

Published: May 31, 2024

Citation: Boyer, S.A., et al., 2024. Critical Thinking: Perceptions of Nurse Educators from Four Middle Eastern Countries. Medical Research Archives, [online] 12(5).

<https://doi.org/10.18103/mra.v12i5.5446>

Copyright: © 2024 European Society of Medicine. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

DOI:

<https://doi.org/10.18103/mra.v12i5.5446>

ISSN: 2375-1924

RESEARCH ARTICLE

Critical Thinking: Perceptions of Nurse Educators from Four Middle Eastern Countries

Susan Adams Boyer^{1*}, Hamdia Mirkhan Ahmed², Noordeen Awath Shoqirat³, Miriam Chickering^{1,4}, Felix Emeka Anyiam⁴, Ilknur Dolu⁵, Khatere Seylani⁶, Kathleen Rose Capone^{1,4}, Erica Frank^{1,4,7}

¹Nurses International, Bethel MN 55005, US.

²Hawler Medical University, College of Health Sciences, Erbil 44001, Kurdistan, Iraq.

³Mutah University, Jordan Higher Colleges of Technology, Health Sciences, UAE.

⁴NextGenU.org, Minneapolis, MN, US.

⁵Dept of Health Science, Bartın University, Agdaci Campus, 74100 Bartın, Turkey; Visiting Associate Professor at Manchester Metropolitan University, UK.

⁶School of Nursing and Midwifery, Tehran University of Medical Sciences, I.R. of Iran.

⁷Professor, Faculty of Medicine and Affiliate Professor, Faculty of Arts, University of British Columbia; Principal Investigator, Healthy Doc = Healthy Patient.

*sb.vnip@gmail.com

ABSTRACT

Critical thinking is a key requirement for competent nursing care and interventions. The current literature lacks data on nurse educators' understanding and perceptions of critical thinking in Low and Middle-Income Countries. This study replicated a survey of nurse educators in Ghana, completed and published by Boso and Gross.² The initial research paper identified a lack of nurse educators' understanding of Critical Thinking and the need for professional development. The current investigation used the same questionnaire items to examine nurse educators' definitions of critical thinking and perceptions of it in four Middle Eastern countries. Data analysis revealed that educators varied in their understanding of Critical Thinking, its definition, and the means to enhance its development in students. This research provides evidence to plan professional development for nursing faculty in these geographic regions.

Introduction

The global healthcare environment requires nurses to provide competent patient care that addresses the complexity of current healthcare challenges, including aging populations, comorbidities, increased non-communicable diseases, advanced technological interventions, and environmental factors with threats from natural disasters, pandemics, and wars. Mannetti¹ reported an essential need for Critical Thinking (CT) skills as a crucial element of nursing practice worldwide. Bosso and Gross² considered this a prerequisite for contemporary nursing in today's dynamic healthcare environment. Although CT is considered an essential part of nursing education, it remains challenging to define.

Scholars agree that CT is a deliberate use of cognitive abilities to analyze a situation, interpret its related variables, synthesize answers to address a problem, and objectively evaluate a solution.^{3,4,1} Nurses are expected to use disciplined thinking skills to make evidence-based decisions that can result in positive patient outcomes. To facilitate the development of student CT skills, nursing educators must comprehend their understanding and perceptions of CT and its concepts, processes, and instructional implications.⁵ Most current research focuses on CT from the perspective of nursing students^{6,7,8} and clinical nurses.⁹ This research focuses on the CT perceptions of nurse educators.

Based on our research, this is the first study to explore the relationship between CT and nurse educators in Middle Eastern countries. The results provide decision-makers with information on the educational needs of nursing faculty in this area. Organizations

supporting nurse education can and will use this evidence to develop related professional development opportunities.

Critical thinking skills are required to function competently in a healthcare environment. Tajvidi and Hanjani¹⁰ identified a positive correlation between critical thinking and clinical competence. They stress that developing CT is essential to improve clinical nursing care and patient outcomes. A case study by Salar et al.¹¹ concluded that CT instructional strategies increase critical thinking in nursing students and should be implemented in nursing education.

Replication of the prior research achieved broad-based data collection, including four countries within the Middle East region. The participating countries offer unique experiences and histories related to nursing education and healthcare delivery. Each country experiences individual challenges based on its unique cultural, social, economic, and geopolitical situations. These challenges impact the distinctive timing, resources, and strategies for developing their nursing workforce.

JORDAN

The Jordanian public healthcare system provides most of its 12,081 hospital beds and includes access to most rural areas. Significant socioeconomic burdens are placed on the national healthcare system, with Jordan receiving thousands of refugees from neighboring countries, particularly Syria and Iraq. Jordan is one of the most modern systems in the region in terms of education, training, and quality of healthcare services.¹² Al Hadid¹³ examined nurse educators' CT experience at six Jordanian universities and found that educators in Jordan demonstrated

positive perceptions of critical thinking and identified a need for further professional development to support nurse educators.

