to identify significant convergences and/or divergences in the factors that hinder the fostering of CT in DE.

APPENDIX
Interview guide
1. Sex
2. Module and Module Level
3. Experience in DE (in years)
4. Do you think that tutors' prior training might pose barriers to CT in DE settings?
5. Do you think that there are any other barriers on behalf of tutors themselves to the development of students' critical thinking?
6. Do you think that students' attitudes and worldviews may be barriers to the cultivation of CT? Do you have any examples from your experience?
7. Are there any other kinds of barriers on behalf of students? Can you give us some examples?
8. Do you think that physical distance poses barriers to fostering CT?
9. Are there any other kinds of barriers posed by the very nature of DE?

REFERENCES

Aliakbari, M., & Sadeghdaghighi, A. (2013). Teachers' perception of the barriers to critical thinking. *Procedia - Social and Behavioral Sciences*, *70*, 1-5.

Anjum, S., Bhatti, R. U., & Iqbal, M. J. (2020). A study of communication barriers in open distance learning system of education. *Pakistan Journal of Distance & Online Learning, 6*(1), 247-261.

Barnaby, B. (2016). From theory to practice: Critical thinking as a multifaceted concept. A pilot study investigating consensus between students' and tutors' perceptions in higher education. *Journal of Perspectives in Applied Academic Practice*, *4*(3), 40- 47.

Berge, Z. L. (2013). Barriers to communication in distance education. *The Turkish Online Journal of Distance Education, 14*(1), 374-388.

Bissell, A. N., & Lemons, P. P. (2006). A new method for assessing critical thinking İn the classroom. *Bioscience, 56*(1), 66-72.

Brookfield, S. D. (2005). *The power of critical theory for adult learning and teaching*. New York, NY: Open University Press.

Bryman, A., & Bell, E. (2019). *Social research methods*. Canada: Oxford University Press.

Evans, T. (1995). Globalization, post-Fordism and open and distance education. *Distance Education, 16*(2), 256-269.

Choy, S. C., & Cheah, P. K. (2009). Teacher perceptions of critical thinking among students and its Influence on Higher Education. *International Journal of Teaching and Learning in Higher Education*, *20*(2), 198-206.

Creswell, J. W. & Creswell, J. D. (2018). *Research design*. LA: Sage Publications Inc.

Dominguez C. et al. (2018). *CRITHINEDU – Critical thinking across European higher education curricula, A European collection of the critical thinking skills and dispositions needed in different professional fields for the 21st century*. Technical Report. Vila Real: UTAD.

Dwee, C. Y, Anthony, E. M., Salleh, B. M., Kamarulzaman, R., & Abd Kadir, Z. (2016). Creating thinking classrooms: Perceptions and teaching practices of ESP practitioners. *Procedia - Social and Behavioral Sciences, 232*, 631-639.

Dwyer, C. P., & Walsh, A. (2020). An exploratory quantitative case study of critical thinking. *Educational Technology Research and Development, 68*, 17-35.

Ennis, R. H. (1989). Critical thinking and subject specificity: Clarification and needed research. *Educational Researcher, 18*, 4-10.

Facione, P., & Gittens, C. A. (2016). *Think critically*. NY: Pearson Education, Inc.

Fahim, M., & Masouleh, N. S. (2012). Critical thinking in higher education: A pedagogical look. *Theory and Practice in Language Studies, 2*(7), 1370-1375.

Faridah, L., Wiraswati, H. L., Fauziah, N. et al. (2021). Experiences and challenges of Distance Learning during Covid-19 pandemic from educators' point of view: A review. *Education Quarterly Reviews 4*(3), 468-483.

Garland, M. R. (1993). Student perceptions of the situational, institutional, dispositional, and epistemological barriers to persistence. *Distance Education, 14*(2), 181-198.

Gibbons, J., & Gray, M. (2004). Critical thinking as integral to social work practice. *Journal of Teaching in Social Work, 24*, 19-38.

Giroux, H. (2020). *On critical pedagogy*. London: Bloomsbury Publishing

Gougoulakis, P., Kedraka, K., Oikonomou, A., & Anastasiades, P. (2020). Teaching in Tertiary Education – A reflective and experiential approach to University Pedagogy. *Academia - A publication of the Higher education Policy network, 20/21*, 101-137.

