Critical thinking disposition: A neglected loop of humanities curriculum in higher education

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Abstract

This survey aimed at investigating 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' Critical Thinking Disposition Questionnaire. Overly, finding showed that all subjects achieved optimal level of critical thinking in the moderated level, but not in the strict level. There were no significant differences in the subjects' critical thinking dispositions according to their gender and their year of study (study length). Based on the findings, revising all curriculum elements, especially that of teaching-learning methods is a necessity. Implications for applying active learning and problem solving approaches to enhance students' critical thinking disposition were proposed.

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

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1. INTRODUCTION

1.1. Critical thinking in higher education

Undoubtedly, higher education has a main role in social development and its objective is to train the graduates who engage in scientific activities applying various thinking approaches. As a result, developing analyst and critic minds is of main responsibilities of each education system. This can be achieved by merging these notions into curricula and training courses (Parirokh & Fattahi, 2005). Philosophers such as Ennis, Lipman and Paul argue that the main objective of any education system is to train logical reasoning thinkers and conceive of delivering a searching mind as a final and real score for it (Marzano et al., 2001).

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In fact, training how to think is of main aims in formal education (Bernard et al., 2008) and transforming students from their self-centered world based on their limited personal experiences into that of more abstract and multiple reality-holding is one of main objectives an academic education system should trace. As Whitehead points out, although the real score of education relates to a thinking process (cf. Myers, 1995), the majority of its activities exclusively concentrate on developing certain basic skills (e.g. reading, writing, enumerating) rather than developing potential gifts and capacities learners have (Fisher, 2001).

Several studies showed that developing thinking skills is of priorities of educational centers’ programs (Sha'bani, 1999). Of course, a problem constantly regarded in education systems is the quality of students' thinking, an optimal thinking which has been described variously, but generally named so-called critical thinking (Marzano et al., 2001). Such thinking must be conceived as a cognitive skill and included in education systems’ main objectives (Halpern, 2001; Damir, Bacani, Tarhan & Dombayci, 2011). In other words, the main objective of higher education is to achieve an ability called critical thinking by some eminent specialists (Facione, 2010). Special national boards investigating education system quality have acknowledged the lack of critical thinking ability in education systems and insisted on the inclusion of training the skill in curricula as the forth element of basic education (after the first three basic skills: reading, writing and enumerating) and all academic systems have obliged their students to pass some courses in critical thinking before their graduation (Hurst, 1999). In fact, critical thinking is a positive educational consequence of higher education systems (Gul et al., 2010; Brunt et al., 2005; Walthew, 2004; Lemire, 2002; Cody, 2002; Shulruf et al., 2009; Karahoca et al., 2010). Considering the necessity of the development of thinking critically in contemporary age, developing critical thinking skills is a focal aim in formal education systems (Marin and Halpern, 2011).

A national exploratory study in U.S.A. found that educational administrators and policy-makers conceived critical thinking as a necessary outcome of higher education (Tsui, 2002) and critical thinking needs to be included in all curriculum elements (Piaw, 2010). Many studies revealed that disposition toward critical thinking is a serious challenge in higher education and students suffer from the lack of optimal critical thinking abilities (Amin-Khandaghi & Pakmehr, 2011; Castle, 2009; Agwu, Ogwu & Okpara, 2007). Association of American Colleges and Universities (Ku, 2009) reported that lesser than 6 per cent of North American graduate students acquired critical thinking skills. As a result, many North American universities tend to prepare some especial programs to increase the students' critical thinking skills and training such skills is at the top of their all curriculum goals (Halpern, 1999; Phye, 1987) and their students are obliged to pass some courses in critical thinking before their graduation. In Iran, some revolution has been emerged against memorization and inactive learning since early 1990s and the advocators of new educational approaches including critical thinking are increasing (Aghazadeh, 2006).