IRAN

The healthcare system in Iran includes both public and private sectors. The public sector is most prominent due to healthcare costs and its inclusion in remote areas. The history of academic-based nurse development in Iran begins in 1975 when a four-year nursing bachelor's course was approved by the Ministry of Science. Since 1989, the country's Ministry of Health and Medical Education has overseen nursing schools. Nursing education at all levels is committed to advancing student' critical thinking skill. Faculty use new educational methods with special attention to the role of teachers as an example of a critical thinker. However, assessment focuses mostly on theoretical knowledge with less emphasis on other aspects such as judgment or critical thinking skills.¹⁴ Based on recent studies most students reported low or moderate clinical judgment and critical thinking levels.¹⁵ Unfavorable levels of critical thinking skills in critical care nurses and medical-surgical nurses have been reported in some research.^{16,17} This highlights an urgent need to re-evaluate nursing education and nurse educator roles regarding this critical competency domain.

IRAQ

The first nursing college was established in Iraq in 1962-1963 with cooperation between the Ministry of Health and the World Health Organization. Over the last two decades, extensive damage to Iraq's nursing education has occurred due to three international wars, counterinsurgency struggles, 13 years of

economic sanctions, dictatorships, and foreign occupations. Many nurse leaders emigrated from the country, and the number of nurses working in professional roles in Iraq declined sharply after 1990.¹⁴ Fortunately, recent research indicates a wide agreement that nursing is a key area for further research. A cross-sectional study was conducted with 300 College of Nursing students at the University of Mosul to measure CT dispositions among nursing students.¹⁸ The results indicated a positive inclination toward critical thinking; however, Ibrahim reported no focus on applying the nursing process or CT in the clinical setting.

TURKEY

Turkey's initial nursing college was established in 1920, and 1955, nursing schools started offering bachelor's degrees in nursing. Notably, the first Turkish nursing instructors were educated in the United States in the 1950s. The Master of Science program became available in 1968. The doctoral degree in 1972.¹⁹ Turkish Schools of Nursing must apply for the National Core Education Program (NCEP) in Nursing if they offer a Bachelor's degree.¹⁴ The standards within the NCEP include components of CT as published by the Nursing Education Association.²⁰

Most Turkish studies have targeted the impact of nurse CT on nursing students and staff.²¹ The latest studies have largely focused on student CT skills and factors such as demographics, innovativeness,⁴ creativity,²² and intercultural communication competence.²³ Current research evaluates the impact of interventions on students' CT skills,²⁴ but there remains a lack of research targeting CT in nursing education. Most Turkish studies indicate that nurses do not adapt CT skills to

their nursing practice or apply teaching methods that support CT development within nursing curricula.²¹ Nurse educators play an essential role in the development of student's critical thinking in their students,²⁵ but their understanding and perception of critical thinking have not been investigated.

Methods

This investigation replicated a survey of nurse educators in Ghana, which was completed and published by Boso and Gross.² The original research identified a lack of nurse educators' understanding of CT and the need for professional development. Our replication project used a cross-sectional survey design, with data analysis using univariate descriptive statistics. Using the same questionnaire items, the study examined nurse educators' responses from additional Low- and Middle-Income Countries in the Middle East.

Permission to replicate the research was obtained from the original researchers. University-based Ethics Committees reviewed and approved the research proposal in Iraq (Reference number Sc.E.C.8) and Turkey (Reference number:2021-SBB-0490). The written instructions and electronic consent process provided detailed information regarding voluntary participation, withdrawal, and confidentiality protection within the research process. By continuing with data responses, each faculty member who replied to the survey questions consented to have their responses used by continuing with data entry. They were also informed how they could withdraw their data at any time.

Bilingual educational researchers from each country participated in the survey distribution,

language translation, data collection, analysis, and report writing. Data were collected from December 2021 to March 2022 using a web-based survey tool delivered in English, Persian, and Turkish. Bilingual researchers translated the survey into their respective languages. The participants' responses were translated into English for the analysis.

The study used a five-point self-administered Likert-type scale questionnaire to record responses. The questionnaire had three components: demographics, a definition of CT compared to Rubenfeld and Scheffer's²⁶ standard definition, and respondents' perceptions of CT. Country/ regional differences were delineated according to the responses and demographic data.

Cronbach's alpha²⁸ for the perception scale was 0.695 (0.657-0.731), sufficient for instrument reliability. Perceptions of the CT scale included positive and negative items to reduce severe response bias. Negative statements (Qs 2, 3, 8, 10 & 11) were flipped to positive statements during analysis. Mean scores did not vary significantly.

