The Comparison of Critical Thinking Based on The Degree of The Application of The Internet Between Girl Students of First Grade of High School at Meshkin Shahr City during 2012-2013

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ABSTRACT

Background: The main purpose of the study is to compare the critical thinking based on the degree of application of Internet among the girl students of first grade of high school at Meshkin Shahr City during 2012-2013 educational years. Objective: The research methodology of the present study is a scale-based method regarding to the comparative-descriptive type of the study and data collection method was based on using a questionnaire made of a reliable researcher through the application of the Internet and standardized way of the critical thinking way in this case. Results: The statistical community includes the entire girl students of first grade of high school of Meshkin Shahr City using Cokran Formula that they were selected as a clustering accidental method of 272 ones participated in the research as well. F-test was applied for analyzing the related data. Conclusion: The results of the research showed that the critical thinking of students who used too much scientific, cultural and social issues and having Internet availability are in moderate degree significantly high; but the same process has not observed in students based on the entertainment degree in this regard.

INTRODUCTION

According to the high potential importance of the education system at every country as a social system, the main purpose of this system is subjected to the transformation of this heritage and mankind experiences to the new generation making new changes suitably for the entire recognitions, attitudes and finally the behavior of the children and youngsters. The real benefit of this system is to transform the dictator humans to healthy and balanced ones and in the other hand, it is aimed at providing the social human forces’ requirements in different cultural, social and economical sections. The informational revolution, scientific progression and the topic of globalization are related to those factors influencing on the critical thinking process. Because paying attention to the thinking issue can cause to the discovery and determine the knowledge deficiencies and recognition of the best and efficient ways along with learning method in different deeply levels [3]. But along with the rapid progression of the information technology, there should be found a way in screening the related information for the process of the critical thinking of people; the bond and connection of this screened information leads to the success as we are seeking it; this is the same discrimination regular basis of scholar people in compare to other usual ones. [5] Today, the educational experts agree that the critical thinking not only is one of the educational bases but also it can be the inseparable foundation of the education system. Because, the critical thinking way can cause to thinking process that it has to be analyzed to bring logical solution in this regard [16]. In despite of the critical thinking as the most important target of the educational system in our country, the educational systems do not have special plans to supplement this process practically. According to the past studies in our country, it is shown that the educational institutions have never paid attention to the main purpose of training critical thinking skills and transformation of the information out of the college setting; in some cases, these centers have never applied only for a one time the process of thinking way.

However, the future is belonged to those ones having this process of the critical thinking method in relation to their learning responsibility along with the background of learning the critical thinking approaches [4]. If the education system can make its own effective influence on a community, the learners will get the high levels of the critical thinking approach potentially. They need to discriminate the reality separation from the

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representation of the reality going towards the thinking tendencies as well as having correct judgment of the observations. People who never accept their deductions and conclusions without the critical thinking, there has been a risky factor hidden into their social affairs. The world of the new millennium is being affected by the Internet and computerized connections making a new appearance in this regard. The web-based society has been penetrated into the entire life of people making the blossoming of technology in this case [7]. Internet is a cultural instrument and its application should have been subjected to positive and negative remarks; the conscious of the Internet threads and challenges can facilitate the correct way of thinking for the entire adolescences.

