

## Assessment of Critical Thinking Disposition among Nursing Academic Staff Members and Assistance

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### Abstract

**Background:** Critical thinking was thinking that analyzed thought, that assessed thought and transformed it for better. Critical thinking is one of the critical components for the learning and academic staff members also considered as core element of higher education institutions. Critical thinking is considered one of the most important concepts in education of preparing educators to teach critical thinking disposition through implementing active and innovative teaching strategies (Huang & Newman and Schwartzstein, 2015). **The study aim** was assessing critical thinking disposition among academic staff members and assistance at faculty of nursing in Fayoum University. **A research design:** Descriptive study research design was followed. **Setting:** The study was conducted at Faculty of nursing, affiliated to Fayoum University. **Subject:** a sample of (84) of academic staff members. **Tool of data collection:** Data was collected by using The California Critical Thinking Dispositions Inventory (CCTDI). **Results:** This study revealed that the majority of sub-scales of CCTDI academic staff members showed a positive disposition toward critical thinking. No statistical significant difference was found in relation to all dispositional subscales, the lecturers have the highest mean score toward critical thinking. **Conclusion:** The academic staff members had achieved the highest mean scores in "truth seeking, analyticity and open- mindedness". Meanwhile, they achieved the lowest mean scores in the dispositional level characteristics of " Self- Confidence, Cognitive maturity ". **Recommendations:** Academic staff members must use a new effective teaching strategies to promote students critical thinking.

**Key words:** Critical thinking disposition, academic members and assistants.

### Introduction:

Critical thinking is an intellectual activity that involves utilising the abilities of the mind. Learning to think critically analytically and evaluatively requires the use of mental processes such as attention, categorization, selection, and judgement. However, many people who have the capacity to develop more effective critical thinking skills are inhibited from doing so for a variety of reasons other than a lack of ability. (Cottrell, 2017).

Thinking, reasoning, problem solving, decision-making and interpersonal competence especially as the nature of work changes and occupations become more reliant on cognitive capacities the concept of critical thinking encompasses problem solving, decision making,

clinical judgment and creativity; clinical judgment is the ability to make inference from data gathered during the problem solving process. The critical thinking must be viewed as being more than a problem solving method (Agboeze & Ugwoke, 2013).

Considering the concept of critical thinking from the opposite direction, we might ask what the consequences of failing to use our critical thinking might be. Imagine for a moment what could happen when a person or a group of people decides important matters without pausing first to think things through (Facione, 2015). Critical thinking disposition is the desire and motivation of the individual to think critically. Critical thinking disposition is to make decisions and solve problems in accordance with consistent internal motivations.

Critical thinking disposition is necessary for critical thinking skills. It can thus be stated that these two concepts cannot be separated from each other by clear lines, but have a pattern in the context of cause and effect (Cansoy & Türkoğlu 2017).

Critical thinking in education is an essential tool for nursing education, and its acquisition is one of the most desired results of higher education to day critical thinking dispositions should be understood as a disposition that can be taught by developing logical and consistent thinking. That involves both cognitive and behavioral component's (Bensley & Spero, 2015).

### **Significance of the study:**

As critical thinking is important in the academic fields which enables staff to restructuring their thinking, some educators believe that educational process should focus on teaching. However, their students critical thinking and cultivation of intellectual traits. So assessing the disposition of university nursing staff toward critical thinking is recommended to show strengths and weakness dimensions they are lacking to be improved (Paul, 2008).

### **Aim of the study**

This study aims at: Assessing critical thinking disposition among academic staff members and assistance at Faculty of Nursing in Fayoum University.

### **Research question:**

Is there a difference among academic staff members towards critical thinking disposition within the Faculty of Nursing in Fayoum University?

### **Subjects and Methods:**

#### **1- Technical design:**

The technical design of this study involves a description of the research design, sample technique, setting of the study, subjects and tools of data collection.

### **Research design:**

A descriptive design was used in this study.