Response sampling was obtained via cyber invitation flyers sent to 2,086 nurse educators within targeted Middle Eastern regions classified as low to high middle-income.²⁹ A nurse educator expert from each of the countries of Iran, Iraq, Jordan, and Turkey distributed the invitation message and participated in the research development, translation, data collection, and report preparation. The cyber message included an invitation to a webinar titled Engaging in Healthcare Research for Nurse Faculty. Participants received approved contact-hour credit when they completed the webinar, questionnaire, and post-webinar feedback

form. While teaching about research within the healthcare field, another goal of the instructional program was to broaden the data collection pool regarding the specific aspects of CT in the teaching/learning process. Survey outcomes may help identify and plan continuing education programs that allow nurse educators meet their personal learning goals.

Pre-webinar handouts detailed the research study's purpose, significance, and confidentiality related to Critical Thinking development. Participants were informed that their data might guide a plan for further educational support for academic faculty. Still, the consent document informed participants they could withdraw from the investigation at any time. Participation in the webinar was not a requirement to complete the questionnaire or vice versa.

Data entry was open from 12/23/21 to 01/22/22, and 408 responses were received. The survey was reopened from 02/11/22 to 02/18/22 to increase response rates from Iran, Iraq, and Jordan and then extended to 03/05/22, with an additional 136 responses. The total number of responses from each country was 161 from Iraq, 68 from Iran, 265 from Turkey, and 50 from Jordan. The cumulative response rate was 26.1% (544/2086). The data were anonymized, and no personally identifiable information was retained for the analysis phase.

Results

This research replicates a study involving nurse educators' perceptions of Critical Thinking (CT) to explore nurse educator definitions and perceptions of CT in Four Middle Eastern countries. At the closure of the

data collection phase, 544 educators had responded to the survey (a 26.1% response rate). Most respondents were female (74.6%) and currently teaching at a university (92.8%), with more than ten years of teaching experience. Nearly half of the participants (45.6%) were aged 31–40 years, followed by 41–50 (25.9%) and 11.4% >50 years. More than half of the respondents (56.4%) had a doctoral degree, (37.7%) had a master's degree, and 5.9% had a diploma/bachelor's degree. The survey included respondents from Turkey (48.7%), Iraq (29.4%), Iran (12.7%), and Jordan (9.19%).

The investigation used Rubenfeld and Schiffer's standard accepted definition of CT.²⁶ The classifications of CT skills included cognitive, habits of the mind (affective), and other attributes. Survey respondents were asked to define CT. Responses mentioned the cognitive domain the most, with *Analysis* and *Logical Reasoning* showing repeated mentions. The least frequently cited attribute was *Discrimination*. There were 258 occurrences for the 'habit of mind' domain, with *Reflection* being the most mentioned attribute, followed by *Open-Mindedness*. There were four mentions of *Intuition* and one of *Confidence*.

Table 1: Definition of critical thinking

Variables	Occurrences in participants	Percentage
Cognitive:	357 occurrences	
Analyzing	209	38.4
Logical reasoning	117	21.5
Transforming knowledge	16	2.9
Information seeking	10	1.8
Discriminating	5	0.9
Habits of mind (affective):	258 occurrences	
Reflection	99	18.2
Open-mindedness	78	14.3
Inquisitiveness	39	7.2
Creativity	25	4.6
Intellectual integrity	12	2.2
Intuition	4	0.7
Confidence	1	0.2
Other attributes:	427 occurrences	
Evaluation	182	33.5
Problem-solving	87	16.0
Art of pondering	70	12.9
Decision making	69	12.7
Nursing process	19	3.5

The results revealed 427 features added by nurse educators, which were not attributes listed in Rubenfeld and Scheffer's CT definition.²⁶ *The evaluation* was the most mentioned attribute in this category, followed by *Problem-solving* and *Art of Pondering*. The least frequently mentioned activity was the *Nursing Process*.

Demographics Associated with the Definition of CT

The Chi-Square test was used to compare the demographic characteristics associated with the definition of CT among nurse educators. The mention of "cognitive" as a definition of CT was significantly higher in females compared to men (70.7% vs. 50.7%, $p=0.001$). Moreover, the mention of habits of mind (affective) as a definition of CT was significantly higher ($p=0.002$) among nurse educators from Turkey (60.8%) compared to Iran (43.5%), Iraq (31.3%), and Jordan (34.0%).

Perceptions of CT

Twenty questions were used to measure the overall nurse educator CT perceptions. Participant statements regarding CT were ranked using a Likert Scale of 1 to 5 (1= Strongly agree, 2 = agree, 3 = Undecided, 4 = Disagree, 5 = Strongly Disagree), with median scores ≤ 2.0 indicating a positive perception of CT and >2.0 indicating a Neutral/Negative perception of CT. The median score (IQR) of nurse educators' perceptions of CT was 1.5 (1-2).