The recognition of different dimensions of the Internet can give a realistic background in the field of educational affairs. Based on the statistics given by the national organization of adolescents in 1997 about 10% of Iranian youngsters have applied the Internet. In 2002 this degree is increased to 19% and in 2005 it is reached to 29%; also the results of the carried out researches have shown that the Internet is the most applicable tool among the young people. One of the most crucial purposes of the educational system is subjected to train the learners for facing and confronting with the world of the technology in 21st century. Based on the experts viewpoints, the publication of these technological affairs is of high potential importance and this can be happened only in the shadow of the information transformation towards the learners and students’ mind and the educational system officials should have to fulfill their tries and struggles to make the tendency of these students towards the thinking system trying to apply them at their own daily life, too [16]. Due to the main aim of the educational system is to make the ability of students in relation to their creative affairs, the main core of the educational system is subjected to the critical thinking and it has been considered as one of the most essential purposes of the entire educational systems in 21st century to grow the related process efficiently. Therefore, it is necessary to carry out too many researches in this regard; the entire deficiencies of the educational officials should have to be determined; based on the present study, the main aim of carrying out the study is to compare the critical thinking way of the educational system. Along with the obtained results of the study it can give some suggestions in relation to remove the entire problems in this case. It should be of course pointed to give new approaches to the whole educational officials to increase the ways of Internet using by students in this pavement. Azar (2012) has carried out a research in relation to the difference between the educational progression in the test of determining the college level among students having high critical thinking and those ones with weak levels of the critical thinking affairs. The results of the study showed that there is no observed a significant difference between the students’ tendency towards the critical thinking and gender, level and their high school major. Shihab (2011) indicated that the computer can assist to the process of learning particularly in growing the critical thinking skills and analyzing the scientific issues. Based on the findings of Ozkan (2010) students with better critical thinking can ask suitable questions categorizing efficient information; they can also conclude efficiently in this case. The availability of the technological information at these kinds of student is better applied; this makes them to live successfully. The findings of Wu research (2008) represents the fact that the Internet-surfing approach can be effective in increasing students’ motivational skills; this makes also the entire students attitudes towards the Internet-based affairs in relation to their learning issues. Knezek (2008) showed that the combination of the effective computer in the process of teaching and learning can make a positive impact on the increase of the educational success through the scores of the tests and the governance of the 21st century. He believes that these students can learn the technology-based skills; these skills include the connections, cooperation, analyzing, creation, critical thinking, innovation and problem-solving issues. Siomos et al (2008) showed that boys are highly addicted to the Internet in compare to girls. Moor (2007) also indicated that there is a positive significant relationship between the critical thinking and Internet-based literacy. Ozturk and Musulu (2007) showed that the score of people having problem-solving preliminary training had significant difference with group of traditional cases. Net Day (2004, quoted of Thomson and Bortoli 2007) showed that the all-ages students have positive viewpoints towards the ability and the application of FAVA. Fakon (2006) in a study concluded that there is no significant difference between the boys and girls in terms of critical thinking way. Ernest and Monroe (2006) specified that the educational setting not only influences on the skills but also it impacts on the critical thinking tendency. Torff (2005) also showed that the novice teachers are not the facilitators of the critical thinking process. Phang (2005) specified that people participating in the media literacy training course have higher consciousness and critical thinking in compare to non-participated ones. Leed and Hang (2004) specified that telecommunication educational system boost the responsibility, self regulation and critical thinking affairs deeply. Fluck (2003) concluded that there have been some influential factors such as the industrial issues, teachers training and evaluation of the schools as well as the justice-based policies and lesson plans that they are very important in this regard. Nalwa and Pree Anand (2003) indicated that the valueless feeling and depression as well as personality problems are high in the groups of addicted to the Internet. Newrouse (2002) showed that by applying FAVA the learning process increases and this important issue can increase the motivational affairs of students in relation to the optimization of their knowledge and learning affairs; this also can make a framework for increasing and boosting the thinking affairs deeply. Barak Mire et al also showed that the experimental group has got significant progression in the critical thinking; according to
Tesoy (1999), Risto (1988), Myers (2007) and Reed (1998) the critical thinking is an acquisitive process and it can be educated through training[18]. Hariri [4] showed that there is no significant relationship between the critical thinking and Internet-surfing in the research community but the hypothesis of the significant relationship between the motivation and the Internet-surfing is confirmed in this regard. The study of research variables relationship with the demographical variables showed that there is a significant relationship between three variables of critical thinking, motivation of learning and the Internet-surfing in the educational level and this has got the related mean between BA and MA students. Sobhaninejad [7] showed that there is a significant relationship between the addiction to the Internet and depression. Also the results specified that there is a significant difference between the depression variables and addiction to the Internet among the young people having PC. In addition to this, the results showed that there is a significant relationship between students having PC and students without PC in this case. Alipur [12] represented a clear picturesque of the perception of teachers in terms of the critical thinking process. Meyers [15] concluded that there is no significant difference between the control location and critical thinking but the critical thinking is different based on the gender; in other words, the mean critical thinking in girls is higher than boys; also, in the sub-scales of the critical thinking exists a significant difference between both genders. That is, in the subscales of the imagination and deduction powers, girls got better scores than boys. Based on the results of the research, there is no significant difference between the control location of girls and boys. Badri Garghari [2] indicated that the rethinking method can grow the skill of critical thinking power and the tendency of the entire students towards the same process. Other findings of the research showed that the impact of the rethinking method is higher in compare to the critical thinking and the hyper recognition knowledge of teachers. Khosrojerdi and Jahromi [5] have shown the existence of the significant difference between the critical thinking and the informational-seeking behavior. Nademi and Saeidi [20] showed that there is a negative relationship between the external mood and depression using the Internet so that the degree of the boys is higher than girls in this regard. Generally, the personality traits make problem both genders. Mehrmohammadi and Nafisi [19] considered one of the ultimate purposes of FAVA in relation to Iranian educational system as to increase the superior abilities of the critical thinking.

