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The status of college students' critical thinking disposition in humanities

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Abstract

This survey aimed at measuring students' critical thinking dispositions in humanities fields. 123 students were randomly selected by stratified sampling method among undergraduate students in the College of Humanities in Ferdowsi University of Mashhad, Iran during academic year of 2010-2011. They completed Ricketts'(2003) Critical Thinking Disposition Questionnaire. Overly, finding showed that all subjects achieved optimal level of critical thinking in the moderated level ($p<0.001$,$t=17.56$), but not in the strict level ($p<0.001$, $t= -9.20$). Implications for applying active learning and problem solving approaches to enhance students' critical thinking propositions were proposed.

Keywords: Critical thinking, Disposition, Humanities, Curriculum, Education;

1. Introduction

There is an enormous attention to critical thinking in recent decades. Especial national boards responsible for evaluating education system quality confess to various education systems' inability to develop critical thinking and emphasize upon including this vital skill in curricula as the fourth element of basic education (i.e. after reading, writing and enumerating) and all academic education systems confirm the necessity of passing some courses on critical thinking by students before their graduation.(Hurst, 1999). `Besides, making principal changes in the humanities lessons and textbooks in Iranian universities -which being emphasized heavily by most Iranian researchers and stakeholders in the field- necessitate revising current curricula. Considering the roles and performances of higher education in contemporary age, curriculum revision and update is inevitable. Curriculum generally incorporates four elements named goal, content, method and evaluation and should aim at arising students' ability to research, analysis, innovation, independent judgment and critical self-awareness. Critical thinking skills develop in the best manner in an environment with thought exchange and problem solving. Instructors should attempt to create an interesting environment in which learners' motivation for exploring critical thinking process can be arisen (Myers, 1992).

1.1. Critical thinking

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As critical thinking has been converted into one of main processes within education system, a common understanding of its various meanings is needed (Porter, Igein, Alexander, Blaylock, Comb & Williams, 2005). Some definitions have been proposed for critical thinking (Kennedy, Fisher and Ennis, 1991). Most authors consider it as a cognitive and/or problem solving skill (Ennis, 1987; Halpern, 1996; Kurfiss, 1988; McPeck, 1981; Paul, 1989; Siegel, 1988). Lyutykh (2009) argues that critical thinking is "a right way of thinking".Bowell and Kemp (2005) believe that critical thinking is an individual's engagement in/deciding on/ responsibility for actions they deal with. Some argue that critical thinking is determined by especial skills such as ability to evaluate presented reasons reasonably (Mason, 2008). Facion and Facion (1994) say that critical thinking includes evaluation, inference, analysis and deductive and inductive reasoning. The enough dispositions towards developing and applying these skills are necessary (Jin, Bierma and Broadbear, 2004). Profetto (2003) indicates that critical thinking is not achieved without an enough desire for and disposition towards it. Whitehead considers students' motivation for and attitudes towards critical thinking as main factors affecting their critical thinking and resulting in the design of an appropriate framework for its teaching and applying (Myers, 1992). Facion (2000) acknowledges that a curriculum based on critical thinking skills does direct students towards thinking critically. Considering the above-mentioned viewpoints, it is clear that the role of curriculum elements is inevitable for developing critical thinking skills. The study by Curtis, Tracy, Rick, Gallo, Erin and Ricketts (2008) showed that classes should move from inactive programs and aimless memorization to critical thinking as a means for facilitating training process. Teaching according to, problem solving approaches, (Ozturk, Muslu, and Dicle) and active learning procedures (Qing, Ni, and Hong, 2010) result in positive dispositions towards critical thinking. The prerequisite for the development of critical thinking is to create an effective context and background for disposition toward it and the motivation for and desire toward it act as its promoters. This study aimed at measuring students' critical thinking dispositions in the humanities fields.

2. Method

2.1. Participants and procedures

Using Kerjcie and Morgan's table for sampling, 123 students (95 girls and 28 boys) were randomly selected by stratified sampling method among all undergraduate students in the College of Humanities in Ferdowsi University of Mashhad, Iran during academic year of 2010-2011. They completed Ricketts' (2003) Critical Thinking Dispositions Questionnaire.