**Setting of the study:** The study was conducted at the faculty of nursing in Fayoum university, Which affiliated to Ministry of High Education, The faculty has only one nursing program for pre graduated student distributed on seven different scientific nursing departments, Medical Surgical Nursing department, Critical Nursing department, Pediatric Nursing department, Maternity and Gynecological Nursing department, Community health Nursing department, Psychiatric and Mental health Nursing department and Nursing Administration department.

**Subjects of the study:** A total of (84) academic staff which include (50) clinical instructors, (12) Assist lecturer and (22) lecturer whose working in the pre mentioned departments.

**Sample size:** The total number of students included in the study was 84 from out (102) were included in the study.

**Sampling technique:** A convenient sampling technique was used in carrying out this study.

### **Tools of data collection:**

One tool was used for collecting data namely; "California Critical Thinking Disposition Inventory questionnaire (CCTDI)" was developed by Facinoe & Facinoe (2006). This tool was divided into two parts were: -

**Part 1:** Which include socio-demographic characteristics of the study subjects as: name, department, age, and gender, level of education, residence and training courses.

**Part2:** This part aimed at assess academic staff members critical thinking disposition. This tool is an international standardized tool, which developed by (Nagib, 2009) and consists of (75) items grouped into seven dispositional characteristics were 1-Truth

seeking (12items), 2-Open-mindedness (12items), 3-Analyticity (11items), 4-Systematicity (11items), 5- Self-confidence (9items), 6- Inquisitiveness (10items) and 7- Cognitive maturity (10items).

#### **Scoring system:**

The instrument uses a 5-point Likert scale ranging from "strongly agree" to "strongly disagree". These are scored respectively from 1 to 5 so that a higher score reflects stronger disposition towards critical thinking. While lower scores indicate strong opposition towards critical thinking.

#### **II-Operational design:**

The operational design for this study includes preparatory phase, pilot study and field work.

#### **Preparatory phase:**

In this phase the researcher reviewed the current available related literature, materials, in textbooks, scientific journals and internet services were used for searching, based on literature review, as the tools of data collection was reviewed and translated into Arabic language. This stage started from the first of May to the end of May (2017).

#### **Pilot study:**

A pilot study was held on about 10% of staff number aimed at determine the applicability clarity, feasibility and time needed for filling out the forms. Data obtained from the pilot study was analyzed. The time for filling the study tools sheet ranged between 10-15 minutes.

#### **Fieldwork:**

The total number of the academic staff was (93) out of (102) staff members, (9) were excluded by pilot study and Study sample

number were (84). Data collection process was started from the first of June to the end of July (2017). Data were collected 5 days/ week about (15-21) questionnaire sheets / day and the questionnaire required (10 to 15) minutes.

#### **III- Administrative design:**

An official letter from faculty of nursing of " Helwan university" to obtain permission to conduct the study was submitted from the Dean of the faculty nursing of "Fayoum university" for each academic staff members. This letter included the aim of the study and photocopy from data collection tool in order to get the permission and help for collection of data. Oral consent was obtained from each participant.

#### **Ethical considerations:**

The study proposal was approved by the ethical committee of the faculty of nursing, Helwan University. An official permission to conduct the study was secured. Informed consent was obtained from each staff member to participate in the study sample. They were informed about the study aim and about their rights to refuse or withdraw at any time without giving reasons. Confidentiality of the obtained information was ascertained. The study maneuvers did not entail any harmful effects on participants.

#### **IV-Statistical design:**

Data entry and data analysis were done using SPSS 16.0 statistical software package. Data were presented using as number, percentage, mean, median, standard deviation. An independent sample t-test was used to compare quantitative variables between groups. And ANOVA test was used for more than two groups. Matrix correlation was done to measure correlation between quantitative variables. P-Value considered statistically significant when  $P < 0.05$ .

**Results:****Table (1):** Personal characteristics of critical thinking disposition among nursing academic staff members and assistance in the study sample (n=84).