Adams (Ornestein & Hunkins, 2005) argues that critical thinking is not limited to certain disciplines, such as history or physics and a curriculum based on critical thinking should be organized in a some way that it is integrated inherently throughout curricula and as Phye (1987) points out, critical thinking skills should be trained wholly in separation from a certain lesson to enable learners to implement them in various situations they encounter. As Zakus, Malloy, and Edwards (2007) and Ten-Dom and Volman (2004) say, critical thinking is a focal competence for students in all academic disciplines. Myers (1995: 10-12) argues that critical thinking in all disciplines integrates the main components of logical reasoning with elements needed for true judgment applied in interpretations and deductive reasoning. As a consequence, critical thinking is conceived as an analyzing and problem-solving mode in every discipline.
1.2. Curriculum and critical thinking

During past decades, many countries throughout the world have been increasingly concerned about the problem of various education systems’ enough ability to train learners in thinking skills needed for our complex society. Reflecting on this main concern, some attempts have been made to improve the situation in all educational dimensions, including the curriculum contents, teaching methods and assessment approaches (AghaZadeh, 2006).

Although critical thinking skill can be improved via curriculum (Mundy and Danham, 2008), the continuous complexity of countries' educational problems such as the vast volume of the content and inappropriate teaching methods and inadequate assessment approaches resulted in educational administrators' focus on its importance and placement as the only responding reference for educational issues more ever, from one hand (Heusht, 2005) and change in educational structure needs an optimal change in curricula as a basic loop in society's education system from the other hand. As one of main goals of curriculum is to motivate students' research tendencies, analytic and innovative abilities, and judgment and critical thinking skills (British National Association of Education, 1979, cf: Parsa et al, 2005), some educationalists including among others Eisner (Hashemian-nejad, 2002) recognized curriculum inadequate attention to critical thinking as one of main reasons for their dissatisfaction of various curricula. Cimer and Timucin (2010) believe that in order to develop critical thinking skills, a serious revision needs to be made in curricula and such a paradigm shift requires reflection on lecturers-students' role, assessment methods, learning consequences and above all, believing that learners build their knowledge themselves based on their own experiences and backgrounds.

Curriculum has been defined differently. Some argue that it includes designing, implementing and evaluating teaching-learning activities in order to make principle changes in learners (Ja'fari-sani, 2003: 24). The forming elements of curriculum are one of debates in the field without any consensus about them among researchers (MehrMohammadi, 2010). Curriculum elements include all activities and experiences prepared as curricula. Despite disagreements on the number of them, the curriculum elements that are well-known and comprehensive include goals, contents, learning methods and strategies, and evaluation approaches (Ja'fari-thani, 2003). Regarding the curriculum goals, Doll (1992) believes that educational goals should represent rational dimensions and concentrate on knowledge acquisition and understanding, problem-solving and different thinking skills and ways (Ornstein et al., 2005). Goals in which learners have no individual aims and even no perception of their final purposes tend to prevent learners from understanding the relations between the goals and thinking strategies (Marzano et al., 2001).

Curriculum content can be conceived as one of the main curriculum elements relating to critical thinking. It should focus on main reasoning tools rather than on memorization and presentation of some certain information and provide learners with thinking ways (Shahabi, 2005). In traditional education, learners learn some contents that are not applicable in real life situations (Thompson, Martin, Richards and Branson, 2003). Marzano et al. (2001) confess that despite the obvious role of content in critical thinking, it cannot be claimed that it is developed exclusively by content. They argue that curriculum content should have integral relation with teaching method as the third curriculum element to achieve critical thinking. Evidence shows that there are direct relationships between lecturers’ teaching methods and student' critical thinking tendencies, and learning methods should focus on critical thinking as a facilitator of learning process rather than on inactive learning and memorization (Curtis, Rudd Eckhart & Ricketts, 2008).
Most of the current teaching-learning methods have their origins in traditional ones and are based on behaviorism perspectives which regard teaching as an attempt to express and deliver information to students and are generally unsuccessful in developing high-level thinking skills (Association of American Colleges and Universities, 1981; cf: Agha-zadeh, 2006: 11). Today's classes do not reflect students' critical thinking development requirements. Both the active involvement of students in learning process and the guiding role of instructors are vital in critical thinking (Billings and Halstead, 2005). Despite curriculum emphasis on critical thinking and educational administrators' claims on it, there is not any motivation and willingness to encourage students' critical thinking skills and also in spite of their claims on the importance of critical thinking in developing and facilitating more and better training, lecturers only provide some formalized and regular approaches to memorization rather than critically thinking (Maleki and Habibi-pour, 2007).