The perceptions of CT are summarized in Table 2, with 64% of the respondents believing that CT is discipline-specific. Most respondents agreed that CT is essential for making clinical judgments, and more than

95% identified that it is needed for daily problem-solving. Most participants responded that CT is limited to the cognitive area of learning, and more than 90% noted that CT is an essential component of professional practice, improves the clinical competence of nurse practitioners, and is vital to evidence-based nursing practice. Nearly all participants (93.6%) expressed their intention to improve their proficiency in teaching Critical Thinking skills; only six (1.1%) answered "No" to this question.

Table 2: Nurse Educators' perceptions of Critical Thinking (CT) (n=544).

The table is organized based on the ranking of "strongly agree" responses. Blue shading indicates elements wherein 87% and more participants agree or strongly agree with the statement

SN	Variable	Strongly agree N (%)	Agree N (%)	Undecided N (%)	Disagree N (%)	Strongly Disagree N (%)
19	CT improves the clinical competence of nurse practitioners	404 (74.3)	121 (22.2)	8 (1.5)	6 (1.1)	5 (0.9)
5	CT is needed for daily problem-solving	398 (73.2)	123 (22.6)	11 (2.0)	9 (1.7)	3 (0.6)
18	CT is an important component of professional practice	384 (70.6)	131 (24.1)	19 (3.5)	5 (0.9)	5 (0.9)
6	CT is needed for content to be learned better	374 (68.6)	152 (27.9)	12 (2.2)	4 (0.7)	2 (0.4)
20	CT is vital to evidence-based nursing practice	370 (68.0)	157 (28.9)	9 (1.7)	3 (0.6)	5 (0.9)
13	Educators should share teaching philosophies on CT with students	355 (65.3)	162 (29.8)	19 (3.5)	5 (0.9)	3 (0.6)
7	CT is needed to transfer knowledge between courses	354 (65.1)	169 (31.1)	15 (2.8)	4 (0.7)	2 (0.4)
17	Nursing students should be taught CT as a course	350 (64.3)	151 (27.8)	28 (5.2)	10 (1.8)	5 (0.9)
16	Nursing students need to be supported to practice CT skills	267 (49.1)	205 (37.9)	55 (10.1)	12 (2.2)	5 (0.9)
14	CT skills are only useful when facing complex nursing problems	239 (43.9)	125 (23.0)	59 (10.9)	88 (16.2)	33 (6.1)
4	CT is essential in making clinical judgments	219 (40.3)	90 (16.5)	20 (3.7)	113 (20.8)	102 (18.8)
12	Educators should incorporate CT in teaching strategies	181 (33.3)	133 (24.5)	89 (16.4)	35 (6.4)	35 (6.4)
1	CT is discipline-specific	161 (29.6)	187 (34.4)	40 (7.4)	108 (19.9)	48 (8.8)
9	Active learning fosters CT	156 (28.7)	128 (23.5)	77 (14.2)	107 (19.7)	76 (14.0)
15	Nursing students have appropriate characteristics that foster CT	140 (25.7)	142 (26.1)	67 (12.3)	101 (18.6)	94 (17.3)
2	CT does not involve the affective domain of learning	97 (17.8)	131 (24.1)	82 (15.1)	153 (28.1)	81 (14.9)
10	No need to spend time on CT	89 (16.4)	71 (13.1)	52 (9.6)	118 (21.7)	214 (39.3)
3	CT involves only cognitive clinical learning	66 (12.1)	59 (10.9)	65 (12.0)	216 (39.7)	138 (25.4)
11	CT is learned naturally	47 (8.6)	88 (16.2)	81 (14.9)	138 (25.4)	190 (34.9)
8	Learning the content is more important than CT	34 (6.3)	78 (14.3)	63 (11.6)	125 (23.0)	244 (44.9)

The Mann-Whitney U (MWU) and Kruskal-Wallis Test (KWT) were used to compare the demographic characteristics of Nurse Educators' perceptions of CT. The perceptions of male and female nurse educators diverged significantly (MWU-value = 4.87, $p=0.003$). The responses about perceptions of CT showed a higher rate of positive responses from male respondents than from their female counterparts (median = 1.50 vs. 2.0). Participant perceptions also differed significantly across their education levels (KWT-value = 13.07, $p=0.001$). Those with doctorate degrees more frequently ranked positive perceptions of CT than those with a master's or diploma/bachelor's degree (median of 1.5 vs. 2.0). Perceptions also varied notably by country of origin (KWT-27.72, $p=0.001$). The responses from Iran showed a better positive perception score (1.0) than those from Turkey (1.5), Iraq (2.0), and Jordan (2.0).