Items	N (84)	% 100
<b>Departments</b>		
Medical surgical nursing department	14	16.6
Maternity and Gynecological nursing department	25	29.8
Nursing Administration department	12	14.3
Community health nursing department	9	10.7
Critical nursing department	12	14.3
Pediatrics nursing department	11	13.1
Psychiatric and Mental health nursing department	1	1.2
<b>Age</b>		
22-28	31	36.9
28-35	30	35.7
>35	23	27.4
Mean $\pm$ SD	31.57 $\pm$ 4.92	
<b>Gender</b>		
Male	3	3.6
Female	81	96.4
<b>Job</b>		
Clinical instructor	50	59.5
Assistance lecturer	12	14.3
Lecturer	22	26.2
<b>Residence</b>		
Rural	31	36.9
Urban	53	63.1
<b>Training</b>		
Yes	17	20.2
No	67	79.8

**Table (2):** Shows personal characteristics of the academic staff members. It demonstrates that academic staff members' age ranged between 22 and 35 years old with mean age (31.57 $\pm$ 4.92). In addition to most of them (96.4%) were females. Almost two third of them (59.5%) were clinical instructor and more than two third (63.1%) of the study sample were urban and (79.8%) of the majority hadn't attended any training programs.

**Table (3):** Total of critical thinking disposition among the study sample (n=84).

Dispositional characteristics	Range	Mean $\pm$ SD	Median
Truth Seeking	24-44	33.27 $\pm$ 4.31	37
Analyticity	26-45	33.01 $\pm$ 4.39	41
Systematicity.	24-49	31.39 $\pm$ 4.73	38
Self- Confidence	18-42	26.19 $\pm$ 5.80	35
Inquisitiveness	20-46	31.49 $\pm$ 7.10	39
Open- Mindedness	26-47	36.01 $\pm$ 5.39	41
Maturity	22-41	30.68 $\pm$ 4.66	36
Total critical thinking	170-293	222.05 $\pm$ 26.64	266.5

**Table (3):** Represent total of critical thinking disposition among the study sample, as clarifies that, the highest Range between (26-47) with the highest mean,  $\pm$  SD score (36.01 $\pm$ 5.39), highest median score (41) was related to Open-mindedness. Also the lowest mean,  $\pm$ SD score (26.19 $\pm$ 5.80), lowest median score (35) at Self-confidence.

**Table (4):** Correlation matrix of the critical thinking disposition characteristics. Among study sample (n=84).

Items	Truth Seeking	Analyticity	Systematicity	Self-Confidence	Inquisitiveness	Open-Mindedness	Maturity
Analyticity	R	0.002					
	P-value	0.989					
Systematicity	R	0.043	0.068				
	P-value	0.700	0.539				
Self-Confidence	R	0.024	0.288	0.558			
	P-value	0.831	0.008*	<0.001**			
Inquisitiveness	R	0.068	0.394	0.340	0.421		
	P-value	0.540	<0.001*	0.002*	<0.001**		
Open-Mindedness	R	0.146	0.123	0.451	0.471	0.304	
	P-value	0.184	0.264	<0.001**	<0.001**	0.005*	
Maturity	R	0.162	0.251	0.281	0.367	0.424	0.435
	P-value	0.140	0.021*	0.010*	<0.001**	<0.001**	<0.001**
Total	R	0.275	0.445	0.717	0.754	0.652	0.703
	P-value	0.011*	<0.001*	<0.001**	<0.001**	<0.001**	<0.001**

\*Statistically significant differences

\*\* Highly statistically significant differences

**Table (4)** shows correlation matrix of the critical thinking characteristics. It ( $p < 0.001$ ) illustrates that there are highly statistically significant differences between all dimensions of critical thinking. Which that clarify the positive relations among the different items of critical thinking.

**Discussion:**

Confirmed that critical thinking is a central competency in nursing education programs at all levels. That synthesis of knowledge drawn from the biological, social sciences, the humanities and nursing knowledge to solve problems in the delivery of care is an expectation in nursing education that requires the ability to think critically and to make clinical judgments (Ragab, 2018).

The aim of the study was to assessing critical thinking disposition among academic staff members and assistance at Faculty of Nursing in Fayoum University.