In fact, the development of critical thinking as an optimal educational consequence (Lampert, 2006) necessitates the learning methods which help learners to improve their critical thinking abilities and tendencies. Current learning methods in education systems waste lots of time to place some certain and separated information items in learners' minds rather than assisting them in revising previous outcomes and encouraging them to develop critical thinking abilities through presenting them with new ideas. Students are often asked to list and memorize some items rather than analyzing, interpreting, evaluating and determining their assumed relations (Jacueline & Martin Brooks, 1993, cf: Santrock, 2006: 443). Lecturers' attitude towards concentration on methods based on knowledge transmission in certain limits into students' minds increases their reliance on their instructors and worsens the learning process (Vaker, 2001; cf: Parsa et al., 2005; Boyle & Trevitt, 1997). Despite that critical thinking best develops in an environment with thought exchanging and problem-solving, educational entities often emphasize information learning and content memorization rather than empowering thinking abilities. Whithead regards students' motivations and interests as main factors positively affect training critical thinking skills. Without students' enough motivation for applying critical thinking, suggesting a framework to its development and application would be the waste of time. Students should be actively engaged in real problem-solving situations and share their experiences with their instructors, and lecturers also need to create a class environment in which learners' natural talents emerge. They should prepare a problem-solving space in which students' interests in critical thinking are arisen and their motivations for applying critical thinking skills are encouraged (Myers, 1995). Benjamin, Brewer and Hebl (2000) argue that we prepare the situation for our students to critically think when we base our learning method on asking appropriate and suitable questions. Using learning methods such as inquiry increases critical thinking (Anderson, 2003; Billings et al., 2005; Edwards, 2007). This method has an inevitable effect on critical thinking tendency (Abrams, Southerland & Silva, 2008) and discussions set forth in inquiry role in recalling students' critical thinking abilities (Cecil, 1995; Landsman, 2005).

Another approach to the facilitation and enhancement of students' critical thinking is problem-solving oriented learning (Ozturk, Muslu & Dicle, 2008; Distler, 2007), which bases on the belief that in higher education, curricula and learning methods should be concentrate on problem-solving. Using such an approach involves an individual in life's real problems and then improves their critical thinking skills. (Worrell & Profetto, 2007). Senita (2008) confesses that concept map learning model allows students to perceive the relations among different beliefs and concepts and such relations necessitate some analysis, organization and evaluation and have capability for developing students' critical thinking.

Although some lecturers tend to provide several opportunities for optimal use of thinking processes and enhance students' learning in any contextual status, barriers such as concise training programs, limited classroom duration and complex and mixed contents prevent them from achieving these goals (Marzano et al., 2001) and formal curriculum can be differently changed and interpreted based on
instructors' their own knowledge, beliefs and so on. The latter may result in some laxity in teaching complex and challengeable exercises and change the critical thinking situation into that of memorization and non-thinking (Fathi-Vajargah, 2007).

Regarding the evaluation element as the forth one of curriculum elements, Renaud and Murray (2008) believe that as critical thinking is considered as a main goal of higher education, the evaluation method should be fit for the goal. Based on Che (2002), in today's education systems, evaluation methods tend to evaluate learners' memorizing ability rather than that of thinking about what they have learnt. In fact, traditional evaluation methods teach learners to memorize lesson items without evaluating and analyzing them. Stapleton (2011) argues that especially in Eastern Asia curricula focus on memory and memorization in evaluating and disregard high-level cognitive skills. Ku (2009) believes that traditional evaluating methods are not able to enhance critical thinking skills because of their concentration on textbook contents. Based on Myers (1995) quizzes, brief simulations implemented and discussed within classroom and so on can equip students with some powerful learning tools that are better than certain formal examinations and tests taken days and even months after learning and returned back to them even long after. Learners' immediate awareness of their strengths and weaknesses in learning process and fast feedback to them have a main role in removing their repeated errors and encouraging their critical thinking skills.

