Serial number	0062
Title	Qualitative Assessment of Critical Thinking in Egyptian Universities
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Qualitative Assessment of Critical Thinking in Egyptian Universities

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The quality of higher education has been of global interest, especially concerning its relevance to the needs of labor market. Factors for high unemployment rate among university graduates in Egypt, similar to many other countries, has been defined to include lack of problem solving and critical thinking skills (Megahed, 2015 & Megahed et al, 2012). While critical thinking has been measured quantitatively by many scholars in different countries (Facione, 1990), the authors believe that there is lack of studies on the level of critical thinking among students and graduates of Egyptian universities. In addition, there is a need to develop a better understanding of the level of cognitive and affective dimensions of critical thinking among university graduates using different research methods/approaches. This study focuses on four Egyptian universities; it employs a qualitative approach to assess and identify the extent to which students in the political science major demonstrate selected "cognitive" and "affective" dimensions of critical thinking.

The authors created a framework for conducting the qualitative assessment, following the design of "Reflective Judgment Interview" (RJI) (Pike, 1996). The RJI includes addressing problems that can be in the form of statements, video clips, or short essays along with questions and probing questions. Furthermore, we designed a qualitative tool using the Delphi Expert Consensus (Facione, 1990) to identify "cognitive" and "affective" dimensions of critical thinking that can be measured using a qualitative tool.

A semi-structured interview protocol was developed, which includes the selected cognitive and affective dimensions aligned with the explanation of each dimension and its related questions,

probing questions, and expected responses. To be able to measure the affective dimensions, interviewees should be asked about a controversial issue. Thus, we choose a video to provide the content of the interview questions and enable the assessment of cognitive and affective dimensions of critical thinking. The chosen video shows a panel debate on gender (in)equality in the Arab region.

The data collection process took place between January and May 2016 in the four public and private universities, with a purposeful sample of five students each from second and fourth year in each university, a total of 40 students. These interviews were recorded; some were conducted in English and others were in Arabic upon the interviewee's preference. All interviews were transcribed; the Arabic transcripts were translated into English to ensure consistency in data analysis.

To ensure systemic and thematic findings, a matrix of rubrics was created. It includes the dimensions of critical thinking and the explanation and question(s) for each dimension aligned with the level of critical thinking, rated on a three-point scale: High - Medium - Low (see Appendix 1). The NVivo software was used for coding qualitative data, then the matrix of rubrics was used for data classification and rating students' responses. Findings of the study include the numeric rating of students' responses and the most powerful and representative excerpts/quotes as evidences for each level of the three levels of critical thinking.

Findings of the qualitative assessment show differences in the level of critical thinking among students in the same university and among the four universities. As the purpose of the piloting study is not to compare between public and private universities but rather to assess the ability of Egyptian students in political science major to demonstrate selected "cognitive" and "affective" dimensions of critical thinking, the main findings revealed the following:

- **Cognitive Dimension:**

  - **Interpretation:** Fourth year students had a higher proportion of students rating better on “interpretation” on the main question, while the majority of both second year and fourth year students did not show a good ability to probe more deeply on interpretation of what they had listened to.

  - **Analysis:** The majority of students in both second and fourth years were considered medium in their level of analysis.

  - **Evaluation:** The overall ratings of a total of 20 second year students were: five high, seven medium, and eight low. For the fourth year students, the overall ratings of a total of 18 students included: four high, seven medium and seven low. This

indicates different levels of students' evaluation ability within both groups, second year and fourth year students.

- **Inference:** Inference refers to the students' capacities to question that provide evidences to draw conclusions. The overall ratings medium.

- **Explanation:** Overall, the majority of second year students were rated high (12 of 20), with four medium, and four low. Similarly, fourth year students rating included the majority (12 of 18) rated high, with four medium and two low. This means that the majority of students in both second and fourth years were considered high in their explanation.

- **Self-Regulation:** Overall, the majority of students in both second and fourth years were considered medium in their level of self-regulation.

- **Affective Dimension:**

  - **Open mindedness**: Overall, fourth year students showed slightly better open-mindedness than second year, with a larger proportion of them rating high on this dimension.