Regarding to the study sample characteristics the finding revealed that, the majority were female and their age ranged between (22-35) years old this finding is in accordance with (Telemaque, 2014), who studied "The Relationship of Academic Achievement Between Critical Thinking and Associated Dispositions: A Canonical Correlation Analysis" and found that the mean age of participant, was (30.57±4.97). As regard post university qualification of the current study the whole of the study sample had faculty of nursing. This is may be due to that they finish their study at the university at the age of (21) years. They also start their job at the academic staff members at their age of (22) years. Workers affairs rules, the age of the highest percentage is between (24-50) years. This finding are dissimilar to (Oklahoma, 2011) who studied "An Evaluation of Simulation as a Tool for Teaching Critical Thinking" and found that the mean age of sample was (31.58 ± 3.97).

Concerning the result in the study the highest score at lecturer on the other hand the lowest score at clinical instructors, this study similar to (Jenkins, 2005), who studied "Exploring Critical Thinking Within Nursing Education: A Comparison of Nursing Scholars in Thailand and The United States" the study shows that, the high critical thinking disposition at lecturer.

Regarding to residence, slightly more than half of the study sample were from urban areas. These finding are similar to (Nisbet, 2014) who studied "Evaluating the Impact of Consent & Capacity: Everyday Decision-Making in Long -Term Care On Staff Critical Thinking Disposition" who found that more than half of the study sample were from urban area.

Regarding the previous attending training programs about critical thinking this study revealed that more than half of the study sample reported hadn't previous attending training programs about critical thinking, this is may be due to they have lack of experience in this field, the educators aren't exposed to different workshops about using critical thinking and problem solving skills, therefore, thinking about the work of lectures of critical thinking is not an idea. This finding in similar with (Goynes, 2001) who studied "Critical Thinking in Nursing: Perceptions of Nursing Educators" found that the more than study sample hadn't previous attending training programs about critical thinking.

Regarding truth seeking dimension the finding demonstrates that, the mean scores of truth seeking were the high among academic staff nursing and had positive disposition. This is may be due to it is 1- Normal that the new staff need to identify the profession policy and procedure. 2- The profession main skill is searching for unknown to prove or reject so; this skill is high among study sample.

This result in accordance with The finding of this study is consistent with the findings of (Lennon, 2014) a study who conducted to examine " How Professors Infuse Critical Thinking into College Courses" and stated that the mean score of truth seeking were high among nursing students. This result dissimilarity with (Lewis, 2012) who studied " critical thinking dispositions of Tennessee agriculture teachers " and stated that educators showed weak positive disposition toward truth seeking.

Concerning analyticity, the results of the current study denoted that, the mean scores of this analyticity dispositional characteristic among academic staff members were high items.

This result may be due to that, as a result of the accumulated experience throughout the educational stage, which is constantly based on the reasoning to confront the situations based on logic. Moreover, the complexity within the educational system demands much more than being able to perform procedure step by step. Decisions made by educators today must be based on evidence and applied in a competent manner. Furthermore, the critical thinking disposition is necessary for attaining the competency based studying is the analytical disposition. In the same line (Nisbet, 2014), who studied "evaluating the impact of consent & capacity: everyday decision-making in long-term care on staff critical thinking disposition" stated that the participants mean score were high in analyticity. This result dissimilar with (Yacoubian & Khishfe, 2018) who studied "Argumentation, Critical thinking, Nature of Science and Socio scientific Issues: A Dialogue between Two Researchers." and stated that educators showed weak positive disposition toward analyticity.

Concerning systematicity in current study the finding reveal that the mean score of this dispositional characteristic were high among study sample. This may be due to organizing in academic work, coordinate different subjects' demands in different academic departments, academic work protocol. The inclination to approach problems in an orderly and focused way is an indispensable part of competent clinical practice and deficits in systematicity might particularly predispose a educators to the possibility of negligence in practice. This result is consistent with (Brookfield, 2016) who studied "Assessing Critical Thinking" and stated that students showed high positive disposition toward systematicity. This result inconsistent with (Karaml & Pakmehre and Aglilli 2015) who studied "Teaching Strategies and developed critical thinking disposition: Intrinsic Motivation, or Group Feedbacks" and stated

that educators showed low positive dispositions toward systematicity.