1.3. Critical Thinking in the Humanities

With a glance on the situation of the humanities in the world, we can find that they have accepted their unclear status rather than attempting to gain authority and find their right way (i.e. certain methodologies and objectivism). It assumes that the humanities are underdeveloped in comparison with other scientific fields and have somewhat abnormal position. Ineffective scientific activity evaluating systems, avoiding multiplicity in thinking and reflection, and low self-efficacy are of obstacles to their development preventing them from being problem-solving fields. In other words, the humanities appear to have no responses to real problems resulting in their being unimportance. The humanities need to product knowledge achieved only by critical thinking (i.e. development of new theories and interpretation of information and criticism). As a result, applying new ways based on innovative and critical thinking is of necessities for development of any scholarship fields, including the humanities (Bakhtyari, 2009).

About 90 percent of humanities items need to memorize and students should repeat them to better memorization. As a consequence, ones who select the humanities as their academic fields require having an excellent memory and good expression. It is notable that memorizing is not all to be done and memorized items should be emerged, interpreted and summarized when presented. Then, analyzing ability is a main and necessary skill for critical thinking and disposition to it in the humanities is worth considering (Khosrovjavid, 2002).

1.4. What is critical thinking?

The nature and quality of critical thinking is of debates in the field. Since critical thinking has been changed to a main process in education, a common understanding of its meanings is important and necessary (Porter et al., 2005). Despite many definitions of critical thinking, there is not any commonly accepted definition of the concept (Kennedy, Fisher & Ennis, 1991). Most researchers define it as a kind of cognitive and problem-solving skill (Phye, 1987; Paul, 1989; Halpern, 1999). Since Lyutykh (2009) conceived critical thinking as "a way of right thinking", Bowell (2005) regards it as engagement, making
decisions logically and acceptance of responsibility in what we do. Page (2007), Renaud and Murray (2008) and Piaw (2010) conceives critical thinking as a high level cognitive thinking and Bloom (1956) considers it as an ability to analyze, synthesize and evaluate. Some argue that critical thinking is manifested in skills such as evaluating current reasons and judging according to logical reasons (Mason, 2008).

Cognitive psychologists argue that critical thinking is a kind of decision-making and judgment (Glassner & Schwarz, 2007). Bullen (1998) says that critical thinking focuses on what we believe and do. Facione (2000; 2010) notes that critical thinking is some kind of goal-based activity and judgment concentrating upon the processes an individual applies during thinking and using various contents and subjects. It includes interpretation, analysis, evaluation, explanation, self-regulation and inference skills.

Enough critical thinking dispositions and tendencies for developing and applying these skills are needed for all learners in all scholarship fields (Jin, Bierma & Broadbear, 2004). Profetto (2003) argues that critical thinking is certainly not achieved if there is no disposition towards it. Whithead (2004, cf: Myers, 1995) has taken the similar view when considering the need for disposition to and motivation for critical thinking in learners. Any training framework for critical thinking without enough dispositions would fail.

Briefly, it is obvious that curriculum elements (goal, content, learning methods and evaluating approaches) have an inevitable role in critical thinking development, enhancement and disposition. Despite emphasis on critical thinking in the goals of higher education, it seems that curricula fail in its development and enhancement. Thus, preparing an appropriate environment for creating disposition toward critical thinking is a necessary factor for consequent development of the skill. In addition, equipping students studying in humanities fields with this powerful skill is inevitable due to the need for them to critically analyze and interpret the contents. Research on students' critical thinking focused mostly on scientific fields other than the humanities, such as medical and related fields. For making needed changes in the curricula of humanities fields, we need to know the amount of students' critical thinking dispositions and skills in these fields. This study aimed at investigating critical thinking dispositions of the students studying in humanities fields.

2. METHODOLOGY

Participants and procedures: 123 undergraduate 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. One-sample t-test, independent t-test and ANOVA were used for data analysis. Two levels were determined to compare the means of students' critical thinking dispositions and related components: moderate level (at the point of 0.50) and strict one (at the point of 0.70).

