



THE LEVELS OF GAINING CRITICAL THINKING SKILLS BY STUDENTS AT HO CHI MINH CITY UNIVERSITY OF EDUCATION

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ABSTRACT

Though the students at Ho Chi Minh University of Education (HCMUE) haven't taken any courses on critical thinking skills officially, they train thinking in studying their professional subject matters. The article is about the levels of gaining critical thinking skills by students at Ho Chi Minh University of Education through a survey based on the Dimensions of Critical Thinking Skills adapted from Paul, Binker, Jensen, and Kreklau. (1990). Critical Thinking Skills. North Central Regional Educational Laboratory. Thereby, we can see the different aspects of thinking.

Keywords: thinking skills, critical thinking skills, professional subject matters.

TÓM TẮT

Mức độ đạt được kỹ năng tư duy phê phán của sinh viên

Trường Đại học Sư phạm Thành phố Hồ Chí Minh

Mặc dù sinh viên Trường Đại học Sư phạm Thành phố Hồ Chí Minh chưa chính thức học những khóa học về kỹ năng tư duy phê phán, nhưng họ được rèn luyện tư duy trong việc nghiên cứu nội dung chuyên môn. Bài báo này nói về mức độ đạt được kỹ năng tư duy phê phán của sinh viên Trường Đại học Sư phạm Thành phố Hồ Chí Minh thông qua một khảo sát dựa trên các chiều kích của kỹ năng tư duy phê phán áp dụng từ Paul, Binker, Jensen, and Kreklau (1990); từ đó, có thể nhận thấy những khía cạnh khác nhau của tư duy.

Từ khóa: kỹ năng tư duy, kỹ năng tư duy phê phán, nội dung môn học chuyên ngành.

1. Introduction

As Beyer, Barry & Ennis, Robert (2009), concludes, critical thinking is "... reasonably and reflectively deciding what to believe or do."... making reasoned judgments. Basically, it is using criteria to judge the quality of something, from cooking to a conclusion of a research paper. In essence, critical thinking is a disciplined manner that a person uses to assess the validity of something: a statement, news story, argument, research, etc." "(p.123)

Linda Elder and Richard Paul, (2001), define critical thinking as: "That mode of thinking - about any subject, content, or problem - in which the thinker improves the quality

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of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them." (p.1)

Petress, Ken (1998), concludes, Evidence is rated, by the critical thinker, based on Sufficiency - is there an adequate amount of support for claims? Relevance - is the evidence presented pertinent to the issue at hand? Reliability - does the support for arguments have a good track record? Does evidence relied upon emanate from expert sources? Consistency - are supporting elements internally and externally consistent with each other and with what we know from other experiences, observations, and sources? Recency - is offered support current rather than being out-of-date? Access - are supporting materials open for receivers' verification? Are secret or anonymous sources avoided? Objectivity - are supporting materials fair and undistorted? Does support originate from expert sources? (p.3, 7)

2. Methodology

2.1. The tool

The tool is adapted from Paul, Binker, Jensen, and Kreklau (1990). Critical Thinking Skills. North Central Regional Educational Laboratory.

The author converts the reading into a questionnaire with 35 items (dimensions) after Likert scale, including 3 factors:

- Factor 1 - Affective Strategies includes: D -1; D -2; D -3; D -4; D -5; D -6; D -7; D -8, and D -9.
- Factor 2 - Cognitive Strategies – Macro Abilities includes: D -10; D -11; D -12; D -13; D -14; D -15; D -16; D -17; D -18; D -19; D -20; D -21; D -22; D -23; D -24; D -25, and D -26.
- Factor 3 - Cognitive Strategies – Micro Skills includes: D -27; D -28; D -29; D -30; D -31; D -32; D -33; D -34, and D -35.

The questionnaire was translated into Vietnamese to collect the data in the school year of 2015-2016 in classes of undergraduate (Sophomores and Juniors, Department of Psychology) and graduate students (in Psychology and Educational Management) at HCMUE.

Figure 1. The discrimination index (DI) of the items in the questionnaire

Item	DI	Item	DI	Item	DI	Item	DI	Item	DI
D -1	0.360	D -8	0.394	D -15	0.530	D -22	0.301	D -29	0.360
D -2	0.614	D -9	0.317	D -16	0.477	D -23	0.545	D -30	0.524
D -3	0.210	D -10	0.351	D -17	0.493	D -24	0.624	D -31	0.354
D -4	0.520	D -11	0.579	D -18	0.581	D -25	0.564	D -32	0.512
D -5	0.423	D -12	0.587	D -19	0.497	D -26	0.629	D -33	0.456
D -6	0.406	D -13	0.635	D -20	0.458	D -27	0.638	D -34	0.437
D -7	0.516	D -14	0.551	D -21	0.544	D -28	0.516	D -35	0.518

- The items with good discrimination index: D -2, D -4, D -5, D -6, D -7, D -11, D -12, D -13, D -14, D -15, D -16, D -17, D -18, D -19, D -20, D -21, D -23, D -24, D -25, D -26, D -27, D -28, D -30, D -32, D -33, D -34 and D -35.