Guest, G., Macqueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis.* LA: Sage Publications Inc.

Gunawardena, M., & Petraki, E. (2014). Critical thinking skills in the EAP classroom. In I. Liyanage & T. Walker (Eds.), English for Academic Purposes (EAP) in Asia. Critical New Literacies (pp. 65-77). Rotterdam: SensePublishers.

Hayward-Wyzik, L. A. (2009). *Faculty perceptions of institutional, situational & dispositional barriers to participation in distance learning at rural community colleges*. Ph.D. thesis, Capella University, USA.

Jafarigohar, M., Hemmati, F., Rouhi, A., & Divsar, H. (2016). Instructors' attitudes towards the reflection of critical thinking in course syllabi: Evidence from an expanding circle. *Theory and Practice in Language Studies, 6*(1), 59-67.

Jefs, A., Richardson, J. T. E., & Price, L. (2009). Student and tutor perceptions of effective tutoring in distance education. *Distance Education, 30*(3), 419-441.

Kahlke, R., & White, J. (2013). Critical thinking in health sciences education: Considering 'three waves'. *Creative Education, 4*(12A), 21-29.

Kasalaei, A., Amini, M., Nabeiei, P., Bazrafkan, L., & Mousavinezhad, H. (2020). Barriers of critical thinking in medical students' curriculum from the viewpoint of medical education experts: A qualitative study. *Journal of Advances in Medical Education & Professionalism, 8*(2), 72-82.

Lau, J. Y. F. (2011). *An introduction to critical thinking and creativity: Think more, think better.* Hoboken, N.J: Wiley

Mangena, A., & Chabeli, M. M. (2005). Strategies to overcome obstacles in the facilitation of critical thinking in nursing education. *Nurse Education Today, 25*(4), 291-298.

Mena, M. (1992). New pedagogical approaches to improve production of materials in distance education. *Journal of Distance Education, 7*(3), 131-140.

Merriam, S., & Caffarella, R. (1999). *Learning in adulthood: A comprehensive guide.* San Francisco: Jossey-Bass.

Mezirow, J. (1997). Transformative Learning: Theory to practice. In P. Cranton (Ed.), *Transformative Learning in action: Insights from practice. New directions for adult and continuing education* (pp. 5-12). San Francisco: Jossey-Bass.

Mezirow, J. et al. (1990). *Fostering critical reflection: A guide to transformative and emancipatory learning.* San Francisco: Jossey-Bass Higher Education Series.

Moon, J. (2008). *Critical Thinking: An exploration of theory and practice.* New York: Routledge.

Moore, M. G., & Kearsley, G. (2012). *Distance education: A systems view of online learning.* Belmont, CA: Wadsworth.

Patton, M. (1990). *Qualitative evaluation and research methods.* Beverly Hills, CA: Sage Publications Inc.

Paul, R., & Elder, L. (2012). *Critical Thinking: Tools for taking charge of your professional and personal life.* Upper Saddle River, NJ: Pearson Prentice Hall.

Pithers, R. T., & Soden, R. (2000). Critical thinking in education: a review. *Educational Research, 42*(3), 237-249.

Reynolds, S. W. (2016). *Determining and exploring teachers' perceptions on the barriers to teaching critical thinking in the classroom: A survey study.* Phd Dissertation, Texas Tech University, USA.

Robinson-Beachboard, M., & Beachboard, J. C. (2010). Critical thinking pedagogy and student perceptions of university contributions to their academic development. *Informing Science: The International Journal of an Emerging Transdiscipline, 13*, 53-71.

Snyder, L. G., & Snyder, M. J. (2008). Teaching critical thinking and problem-solving skills. *Delta Pi Epsilon Journal, 50*(2), 90-99.

Szenes, E., Tilakaratna, N., & Maton, K. (2015). The knowledge practices of critical thinking. In M. Davies, & R. Barnett, (Eds.), *The Palgrave Handbook of Critical Thinking in Higher Education* (pp. 573-591). London: Palgrave Macmillan.