Methodology:
The present study is a scale-based research in terms of the conditions of accepting the control regarding to a descriptive-comparative research. Also, it is an applied study relating to a periodic research and a small study in terms of the domain.

Statistical sample:
The number of the sample based on Cokran sampling formula is 931 first year girl students of Meshkinshahr City by the number of 272 ones using the clustering sampling method.

Measurement:
A questionnaire has been applied to measure the research variables:

a- Questionnaire of the degree of using Internet:
In this research, a questionnaire made of a reliable researcher has been used to measure and collect the related data regarding to the degree of students’ application of the Internet. This questionnaire has been measured in four elements of using the Internet scientifically, social-cultural application, and entertainment application of the Internet and educational application including 30 options in 6 scales of Likert-based domain.

b- Questionnaire of critical thinking:
Riktes standardized questionnaire was used to measure the critical thinking including 33 options and the commitment scale in a five-choices scale of Likert-based domain; this has been designed from ‘‘I agree completely, I agree, I do not know, I disagree and I completely disagree’’ as 1-2-3-4-5, respectively.

Validity and reliability of the measurement instrument:
The validity of the related questions has been edited by the consultants and advisors; also, the contextual validity of the critical thinking questionnaire has been confirmed by the college professors. The reliability of the same questionnaire (Riktes 2003) using Cronbach alpha coefficient was measured that it is 0.75 for the creation, 0.75 growths and 0.86 for the commitment obtained. In order to determine the validity of the present research questionnaire, Cronbach alpha index was applied so that the questionnaires were distributed among the students accidentally; then, the collected data was calculated according to table 1-3 that it has been also confirmed in this regard.

It should be mentioned that the range of the alpha changes is between zeros to one. The degree of zero represents the lack of validity and the one shows a complete validity between the related questions and their internal stability. If the degree of alpha is higher than 0.7, the questions and options are suitable along with their variables.
Table 1: validity of questions regarding to the under study variables

<table>
<thead>
<tr>
<th>Structure</th>
<th>Questions of every variable</th>
<th>Degree of alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific application of Internet</td>
<td>5</td>
<td>0.79</td>
</tr>
<tr>
<td>Social-cultural application of the Internet</td>
<td>7</td>
<td>0.8</td>
</tr>
<tr>
<td>Educational application of Internet</td>
<td>13</td>
<td>0.85</td>
</tr>
<tr>
<td>Degree of using Internet</td>
<td>5</td>
<td>0.73</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>30</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Data analysis:
The data analysis process has been carried out by the use of SPSS-17 so that the quantity features, measurement of percents and distribution as well as the quality features and the measurement of the central indices were also carried out efficiently. Finally, Smirnov-Kolmogroph test was applied for the relations of the test after the normality of the variables; in this case, F-test was also used to measure the difference between the degrees of using Internet by the students.

Results:

Table 2: results of variances test for the variable of the critical thinking of students based on their scientific application of the Internet

<table>
<thead>
<tr>
<th>Variables</th>
<th>Source of changes</th>
<th>Total squares</th>
<th>Df</th>
<th>Mean squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status of critical thinking of students</td>
<td>Between group</td>
<td>1493.97</td>
<td>1</td>
<td>1493.97</td>
<td>8.37</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>Within group</td>
<td>48182.57</td>
<td>270</td>
<td>178.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to table 1, the significance level of the test p=0.004 and 0.05 and F=8.37 were obtained; that is, there is a difference between the status of the critical thinking and the Internet so that the users of the Internet have higher critical thinking rate.