Discussion

Based on an extensive literature review, this is the first study to focus on nurse educators' understanding of CT in multiple Low and Middle-Income Eastern Countries. The results indicated that most participants had a positive perception of CT (91.7%) and were eager to improve their skills in teaching CT (93.6%). Nurse educators, specifically female participants (70.69%), frequently mentioned the cognitive domain as an essential feature of CT. Most participants who mentioned 'habits of mind' were Turkish (60.8%). Finally, some features such as *Evaluation*, *Problem Solving*, and *Art of Pondering* were mentioned by the participants but were not included in the attributes listed in Rubenfeld and Scheffer's definition of CT.²⁶

Participant characteristics, such as gender, educational status, and country of residence, affected the perception of CT. Self-characterized female doctoral-level participants tended to have a more positive perception of CT. In previous literature, nurse educator background and professional experience have been emphasized as influential factors in perceptions.⁵ In the original Ghanaian study,² nurse educators practicing in nurse training colleges had a more positive perception of CT than those practicing in public universities. A positive working environment and supportive management are essential factors that motivate nurse educators to incorporate CT skills into their teaching practices. The positive perceptions of CT among Persian and Turkish educators indicate that nursing education in Iran and Turkey may provide especially welcoming conditions for educators to implement CT skills in their teaching strategies.

The study reveals significant variations in the understanding and definitions of CT among nurse educators, reflecting a lack of consensus that could potentially hinder the effective teaching of CT skills in nursing education. The prevalence of the cognitive domain mentioned in most definitions highlights an emphasis on logical reasoning and analysis, aligning with traditional views of CT. However, the "habits of mind" such as open-mindedness and reflection, although less frequently mentioned, are critical to fostering a holistic view of CT that includes affective components.

The cognitive domains, including Analysis, 'Habits of Mind,' and Reflection, were the most frequently mentioned. Nurse educators defined additional features/attributes not listed in Rubenfeld and Scheffer's definition of

CT. The most frequently cited CT attribute was *evaluation* followed by *problem-solving*. Educators viewed CT as discipline-specific, essential in clinical judgment, and needed for daily problem-solving.

Some study participants contended that CT requires only cognitive learning and is irrelevant to clinical instruction. Simultaneously, they acknowledged CT as an essential component of professional practice that improves nurses' clinical competence and is vital to evidence-based nursing practice. It is documented that CT can be improved during undergraduate education using innovative educational methods such as web-based concept mapping²⁴ and problem-based learning strategies.^{3,5}

Nurse educators have reported that specific interpersonal and/or environmental factors may inhibit their ability to teach CT skills. These factors include a lack of experience in the teaching role, lack of knowledge, access to resources, issues of overthinking, struggling students, large clinic group size, and/or a negative healthcare environment with added obstacles, including educator quality, curriculum structure, time constraints, heavy teaching workloads, and lack of management support.²⁵

The individual countries we studied did not show significant differences between them in the education of nurse educators related to CT; this is consistent with previous findings regarding nurse educators' understanding globally.^{3, 27} Academic representatives from each country consistently agreed that there is a need for professional development to enhance nurse educators' understanding of CT and promote its incorporation into

teaching practice. Based on participant responses, educators understand that specific elements in the definition of CT include the concepts and roles of logical reasoning, discrimination, open-mindedness, intuition, confidence, problem-solving, and the 'art of pondering.' Notably, the Nursing Process was the least frequently mentioned component within the 'habit of mind' domain of CT. These results are surprising as the CT and nursing processes overlap in identifying a problem, carefully examining the best solution, and implementing an effective method to address the issue using clinical decision-making skills. Thus, CT is applied by nurses as a framework for solving problems in patients' care and decision-making processes. CT is an essential part of a safe, efficient, and skillful nursing process, and it needs to be integrated into the nursing process rather than seen as an "added-on" skill.

While 95.7% of respondents agreed that CT is needed for daily problem-solving, approximately one-third of the participants agreed or highly agreed with the statement, "There is no need to spend time on CT" (item #10 in the questionnaire). This may be due to the original survey item's ambiguous wording, assumptions that CT is already inherently integrated into processes or other causes. Further investigation is required to determine whether a conflict in attitudes exists. Researchers must identify the barriers to fostering CT development and identify solutions to address them.

The identification of evaluation, problem-solving, and the art of pondering as essential CT attributes not listed in standard definitions suggests that nurse educators are looking beyond traditional frameworks to adapt CT to

their specific educational and clinical contexts. This indicates a dynamic understanding of CT, which is crucial for addressing the complex problems of modern healthcare environments.

Key survey results suggest a lack of consensus on the definition of critical thinking from the responding educators: All definitions posed by study participants had gaps compared to the standard definition of Rubenfeld and Scheffer.²⁶ This is a significant finding, as critical thinking is essential for forming clinical judgment. There needs to be a better understanding of critical thinking, its role in fostering clinical judgment, and how it translates into high-quality patient care and improved patient outcomes.

These findings indicate a clear need for professional development in this area. Opportunities for professional development programs can include workshops, seminars, or online courses that focus on standardizing the understanding of CT and effective teaching methods. This may include various innovative educational methods noted in this report, such as web-based concept mapping and problem-based learning strategies. These methods may be introduced to educators in seminars and implemented in academic and clinical settings with their students.