Instrumentation: Ricketts' (2003) Critical Thinking Dispositions Questionnaire was used for data collection. The questionnaire included 33 statements in Likert 5-point scale. The minimum, median and maximum scores that might be acquired were 33, 99 and 145, respectively. Three subcomponents (subscales) of the questionnaire were entitled Innovation with 11 statements, Maturity with 9 statements and Engagement with 13 statements. The Cronbach's alpha coefficients for the subcomponents of innovation, maturity and engagement were 0.64, 0.53, and 0.82, respectively. The reliability coefficient of the instrument was reported about 0.76 by Pakmehr et al. (2010). The overall amount was 0.76 for the current study.
3. RESULTS

Findings are reported in two separate sections of descriptive and analytic findings as follows.

3.1. Descriptive Findings

Table 1 shows the means and standard deviations of subjects' critical thinking disposition and other related components by their genders. The overall mean was 116.32 in comparison with optimal scale of 165. Boys had greater means than girls in critical thinking disposition and three related components.

Table 1: The means and SDs of the subjects' critical thinking disposition and related components by gender

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Overall disposition</th>
<th>Innovation</th>
<th>Maturity</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Girl</td>
<td>116.00</td>
<td>10.62</td>
<td>41.68</td>
<td>4.46</td>
</tr>
<tr>
<td>Boy</td>
<td>117.42</td>
<td>12.06</td>
<td>42.60</td>
<td>5.47</td>
</tr>
</tbody>
</table>

Table 2 shows the means and standard deviations of subjects' critical thinking dispositions and its related components by their year of study. The second year students' overall disposition score means and that of innovation component were higher than other students. In maturity and engagement components, the score means of the third and fourth year students were higher than those of others, respectively.

Table 2: The means and SDs of the critical thinking disposition and related components by year of study

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Overall disposition</th>
<th>Innovation component</th>
<th>Maturity component</th>
<th>Engagement component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of study</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>First year</td>
<td>114.23</td>
<td>11.99</td>
<td>41.38</td>
<td>5.20</td>
</tr>
<tr>
<td>Second year</td>
<td>117.12</td>
<td>11.22</td>
<td>42.36</td>
<td>4.57</td>
</tr>
<tr>
<td>Third year</td>
<td>116.60</td>
<td>10.38</td>
<td>41.55</td>
<td>4.79</td>
</tr>
<tr>
<td>Fourth year</td>
<td>115.39</td>
<td>11.19</td>
<td>41.82</td>
<td>4.74</td>
</tr>
<tr>
<td>Total</td>
<td>116.32</td>
<td>10.93</td>
<td>41.89</td>
<td>4.70</td>
</tr>
</tbody>
</table>

3.2. Analytic Findings

Table 3 shows the results of one sample t-test for students' critical thinking dispositions and its related components. The highest and the least scores of overall critical thinking disposition were 33 and 165, respectively. The middle score of critical thinking disposition in moderated level was 99 and that of strict level was 125.4. The subjects achieved the optimal level of critical thinking dispositions in moderate level (t= 17.56, p<0.001), but not in strict level (t= -9.20, p<0.001).

The highest and the least scores of innovative component were 55 and 11, respectively. The middle score of innovation component in moderated level was 33 and that of strict level was 41.8.

The subjects achieved the optimal level of critical thinking dispositions in moderate level (t= 20.97, p<0.001), but not in strict level (t= 0.22, p>0.05). The highest and the least scores of maturity
component were 45 and 9, respectively and its middle score in moderated level was 27 and that of strict level was 34.2. The subjects did not reach the optimal level of critical thinking dispositions either in moderate level (t=-0.75, p>0.05), or in strict level (t=-17.95, p<0.001). At last, the engagement component highest and the least scores were 65 and 13, respectively and its middle score in moderated level was 39 and that of strict level was 49.4. The subjects achieved the optimal level of critical thinking dispositions in moderate level (t= 14.96, p<0.001), but not in strict level (t= -2.48, p<0.05).