Table 2: results of variances test for the variable of the critical thinking of students based on their social-cultural application of the Internet

<table>
<thead>
<tr>
<th>Variables</th>
<th>Source of changes</th>
<th>Total squares</th>
<th>Df</th>
<th>Mean squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status of critical thinking of students</td>
<td>Between group</td>
<td>1861.87</td>
<td>2</td>
<td>930.93</td>
<td>5.23</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>Within group</td>
<td>47814.68</td>
<td>269</td>
<td>177.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to table 3, the significance level of the test p=0.006 and 0.05 and F=5.23 were obtained; that is, there is a difference between the status of the critical thinking and the users of social-cultural application.

Table 4: the results of variances test for the variable of critical thinking of students based on the degree of using the entertainment of the Internet

<table>
<thead>
<tr>
<th>Variables</th>
<th>Source of changes</th>
<th>Total squares</th>
<th>Df</th>
<th>Mean squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status of critical thinking of students</td>
<td>Between group</td>
<td>9.19</td>
<td>2</td>
<td>4.59</td>
<td>0.02</td>
<td>0.97</td>
</tr>
<tr>
<td></td>
<td>Inter-group</td>
<td>49667.36</td>
<td>269</td>
<td>184.63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to table 4-25, the significance level of the test p=0.97 and 0.05 and F=0.02 were obtained; that is, there is no difference between the status of the critical thinking and the Internet as the entertainment.

Table 5: the results of variances test for the variable of critical thinking of students based on the degree of using educational of the Internet

<table>
<thead>
<tr>
<th>Variables</th>
<th>Source of changes</th>
<th>Total squares</th>
<th>Df</th>
<th>Mean squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status of critical thinking of students</td>
<td>Between group</td>
<td>5631.73</td>
<td>2</td>
<td>2815.86</td>
<td>17.19</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Inter-group</td>
<td>44044.82</td>
<td>269</td>
<td>163.73</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
According to table 5, the significance level of the test $p=0.000$ and $F=17.19$ were obtained; that is, there is a difference between the status of the critical thinking and the Internet as the educational case.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Source of changes</th>
<th>Total squares</th>
<th>Df</th>
<th>Mean squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status of critical thinking of</td>
<td>Between group</td>
<td>2172.69</td>
<td>2</td>
<td>1086.34</td>
<td>6.15</td>
<td>0.002</td>
</tr>
<tr>
<td>students</td>
<td>Inter-group</td>
<td>47503.85</td>
<td>269</td>
<td>176.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to table 6, the significance level of the test $p=0.002$ and $0.05$ and $F=6.15$ were obtained; that is, there is a difference between the status of the critical thinking and the Internet.

**Discussion and conclusion:**

According to the single variance analysis test the sig level $p=0.002$ and higher 0.05 and the degree of $F=6.15$ were obtained; thus, the research hypothesis is confirmed; there is a significant difference between the status of critical thinking and the students' Internet usage. In other words, the critical thinking of students has been higher in the use of the Internet; due to the obtained results of the research hypothesis is based on the use of students' Internet issues; this research is coincident with the theories of cognitive learning and structuralism; also these represented theories in the second chapter, Elizabeth Ride's theory are coincident together; and also these are coincident with Goldsmith quoted of Hosseinpour Abadi (2005), Hariri and Bagherinezhad (2012) and Ebrahim Abadi (2009)[1,4,12].

The prsnet era is subjected to the informational technology revolution being affected by many different technologies such as the Internet and global webs; thus, in despite of having high technological information, it cannot be useful but its analysis method has been applied comprehensively in this case. The critical thinking based on the technological information can grow the progression of the discovery of technology and scientific regulations. The function of the mass media can be also efficient in a community. Denis Mc Coyle considers the process of the relations comprehensive and the interference of the media among the social relations beneficent. He believes that as the word “MEDIA” works in this case, the mass media can be considered as the greatest intervening agents having better social functions among people of a community. Therefore, the recognition of the relations, media and mass media as well as educational media and the communication theories can be fruitful in the recognition of the Internet from different viewpoints.