There needs to be supportive management and policy on a local, institutional, and national level to facilitate educational change in this sphere. An effective method to promote critical thinking is by incorporating it into national curriculum standards, nurse educators and organizations can lobby for this. Institutionally, management needs to support the educator by addressing the barriers mentioned by the participants, such

as time constraints, heavy workloads, and general lack of management support, to structure an academic setting that facilitates the development of nurses' critical thinking skills. Locally, educators can network to share best practices through workshops or online platforms and pool their resources and expertise to conduct comprehensive and robust studies on teaching and assessing critical thinking.

Specifically, the individual countries need to address their identified limitations and barriers and explore ways to enhance the effectiveness of their teaching. Given Jordan's positive perceptions of critical thinking among nurse educators, they can examine how they currently foster critical thinking skills in their students and what specific professional development opportunities could further enhance their ability to teach critical thinking.

Although Iran employs modern teaching methods, its lack of focus on critical thinking skills is noteworthy. The study revealed that neither the education of nursing students nor in-service training of nurses has been effective in developing nurses' critical thinking skills. The impact of fragmented healthcare infrastructure has resulted in an over-stressed nursing workforce.^{15,16} Professional development focusing on how clinical education and assessments can be redesigned to evaluate critical thinking skills better may help prepare students to manage a stressful work environment and explore ways to overcome barriers preventing this shift in focus.

Iraq's nursing profession has been weakened due to years of demographic upheavals and an exodus of essential nursing leaders. Even though students show a positive inclination

toward critical thinking, there is a lack of application of critical thinking in the clinical setting. Professional development that targets this gap from education to practice can assist educators in identifying effective teaching strategies that would support this shift.

Despite including critical thinking components in Turkey's National Core Education Program,³⁰ critical thinking skills are not effectively integrated into nursing practice. Professional development in this area could help educators examine what contributes to this gap and support them in finding ways to examine their perception of critical thinking and explore ways to integrate it into their nursing curriculum.

Educators need resources to teach CT skills to help students become competent professionals. Therefore, each country's educational and healthcare policies and academic settings should be structured to facilitate the development of nurses' CT skills. Policymakers can use these findings to modify and improve nursing education.

It should be noted that networking and communication among the nurse leaders from these countries was remarkable. Their collaborative actions to facilitate a professional development offering for several thousand educators across four countries were timely and seamless. The potential exists for this collegial alliance to significantly elevate nursing education within their countries by facilitating professional development opportunities that normalize widespread evidence-based nursing education.

Limitations

English as an Additional Language presented a barrier to data collection, with multiple countries being approached for data

collection. Surveys were initially produced in English and translated into the native language of the country during the second round of data collection. Some potential participants reported that they did not complete the survey or participate in the research study because of a lack of fluency in English; we recommend that both the webinar and survey tools be offered in the participants' native language, with bilingual researchers reviewing the presentation to ensure accuracy and consistency. Lack of time, competing demands, and priorities may be additional hindrances in this investigation.

Conclusions

The result analysis showed no consensus on the definition of CT among participants, although the majority concluded that CT was essential for nursing practice. None of the respondents included all aspects of Rubenfeld and Scheffer's definition of CT in their definition. This study indicates that educators perceive CT primarily as a cognitive process that does not include the affective domain. This contrasts with the understanding that CT comprises cognitive skills and affective dispositions. Over 90% of the survey participants expressed an interest in improving their instructional skills in teaching related to CT development.

The findings of this research include the need for nurse educators to design and receive professional development related to the understanding of CT, as well as specific strategies for teaching CT to nursing students. Research shows that CT is a teachable skill.³¹ This study provides a needs assessment for the professional development of nurse

educators from the included countries. Organizations involved in nurse education and development will use these data to establish professional development that enhances the faculty's ability to teach CT skills, resulting in the nurse graduate's ability to engage with high-quality reasoning and sound clinical judgment skills.

Further research should focus on longitudinal studies to track the impact of professional development initiatives on CT instruction. Exploring the relationship between CT skills and clinical competencies in different healthcare settings across these countries could also provide deeper insights into how CT training translates into practical skills. Moreover, investigating the role of cultural factors in shaping the perception and teaching of CT could offer valuable information for creating culturally responsive educational programs.

Ethics Committee Approval:

The research proposal was reviewed and approved by:

The Scientific and Ethical Committee of the College of Health Sciences at Hawler Medical University, Iraq, Date: 8/12/2021. Reference number Sc. E. C.8 and Bartın University Ethical Committee, Turkey. Date: 20 December 2021. Reference number: 2021-SBB-0490

Informed Consent:

The written instructions and electronic consent process provided detailed information regarding voluntary participation, withdrawal, and confidentiality protection within the research process. By continuing with data responses, each faculty member

that replied to survey questions gave consent to have their responses used by continuing with data entry. They were also informed as to how they could withdraw their data at any time.