- The items with rather good discrimination index: D -1, D -8, D -9, D -10, D -22, D -29 and D -31.

- The item with average discrimination index: D -3

2.2. Sampling

Sampling: 164 students

Level of Education	Frequency	Percent
Graduate	52	31.7
Undergraduate	112	68.3

Sex	Frequency	Percent
Male	31	18.9
Female	129	78.7

3. Results

3.1. The levels of gaining critical thinking skills by students at Ho Chi Minh City University of Education (HCMUE)

Figure 2. The levels of gaining critical thinking skills (Affective Strategies) by students at Ho Chi Minh City University of Education

Contents	Mean	Std. Deviation	Ranking
A. Affective Strategies			
D - 8 developing intellectual perseverance	3.8293	.93079	1
D - 5 developing intellectual humility and suspending judgment	3.7866	.84914	2
D - 1 thinking independently	3.7317	.77616	3
D - 2 developing insight into egocentricity or sociocentricity	3.7073	.61400	4
D - 3 exercising fairmindedness	3.5884	.68269	5
D -7 developing intellectual good faith or integrity	3.4878	.89640	6
D - 6 developing intellectual courage	3.3598	.87141	7
D - 4 exploring thoughts underlying feelings and feelings underlying thoughts	3.3354	.90179	8
D - 9 developing confidence in reason	3.3293	.89381	9

To sum up:

Mean	Levels	Items
From 4.51 to 5.0	High	None
From 3.51 to 4.50	Pretty high	D-1, D-2, D-3, D-5, D-7, and D-8
From 2.51 to 3.50	Moderate	D-4; D-6, and D-9
From 1.50 to 2.50	Low	None
From 1.0 to 1.49	Very low	None

The results show that the top rankings of levels students gain critical thinking skills (*Affective Strategies*) are individual (perseverance, humility, independence, and fairmindedness) rather than the intellectual quality (faith or integrity, courage, relationship between mind and feeling, and confidence. In the other words, students at HCMUE develop the critical skills in their own study, not in group or society.

Figure 4. The levels of gaining critical thinking skills (*Cognitive Strategies – Macro Abilities*) by students at Ho Chi Minh City University of Education

B. Cognitive Strategies – Macro Abilities	Mean	Std. Deviation	Ranking
D -22 listening critically: the art of silent dialogue	3.5488	.86020	1
D -11 comparing analogous situations: transferring insights to new contexts	3.5427	.79377	2
D -14 clarifying and analyzing the meanings of words or phrases	3.5366	.77847	3
D -13 clarifying issues, conclusions, or beliefs	3.4451	.67609	4
D -16 evaluating the credibility of sources of information	3.4268	.83674	5
D -19 generating or assessing solutions	3.4146	.80567	6
D -12 developing one's perspective: creating or exploring beliefs, arguments, or theories	3.3902	.81784	7
D -18 analyzing or evaluating arguments, interpretations, beliefs, or theories	3.3720	.76065	8
D -21 reading critically: clarifying or critiquing texts	3.3720	.83007	9
D -10 refining generalizations and avoiding oversimplifications	3.3476	.85511	10
D -23 making interdisciplinary connections	3.3110	.79546	11
D -25 reasoning dialogically: comparing perspectives, interpretations, or theories	3.2622	.76634	12
D -15 developing criteria for evaluation: clarifying values and standards	3.2561	.67943	13
D -20 analyzing or evaluating actions or policies	3.2073	.75515	14
D -17 questioning deeply: raising and pursuing root or significant questions	3.1402	.79018	15

D -24 practicing Socratic discussion: clarifying and questioning beliefs, theories, or perspectives	3.0061	.75532	16
D -26 reasoning dialectically: evaluating perspectives, interpretations, or theories	2.9451	.80071	17

To sum up:

Mean	Levels	Items
From 4.51 to 5.0	High	None
From 3.51 to 4.50	Pretty high	D-11, D-14, D-22
From 2.51 to 3.50	Moderate	D -10, D -12, D -13, D -15, D -16, D -17, D -18, D -19, D -20, D -21, D -23, D -24, D -25, and D -26.
From 1.50 to 2.50	Low	None
From 1.0 to 1.49	Very low	None

The results show that the levels students gain critical thinking skills (*Cognitive Strategies – Macro Abilities*) are individual. They are good at skills of communication, of analysis, of reasoning, of generalization, and of evaluation, but they are weak in practice the techniques being used in critical thinking skills at present.