  - **Flexibility**: Overall, fourth year students showed lower levels of flexibility in thinking than second year students, with a larger proportion of the fourth year students rating low on this dimension.

  - **Recognizing own biases**: Overall, both second and fourth year students showed mostly high levels of recognizing their own biases.

The above findings showed variation, yet difference between the second year and fourth year students did not indicate a higher level of critical thinking for fourth year students, which deserves further examination in future research. This puts into question, to what extent the university education and experience contribute to the level of critical thinking among students. The qualitative tool produced and piloted by this study can be used by different institutions to measure qualitatively changes that occur in the level of critical thinking among third and fourth year students.

Refrences:

Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction: Executive summary .The Delphi report.* Milbrae: The California Academic Press. Retrieved from http://www.insightassessment.com/pdf_files/DEXadobe.PDF

Megahed, N. (2015). Gender Equality and Equity in Egyptian Universities. Policy Brief, The Population Council-Egypt (in Arabic).

Megahed, N. et al. (2012). The Quest for Educational Quality in Egypt: Active-Learning Pedagogies as a Reform Initiative. Pp. 41-68 in C. Acedo, D. Admas, and S. Popa (Eds.), *Quality and Qualities: Tensions in Education Reforms*. Comparative and International Education: A Diversity of Voices. Rotterdam, the Netherlands: Sense Publishers.

Pike, Gary R.. (1996). Assessment measures: The reflective judgment interview. *Assessment Update*. Vol. 8. Issue 5. Pp 1-16

Appendix

Table 1. Matrix of Rubrics for Data Analysis

#	Explanation/Questions	Level of Critical Thinking		
A	COGNITIVE	High	Medium	Low
1	Clarifying meaning Q: What is the main point being expressed in this statement/video/article? What are they trying to say?	The interviewee identifies accurately the main point expressed by the speaker in the video and expresses it using his/her own words.		The interviewee identifies the ma point but lacks accurate articulation of th point using his/h own words.
	Can it be interpreted to mean something different, or is the meaning clear?	The interviewee identifies at least two possible different interpretations that can be concluded from the speaker's talk.		The interviewee identifies at leas one different interpretation tha can be conclude from the speaker talk.
2	Identifying arguments/claims Q: What are the main things claimed/argued in this statement/video/article? What are some facts being stated, and arguments being built?	The interviewee states/recognizes all arguments by the speaker: - Different models of implementing women's rights in different cultures/contexts; an example of women participation in the parliament in European countries; an example of different models of cars for different countries/context; difference between the religion and its practice/application as in Islam and Muslims; if a girl was abused by her dad, cultural constrains would prevent her from reporting to the police.		Partial recognitio of the speaker's arguments.
3	Assessing claims/arguments, assessing objectivity, judge the strength of justification in the argument. Q: What do you think of the strength of the claims/arguments being made?	Explain the rationale for his/her assessment of the speaker's claims.		Explain his/her assessment without mentioning any justification.
5	Presenting his/her own arguments. Q: Ask the student to say their point of view about a particular controversial topic.	Explain his/her view clearly and rationally (with examples).		Explain his/her view but lack clarity or a rationale.
6	Metacognitive skills related to awareness of one's own thinking.	Connect his/her understanding of the video content to his/her personal background/experience		Connect his/her understanding to what is mentione

	Q: How did you come to this conclusion?		in the video but not his/her own background and experience.
B	AFFECTIVE		
1	Open to different worldviews. Q: Are there different views on this? Can you explain a different view on this? Would you read/watch a different view on this?	Yes, can explain correctly + examples Yes with interest and intentionally	Yes, but lack clarity Yes but unintentionally
2	Flexibility with alternative opinions. Q: Could different views be valid? Would you be willing to change your mind? Could you explain another person's view?	Yes + explanation	Yes, without explanation
3	Recognizing their own biases or prejudices, stereotypes, ego/socio-centric tendencies Q: Why do you think this? Is your perspective limited by some elements of your experience or identity? Would people different from you think differently? Why?	Identifies elements of his/her identity, culture, experience, etc + explain how they affect his/her view Specifies other views and why they differ	Partial identification an explanation Specifies other views but could explain why they differ