2.2. Instrumentation and Data Analysis

The questionnaire included 33 statements in Likerte 5-point scale. The minimum and maximum scores that might be acquired were 33 and 145, respectively. Three subcomponents (subscales) of the questionnaire were entitled innovativeness, Maturity and Engagement. The Kronbach's alpha coefficients for the subcomponents of innovation, perfection and commitment were 0.64, 0.53, and 0.82, respectively. The overall amount was 0.76. One-sample t-test and independent t-test were used for data analysis. Two levels were determined to compare the means of students' critical thinking dispositions: moderate level (at the point of 0.50) and strict one (at the point of 0.70).

3. Results

3.1. One sample t-test results

For comparing the means of students' critical thinking dispositions and its components in moderated and strict levels, the middle score in moderated level was 99 and that of strict level was 125.4 (*see* the Method Section). Table 1 shows the results of one sample t-test for critical thinking dispositions and its related components.

Table 1. One sample t-test results for "critical thinking dispositions" and its components

Component	Level	Mean	T	df	p-value
Total disposition	moderated	116.32	17.56	122	0.000***
	strict	116.32	-9.20	122	0.000***
Innovativeness	moderated	41.89	20.97	122	0.000***
	strict	41.89	0.22	122	0.82
Maturity	moderated	26.68	-0.75	122	0.45
	strict	26.68	-17.95	122	0.000***
Engagement	moderate	47.91	14.96	122	0.000***
	strict	47.91	-2.48	122	0.014*

*p < .05. *** p < .001

3.2. Results of independent sample t-test

As shown in table 1, all subjects achieved optimal level of critical thinking dispositions in the moderated level ($p<0.001$, $t=17.56$), but not in the strict level ($p<0.001$, $t= -9.20$).

The highest and the least scores of innovativeness component were 55 and 11, respectively and its middle scores in moderated and strict levels were 33 and 41.8, respectively. In this component, all subjects achieved optimal level in the moderated level ($p<0.001$, $t=20.97$), but not in the strict level ($p>0.05$, $t=-0.22$).

The highest and the least scores of maturity component were 45 and 9, respectively and its middle scores in moderated and strict levels were 27 and 24.2, respectively. In this component, the studied students did not achieved optimal level neither in the moderated level ($p>0.05$, $t=-0.75$), nor in the strict level ($p<0.001$, $t=-17.95$).

Considering the engagement component, its highest and the least scores were 65 and 13, respectively and its middle scores in moderated and strict levels were 39 and 49.4, respectively. In this component, all subjects achieved optimal level in the moderated level ($p<0.001$,$t=14.97$), but not in the strict level ($p< 0.05$, $t= -2.48$).

According to independent t-test for comparing the students' critical thinking dispositions by their gender and entrance academic year (Table 2), there was no significant difference between girls and boys' critical thinking dispositions ($p>0.05$, $t= -0.60$) and also between students of various entrance academic year ($p>0.05$, $t= 0.13$).

Table 2. Results of independent sample t-test for the comparison of students' critical thinking dispositions by their gender and entrance academic year

Variable	Indicator	Mean	Std. Error Mean	t	df	p-value
Critical Thinking Disposition by Gender	Girl	116.00	1.09	-0.60	121	0.54
	Boy	117.42	2.28			
Critical Thinking Disposition by Entrance Academic Year	First year	116.42	1.48	0.13	121	0.89
	Last year	116.23	1.33			

4. Discussion and Conclusion

This study focused on undergraduate students' disposition towards critical thinking in the College of Humanities in Ferdowsi university of Mashhad, Iran. Findings showed that the subjects achieved optimal critical thinking dispositions in moderated level, but not in strict level. They acquired 116.32 score of total 165 score which falls in with good level. So are innovation and commitment components. This is not true for perfection component that was not achieved in both levels. These findings are in accordance with Profetto (2003) and Tiwari, Avery and Lai (2003) studies, but do not accord with Emir's (2009) study on Turkish students' dispositions to critical thinking. No significant difference was observed in the students' critical thinking disposition by their gender. This accord with the

results of Barkhordary, Jalalmanesh, and Mahmoodi's (2009) study. Also, there was not any significant difference by students' entrance academic years (the first and the last years of their academic period). The finding is in agreement with that of Suliman and Halabi (2007). Regarding the latter finding, It can be said that curricula of education system have not been able to develop critical thinking skills in graduated students.

In conclusion, regarding the results of some studies that emphasize on the role of active learning methods (Qing, Ni, and Hong, 2010) and problem solving approaches (Ozturk, Muslu, and Dicle, 2008) in motivating students' critical thinking disposition, these should be greatly considered in designing curriculum content for higher education. It is suggested that other factors potentially affecting critical thinking dispositions are to be included in education research agenda.

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