Author Contributions:

1. **Concept** – K. Capone, M. Chickering, H. Ahmed
2. **Design** – K. Capone, S. Boyer, K. Seylani, N. Shoqirat, H. Ahmed
3. **Supervision** – K. Capone, E. Frank, H. Ahmed, M. Chickering, S. Boyer,
4. **Funding** - M. Chickering
5. **Materials** – S. Boyer, K. Capone
6. **Data Collection and/or Processing** - H. Ahmed, K. Seylani, I. Kolu, N. Shoqirat
7. **Analysis and/or Interpretation** – F. Anyiam; E. Frank, N. Shoqirat,
8. **Literature Review** – K. Capone, H. Ahmed, K. Seylani, I. Kolu, N. Shoqirat, S. Boyer
9. **Writing Manuscript** – K. Capone, S. Boyer, H. Ahmed, K. Seylani, I. Kolu, N. Shoqirat, E. Frank,
10. **Critical Review** – M. Chickering, E. Frank, S. Boyer, H. Ahmed, I. Kolu, F. Anyiam, N. Shoqirat

Conflict of Interest:

No other author reported any conflict of interest or element requiring disclosure.

Funding Source:

The authors received no specific funding for this work

Acknowledgements:

None

References:

1. Manetti W. Sound clinical judgment in nursing: A concept analysis. *Nursing Forum*. 2019;54(1):102-110. doi:<https://doi.org/10.1111/nuf.12303>
2. Boso CM, Gross J. Nurse educators' perceptions of critical thinking in developing countries: Ghana as a case study. *Advances in Medical Education and Practice*. Published online September 2015:555. doi:<https://doi.org/10.2147/amep.s88942>
3. Bangun AV, Praghlapati A. Enhancing critical thinking skills in nursing higher education in preparation for the industrial revolution 4.0. *KnE Life Sciences*. Published online March 15, 2021:793-804. doi:<https://doi.org/10.18502/cls.v6i1.8756>
4. Durmuş I, Iskender M, Kaş Güner C, Oluk A. Hemşirelik Öğrencilerinin Eleştirel Düşünme Eğilimleri İle Bireysel Yenilikçilik Özellikleri Arasındaki İlişkinin Belirlenmesi. Determining the relationship between critical thinking dispositions and individual. *Journal of Social Research*. 2018;11(56).
5. Boso CM, van der Merwe AS, Gross J. Students' and educators' experiences with instructional activities towards critical thinking skills acquisition in a nursing school. *International Journal of Africa Nursing Sciences*. 2021;14:100293. doi:<https://doi.org/10.1016/j.ijans.2021.100293>
6. Jin M, Ji C. The correlation of metacognitive ability, self-directed learning ability and critical thinking in nursing students: A cross-sectional study. *Nursing Open*. 2020;8(2). doi:<https://doi.org/10.1002/nop2.702>
7. Stenseth HV, Steindal SA, Solberg MT, et al. Simulation-based learning supported by technology to enhance critical thinking in nursing students: Protocol for a scoping review. *JMIR Research Protocols*. 2022;11(4):e36725. doi:<https://doi.org/10.2196/36725>
8. Zhang J, Chen B. The effect of cooperative learning on critical thinking of nursing students in clinical practicum: a quasi-experimental Study. *Journal of Professional Nursing*. 2020;37(1). doi:<https://doi.org/10.1016/j.profnurs.2020.05.008>
9. Chen Q, Tang S, Liu D, et al. Effects of a blended emergent research training programme for clinical nurses on nursing research competence and critical thinking (Part 2): A quasi-experimental study. *Journal of Clinical Nursing*. Published online July 4, 2021. doi:<https://doi.org/10.1111/jocn.15934>
10. Tajvidi M, Moghimi Hanjani S. The Relationship between Critical Thinking and Clinical Competence in Nurses. *Strides in Development of Medical Education*. 2019;In Press(In Press). doi:<https://doi.org/10.5812/sdme.80152>
11. Salar AR, Fouladi B, Sarabandi A. Comparing the Effect of "learning Based on Classic education" and "learning Based on Participatory education" on Nursing Students Critical thinking: a case-control Study. *Journal of Education and Health Promotion*. 2020;9(9):47. doi:https://doi.org/10.4103/jehp.jehp_257_19
12. Nazer LH, Tuffaha H. Health care and pharmacy practice in Jordan. *The Canadian Journal of Hospital Pharmacy*. 2017;70(2). doi:<https://doi.org/10.4212/cjhp.v70i2.1649>