As regards to dimension self-confidence, this results of the current study revealed that the mean scores of this dispositional characteristic were low among academic staff members This is may be due nursing educators feel that they aren't valued members in the community due to negative thoughts attached to the nursing profession, as well as ineffective communication with peoples out work and hospital staff. Also background of members' staff about nursing, overload of work, crowded and unequipped hospitals and a lot of procedures have to be done with students, this put educators in stress and this may affect their self-confidence. This result is in accordance with (Lewis, 2012) who studied "critical thinking dispositions of Tennessee agriculture teachers" observed that the educators are less confident.

This result is dissimilar to result of (KÖKLÜKAYA,2013) who studied" The Critical Thinking Dispositions of Prospective Science Teachers" who stated that tend to score highly self-confidence in critical thinking dispositions in nursing educators.

Concerning inquisitiveness, the result of the current study had revealed that educators had high positive inclination to inquisitiveness. This may be due to educators' desire to know a lot of knowledge related to work and values of learning, concern to become generally well informed, so they always be curious and interests to find new solution for provision for best studying.

This finding is similar to (Derwtn, 2009) who studied" Critical Thinking in Online Vs. Face-To-Face Higher Education" and stated that the mean score of inquisitiveness were high among nursing students This result different with (Telemaque, 2014) who studied "the relationship of academic achievement between critical thinking and associated dispositions: a canonical correlation analysis" and stated that finding showed weak positive disposition toward inquisitiveness.

This study finding dissimilar to (Pendley, 1997) who studied "A Study of Critical Thinking Dispositions of Nurse Educators" and stated that showed low inquisitiveness toward critical thinking disposition.

Concerning to open mindedness the result of current study denoted that the mean score of educators in truth seeking and analyticity were high, which push educators to have a highest positive inclination toward open mindedness and this may be due to educators' desire to know different world views, to understand how other people think and different teaching strategies used in teaching.

This result is in consistent with (Turabik & Gun 2016) who studied "The Effect of Learning Styles, Critical Thinking Disposition, And Critical Thinking On Clinical Judgment in Senior Nursing During Human Patient Simulation" stated that, study sample were at high open-mind. On other hand this result is in different with the result of (Telemaque, 2014) who studied that "the relationship of academic achievement between critical thinking and associated dispositions: a canonical correlation analysis" indicated that study sample failed to demonstrate positive attitude toward open mindedness.

Concerning cognitive maturity, the current of the study showed that the mean score of educators toward cognitive maturity were low. This may be due to low experience due to lack of exposure to different situations to show of cognitive maturity of academic staff members', values, thoughts, believes of staff members, lack of training programs that provide information and different teaching methods that not allowed discussion and feedback.

This result is in similar to findings of (McPeck, 2016) who studied "Critical thinking and education" and stated that the mean score of educators toward cognitive maturity were low. On the other hand, the finding of current study is dissimilarity with study performed by Kaya et al, (2018) who studied "The relationship between critical thinking and emotional intelligence in nursing students" had clarify

that, he found nursing participant had positive dispositions toward cognitive maturity.

In the current study, the results revealed that in the majority critical thinking regardless of academic staff members showed that, mean scores were high in open-mindedness followed by truth seeking; on the other hand, the mean scores were low in maturity followed by self-confidence.

This result indicates that, the academic staff members were fortunately disposed to the open-mindedness that measures tolerance for new idea, acquired knowledge and divergent views. It is the tendency to allow others to voice views with which one may not agree without violence. Open-minded people act with tolerance toward the opinions of others, knowing that often we all hold beliefs which make sense only from our perspectives. Open-mindedness is important for harmony in a complex society where people approach issues from different religious, political, social, cultural and personal backgrounds.

Furthermore, it may be due to lecturers may have achieved higher grades than their colleagues of the other academic educational levels.

### **Recommendations:**

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**In the light of the findings of the current study the following recommendations are suggested:**

- A critical thinking profile of each educational level at the beginning the working in their assessment plans should established and periodical follow up for staff for thinking dispositions.
- Academic staff members must try new teaching approaches that are most effective in promoting critical thinking.
- Further studies should be conducted to:
  1. Assess the relationship between critical thinking and academic success.
  2. Assess factors affecting critical thinking among academic staff members.



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