Figure 5. *The levels of gaining critical thinking skills (Cognitive Strategies—Micro Skills) by students at Ho Chi Minh City University of Education*

Content	Mean	Std. Deviation	Ranking
C. Cognitive Strategies – Micro Skills			
D -31 distinguishing relevant from irrelevant facts	3.7927	.74698	1
D -34 recognizing contradictions	3.5061	.79490	2
D -28 thinking precisely about thinking: using critical vocabulary	3.4939	.81019	3
D -27 comparing and contrasting ideals with actual practice	3.3841	.71056	4
D -29 noting significant similarities and differences	3.3415	.72161	5
D -33 evaluating evidence and alleged facts	3.2866	.68967	6
D -35 exploring implications and consequences (p. 56)	3.2866	.77353	7
D -30 examining or evaluating assumptions	3.2134	.63406	8
D -32 making plausible inferences, predictions, or interpretations	3.2134	.81222	9

[3] Paul, R., Binker., A., Jensen, K., & Kreklau, H. (1990) (p.56)

To sum up

Mean	Levels	Items
From 4.51 to 5.0	High	None
From 3.51 to 4.50	Pretty high	D -31 and D -34.
From 2.51 to 3.50	Moderate	D -27, D -28, D -29, D -30, , D -32, D -33, and D -35.
From 1.50 to 2.50	Low	None
From 1.0 to 1.49	Very low	None

The results show that at the 5 high ranks of levels students gain critical thinking skills (*Cognitive Strategies - Micro Skills*) are manipulations. Students can distinguish, compare, and contrast facts, things, ideas, etc. very well. They are weak at evaluate, explore, examine evidence, facts, assumptions, or things which need connections for inferences, predictions, or interpretations.

3.2. Comparing the levels of gaining critical thinking skills by students at Ho Chi Minh City University of Education (HCMUE) by factor

To compare the levels of gaining critical thinking skills by students at Ho Chi Minh City University of Education (HCMUE) by factor, the author calculates the mean of all the skills in each of the 3 factors in the questionnaire. The results can be seen in figure 5.

Figure 6. Comparing the levels of gaining critical thinking skills by students at Ho Chi Minh City University of Education by factor

Factor	M	SD	Ranking
1. Affective Strategies	3.5728	.44613	1
3. Cognitive Strategies – Micro Skills	3.3909	.44990	2
2. Cognitive Strategies – Macro Abilities	3.3250	.44060	3

The result shows that the three factors are ranked from top to down as follow: Affective Strategies, Cognitive Strategies--Micro-Skills, and Cognitive Strategies--Macro-Abilities.

Figure 7. Comparing the levels of gaining critical thinking skills by students at Ho Chi Minh City University of Education by variable of Level of Education

Factor	Level of Education				F (df=1)	P
	Graduate		Undergraduate			
	M	SD	M	SD		
Affective Strategies	3.4893	.41003	3.6116	.45852	2.696	.103
Cognitive Strategies – Macro Abilities	3.2104	.40909	3.3782	.44629	5.283	.023
Cognitive Strategies – Micro Skills	3.2457	.39565	3.4583	.45918	8.285	.005

The result shows that there are differences in statistical in Level of Education on Cognitive Strategies – Micro Skills and Cognitive Strategies. Undergraduate students evaluate higher than Graduate ones.

Figure 8. Comparing the levels of gaining critical thinking skills by students at Ho Chi Minh City University of Education by variable of Sex

Factor	Sex				F (df=1)	P
	Male		Female			
	M	SD	M	SD		
Affective Strategies	3.7634	.43008	3.5245	.43887	7.462	.007
Cognitive Strategies – Macro Abilities	3.4744	.50896	3.2882	.42020	4.508	.035
Cognitive Strategies – Micro Skills	3.6237	.45468	3.3441	.42899	10.371	.002

The result shows that there are differences in statistical in Sex on Affective Strategies and Cognitive Strategies. Male students evaluate higher than female ones.

4. Conclusion

- Students' thinking skills as well as critical thinking skills are developed through their studying professional subject matters in schools;
- The high levels of gaining critical thinking skills by students at Ho Chi Minh City University of Education fall into the skills which are individual, and theoretical; not group, social, and practical;
- There are differences in statistical in Level of Education on Cognitive Strategies - Micro - Skills and Cognitive Strategies. Undergraduate students evaluate higher than Graduate ones.
- There are differences in statistical in Sex on Affective Strategies and Cognitive Strategies. Male students evaluate higher than female ones.

REFERENCES

- Beyer, B. & Ennis, R. (2009). Critical thinking Skills in Education and Life. Retrieved from <http://www.asa3.org/ASA/education/think/critical.htm>
- Elder L. and Paul, R. (2001). *The Miniature Guide to Critical Thinking: Concepts and Tools*, Dillon Beach, CA: The Foundation for Critical Thinking.
- Ken, P. (1998, September 18). What Is Critical Thinking and Why Is It Useful? University Times. p. 3, 7. University of Maine at Presque Isle.
- Paul, R., Binker, A., Jensen, K., & Kreklau, H. (1990). *Critical thinking handbook: A guide for remodeling lesson plans in language arts, social studies and science*. Rohnert Park, CA: Foundation for Critical Thinking. *Critical Thinking Skills*, North Central Regional Educational Laboratory.