Table 3: One sample t-test results for students' critical thinking dispositions and related components

<table>
<thead>
<tr>
<th>Component</th>
<th>Level</th>
<th>Mean</th>
<th>t</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total disposition</td>
<td>moderated</td>
<td>116.32</td>
<td>17.56</td>
<td>122</td>
<td>0.000***</td>
</tr>
<tr>
<td></td>
<td>strict</td>
<td>116.32</td>
<td>-9.20</td>
<td>122</td>
<td>0.000***</td>
</tr>
<tr>
<td>Innovativeness</td>
<td>moderated</td>
<td>41.89</td>
<td>20.97</td>
<td>122</td>
<td>0.000***</td>
</tr>
<tr>
<td></td>
<td>strict</td>
<td>41.89</td>
<td>0.22</td>
<td>122</td>
<td>0.82</td>
</tr>
<tr>
<td>Maturity</td>
<td>moderated</td>
<td>26.68</td>
<td>-0.75</td>
<td>122</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>strict</td>
<td>26.68</td>
<td>-17.95</td>
<td>122</td>
<td>0.000***</td>
</tr>
<tr>
<td>Engagement</td>
<td>moderate</td>
<td>47.91</td>
<td>14.96</td>
<td>122</td>
<td>0.000***</td>
</tr>
<tr>
<td></td>
<td>strict</td>
<td>47.91</td>
<td>-2.48</td>
<td>122</td>
<td>0.014*</td>
</tr>
</tbody>
</table>

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

According to independent t-test for comparing the students' critical thinking dispositions by their gender and year of study (Table 4), there was no significant difference between girls' and boys' critical thinking dispositions ( t= -0.60, p>0.05).

Table 4: Results of t-test for the comparison of students' critical thinking dispositions by their gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicator</th>
<th>Mean</th>
<th>Std. Error Mean</th>
<th>t</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Disposition</td>
<td>Girl</td>
<td>116.00</td>
<td>1.09</td>
<td>-0.60</td>
<td>121</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>Boy</td>
<td>117.42</td>
<td>2.28</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the results of ANOVA for students' critical thinking dispositions by their year of study (Table 5), there were not significantly differences between them in various years of study (F 3, 119=0.302, P> 0.05).

Table 5. ANOVA for comparing students' critical thinking disposition by their year of study

<table>
<thead>
<tr>
<th>variable</th>
<th>indicator Change source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Disposition</td>
<td>Between groups</td>
<td>110.37</td>
<td>3</td>
<td>36.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within groups</td>
<td>14484.62</td>
<td>119</td>
<td>121.71</td>
<td>0.302</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>14.594</td>
<td>122</td>
<td>---</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. DISCUSSION

Regarding the importance of critical thinking in the humanities, this study aimed at investigating undergraduate students' critical thinking dispositions in Ferdowsi University of Mashhad, Iran. According to the results, the subjects achieved the optimal disposition in moderate, but not strict level. This finding is in accordance with Emir's (2009) and Tiwari, Avery and Lai (2003) studies, but not with those of
Pakmehr et al. (2010) and Profetto (2003). The academic curricula implemented in this university are unsuccessful in developing critical thinking disposition and skill. The subjects' disposition towards innovation and engagement components were optimal in moderate, but not strict levels. Their achievement in maturity component was not optimal in moderate and strict levels. This reveals that the implemented curricula in the humanities, especially the contents of textbooks are not able to enhance students' maturity abilities and somewhat their innovation and engagement ones.

There was not any significant difference between genders' disposition to critical thinking and they had similar disposition. Barkhordari, Jalal-manesh and Mahmoodi (2009) found the similar result. It can be said that this may relate to family and cultural factors. In some cultures, the enquiry and curiosity abilities are inhibited and discouraged both in families and educational environments. This can be a barrier to critical thinking disposition and also weaken gender differences in critical thinking.

Another finding was that there wasn't significant difference between the studied students' critical thinking dispositions by their year of study. The finding is in agreement with those of Pakmehr et al. (2010) and Suliman and Halabi (2007). Gharib et al. (2009) some differences between students by their year of study. The curricula of the studied university could not develop students' critical thinking abilities during their years of study.

In conclusion, regarding the results of some studies that emphasize on the role of active learning methods (Qing, Ni & Hong, 2010), problem solving approaches (Ozturk, Muslu & Dicle, 2008), and enquiry methods (Garrison & Anderson, 2003; Billings et al., 2005; Edwards, 2007) in motivating students' critical thinking disposition, these should be greatly considered in designing curriculum content for higher education. It is suggested that based on theoretical background, other factors potentially affecting critical thinking dispositions are determined and included in education research agenda for exploring their relations with critical thinking.

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