13. Al Hadid, L. Critical thinking, and disposition skills among nurse educators in Jordanian Universities: An exploration of the perceived practices and the measured achievement. *Jordan Medical Journal*. 2012;46(3).
14. Asgari P, Navab E, Bahramnezhad F. Comparative study of nursing curriculum in nursing Faculties of Canada, Turkey, and Iran According to SPICES model. *Journal of Education and Health Promotion*. 2019;8(1):120.
15. Nemati-Vakilabad R, Mojebi MR, Mostafazadeh P, Jafari MJ, Jabraeelzadeh Kamblash A, Shafaghat A, Seyed Abbasi A, Mirzaei A. Factors associated with the critical thinking ability among nursing students: An exploratory study in Iran. *Nurse Education in Practice*. 2023; 73:103814.
<https://doi.org/10.1016/j.nepr.2023.103814>
16. Tavakoli MA, Foroughameri G, Farokhzadian J, Shahraki SK. Nurses' critical thinking disposition and professional commitment: a cross-sectional study. *Front Nurs*. 2024;1:119–126.
17. Ali-Abadi T, Babamohamadi H, Nobahar M. Critical thinking skills in intensive care and medical-surgical nurses and their explaining factors. *Nurse Education in Practice*. 2020;45:102783.
[doi:https://doi.org/10.1016/j.nepr.2020.102783](https://doi.org/10.1016/j.nepr.2020.102783)
18. Ibrahim RH. Critical thinking dispositions among student of Mosul's Nursing College. . 2016 Apr 4;7(2):3-7. *The Malaysian Journal of Nursing*. Published online April 4, 2016;7(2):3-7.
19. Fatma Tanrikulu, Ayşe Çevirme. The Past and Present of Modern Nursing in Turkey. *Journal of Nursing Science and Practice*. 2019;9(3):34-39.
[doi:https://doi.org/10.37591/jonsp.v9i3.1666](https://doi.org/10.37591/jonsp.v9i3.1666)
20. Hemşirelikte ulusal çekirdek eğitim programı (HUCEP). *Hemşirelik Eğitimi Derneği Retrieved from Hemşirelikte ulusal çekirdek eğitim programı [National core education program in nursing]*
<http://hemedorgtr/dosyalar/pdf/hucep-2014pdf>. Published online May 23, 2022.
21. Özbudak, E., & Koç, Z. Hemşirelik Uygulamalarında Eleştirel Düşünmenin Önemi [The Importance of Critical Thinking in Nursing Practices]. *Sağlık ve Toplum*. 2021;31 (2) 38-48.
22. Aydın A, Kurudirek F. HEMŞİRELİK ÖĞRENCİLERİNİN ELEŞTİREL DÜŞÜNME DÜZEYLERİNİN YARATICILIKLARINA ETKİSİ. *İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksek Okulu Dergisi*. Published online January 19, 2021.
[doi:https://doi.org/10.33715/inonusaglik.831126](https://doi.org/10.33715/inonusaglik.831126)
23. Uyanık, G., & Tanrıverdi, G. Hemşirelik öğrencilerinde kültürlerarası iletişim yeterliliği ile eleştirel düşünme eğilimi arasındaki ilişki [The relationship between nursing student intercultural communication competence and critical thinking dispositions]. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*. 2021;24(2): 239-245.
24. Bilik Ö, Kankaya EA, Devenci Z. Effects of web-based concept mapping education on students' concept mapping and critical thinking skills: A double blind, randomized, controlled study. *Nurse Education Today*. Published online December 2019:104312.
[doi:https://doi.org/10.1016/j.nedt.2019.104312](https://doi.org/10.1016/j.nedt.2019.104312)
25. Raymond C, Profetto-McGrath J, Myrick F, Streaan WB. Balancing the seen and unseen: Nurse educator as role model for critical thinking. *Nurse Education in Practice*. 2018;31:41-47.
[doi:https://doi.org/10.1016/j.nepr.2018.04.010](https://doi.org/10.1016/j.nepr.2018.04.010)

26. Rubenfeld MG, Scheffer BK. *Critical Thinking Tactics for Nurses: Achieving the IOM Competencies*. 3rd ed. Jones & Bartlett Learning; 2015.
27. Aagbedia CO, Ogbe J. Critical thinking; issues in nursing education and practice. *International Journal of Advanced Nursing Studies*. 2013;3(1).
doi:<https://doi.org/10.14419/ijans.v3i1.1200>
28. Taber KS. The use of cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*. 2018;48(6):1273-1296.
29. World Bank. World Bank Country and Lending Groups. The World Bank. Published 2023.
<https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>
30. Dulun Ö, Lane JF. Supporting critical thinking skills needed for the International Baccalaureate Diploma Programme: A content analysis of a national and two international education programs in Turkey. *Thinking Skills and Creativity*. 2023 Mar 1;47:101211.
31. Bouziane A., Zohri, A. The effect of explicit instruction in critical thinking on higher-order thinking skills in reading comprehension: An experimental study. *European Journal of English Language Teaching*. 2019 Sep 1.