In this research it is struggled to see the applications of the Internet functions as a diverse media influencing on the critical thinking process. According to the structuralisms theory, a process can be governed from an experience providing various lesson plans by the executives in this case. This gives a facilitated path for the entire students to use the analysis and interaction discussions in this pavement. According to hyper cognition theory, a student should supervise on his or her mental activities actively. This has been considered as one of the most crucial elements of the critical thinking process. Elizabeth Ride has also carried out the structuralism of the social territories of the Internet; she points to the theories of Kessler and Sigel and Mc Govayor saying the balance of virtual communities in this regard.

Hobermass has also pointed to the public fields; he believes that in this field people can discuss on something as logically. They can get agreed together without making any power on each other. Every topic can be represented in this case. So, this is the Internet setting giving suitable space for making these kinds of topics there potentially. According to Souri (2012) the application of the Internet should have been come along with the educational progression and everyday life’s affairs. These technologies can recover and facilitate various aspects of the life including the availability to the information easily going towards the easy way of connections and communications. According to Virtek viewpoint (2012) the appearance of the computers and the Internet has made incredible changes of the educational issues. The suitable application of the Internet for reaching to the information makes a valuable case for the entire processes of the education. The limitation of the human resources and the governmental financial problems has caused to the increase of the Internet applications. Kit (2012) believes that the Internet should have to be used suitably and this can fill the educational gaps potentially. Internet in the classes, houses and public places such as the libraries should have to be existed; the Internet with high availability facilitations provides suitable information. According to the statements of Gambova and Garcia Sowazar (2011) the modern technologies such as the Internet have changed the new way of the relations as well. According to Shihab (2011) the availability to the Net and Internet or web-based channels have been increasingly raised; the application of the educational affairs by students has been also increased in this pavement. As Elsief (2009) has divided the motivation of the Internet into three groups of knowledge, entertainment and construction social relations; this makes the entire students to be able to find a better solution to their problems. These of course have to been constructed into a listening and hearing frameworks to be able to make their changes in relation to the attitudes and new behavioral affairs. Maktabifard (2010) believes that the critical thinking is a deductable and documentary thinking towards the reliable and
authentic documents. This makes a reliable and reasonable standard for obtaining the latest information in this regard. The carried out researches of Chung showed that if the professors tend to develop the Internet-based settings for increasing the students’ knowledge, they have to apply opportunities for their students’ interactive affairs giving suitable approaches in this pavement. Steve Viler concluded in his research that teachers can take the necessary assistance of the computers to organize the communicative plans in this path. They have to raise the critical thinking orientations to provide their students ready for challenging to their community of technology as a group-based task. The findings of Ozakan also showed that students think of critically affairs, they can ask suitable questions and collect the related data ranking them efficiently in this regard. The results of Loveless research indicated that the students can use various computer software programs or weblogs to change, they can ask suitable questions and collect the related data ranking them efficiently in this regard. The results of families’ familiarity with the application of Internet and the lack of controlling their children in this regard, motivation and independency of learning affairs easily among the related students. Unfortunately due to the lack learning process because it also increases the flexibility of students learning affairs. It also increases the togetherness are one of the most essential factors of raising the scientific information and the role of students in together. However no any significant differences were observed in the degree of using Internet as the entertainment. One of the most important benefits of the informational services and communicative approaches is subjected to the application of the Internet. The high activeness of the entire students and their interactions together are one of the most essential factors of raising the scientific information and the role of students in learning process because it also increases the flexibility of students learning affairs. It also increases the motivation and independency of learning affairs easily among the related students. Unfortunately due to the lack of families’ familiarity with the application of Internet and the lack of controlling their children in this regard, most students apply the Internet without having any programs. As a result, the degree of entertainment and fun of the Internet does not have an impact on the critical thinking of the family in this case. Along with these representations, it is suggested the entire families to have enough control and supervision on their children’s Internet application issues. Because they can make better recovery of the critical thinking on the entire students potentially in this regard; this also plays a key role in children’s future issues.

REFERENCES


