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The Impact of Critical on Faculty Members' Information Seeking Behavior in IAU¹ Babol Branch

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Abstract:

The purpose : The aims of this study is to study critical thinking by faculty members at Islamic Azad University – Babol and its impact on their information seeking behavior.

methodology: Research method is descriptive – survey and the tool used in this study is two questionnaires, including California critical thinking, form B and information seeking behavior. The statistical population consists of 120 faculty board members of Babol Islamic Azad University. The Sampling method was systematic categorical random.

findings: There is no significant relationship between The faculty members' critical thinking and their Information behavior seeking. There is no significant relationship between critical thinking factors (Analysis, Induction, deduction and evaluation) of faculty member and their Information behavior seeking, but knowledge of Information channels acquisition. There is no significant difference between The faculty members' critical thinking and their Information behavior seeking in different departments.

Key words: critical thinking, major elements of critical thinking, information seeking behavior, Islamic Azad University-Babol

Introduction

Studying about thinking may be complicated as accurate explanation of human thoughtful behavior due to available data and numerous views seems intricate (Abbasi, 2001). Thinking is considered a flow in which one is making efforts to determine the problem that he faces and settle it using his last experiences.

Critical thinking is one of fundamental issues in the present century appealing attention of many congress, journals and educational centers authorities to itself (Khosrojerdi & Qorban Jahromi, 2007). Critical thinking would be a self-regulation and purposeful judgment process reasonably focusing on evidence, context, concepts, methods and criteria. This is not a gradual process but flexibility of critical thinking helps an individual judge applied theories, current evidence, explained criteria or standards, used methods value logically and rationally (Athhari, Sharif, Nematbakhsh, Babamoohammadi, 2009).

Although library and information science blends into thinking in different dimensions, not too much attention has been given to it. Librarians rarely experience critical thinking instruction, if so, they learn it through personal experience or studies but in practice and systematically. Critical thinking is considered an issue relevant to information seeking behaviors. In information seeking behaviors field, a user will be traditionally or digitally successful to retrieve data, when he is able to search his own research systematically.

Critical thinking, therefore, helps users put their research question (s) in a systematic framework to search required documents, resources based on it. In addition, a researcher should not neglect to evaluate resources, particularly, this could be more important for retrieved resources through the web considering available internet possibilities (Ghiasi, 2007). Therefore, users especially faculty board members need to be able to distinguish useful printed/electronic resources from useless ones and assess them, this is required critical thinking skills. Here, the necessity of critical thinking instruction can be defined and trained people will fortify their critical thinking skills through information seeking process and practice it.

The present study tends to review the impact of Babol Islamic Azad University faculty board members' critical thinking rate on their information seeking behavior.

Research Background

Hosseini & Bahrami (2002) in his study" comparing critical thinking between BS students of the first and last years" concludes that the average grades on the students' critical thinking in the first and last years in four universities are 19.9 and 21.6 respectively. And there is a significant difference between the students' critical thinking in the first and last years. There is also a significant relationship between housing of the students in the first year and their critical thinking average grade.

Khosrojerdi (2007) in a study" review of the relationship between MS students' critical thinking and their information seeking behavior" suggests that there is a significant relationship between critical thinking and information seeking behavior in general and some aspects of these two variables.

¹ .Islamic Azad University

Weiler (2005), descriptively studies "information seeking behavior in generation ... Students, motivation, critical thinking and learning theory" in the united states . He suggests that students' motivational factors might follow their independence to the television and internet to satisfy their information needs. This study also shows that information seeking is an intellectual process and students try to meet their needs through their former knowledge, recorded ideas and cognitive development degrees. Similarly, the researcher may reach a significant relationship between the students' information seeking behavior and their critical thinking.

Research Importance

In today's world where there are numerous issues in diverse contexts, faculty board members basically need to improve attitudes and skill helping them correctly evaluate these issues, so importance of critical thinking as the first prominent step to use the internet could be appreciated(Ashrafirizi, Kazempour, 2007). Considering this point, the research benefit is to find out that critical assessment of information quality available in printed/electronic resources particularly by the users leads to obtain the most relevant data about the research problem and interpret them. This appears very important to everyone.

Research Methodology

The research method is descriptive-survey and the applied tool is questionnaires. To gather data two questionnaires have been used: California critical thinking questionnaire, form B including 34 multiple-choice questions with one correct choice for five cognitional skills domains of critical thinking suggested by Delphi project study team conducted by Fasion (1990) in California University including interpretation, analysis, evaluation, inference, explanation, self-regulation and information seeking behavior questionnaire.

The statistical population consists of 120 faculty board members teaching in humanities, medicine, technical and engineering, agricultural, and basic science group of Islamic Azad University-Babol in 2011-2012.

To reach a proper sample, categorical random sampling has been used. Then, the questionnaires were distributed to 74 participants as a sample population.

Finally 45 questionnaires or 60% were collected and analyzed.

Research Purposes

The main purpose of the research is to assign critical thinking degree used by the faculty board members of Islamic Azad University branch of Babol and its impact of their information seeking behaviors.

Sub goals are as follow to:

- Assign critical thinking degree of the faculty board embers
- Assign individual critical thinking skill of the faculty board
- Assign faculty board members' information seeking behavior
- Assign the relationship between critical thinking degree and information seeking

competencies of the faculty board members

Research Questions

1 – How high is the critical thinking degree of the faculty board members?

2 - How high is each critical thinking skills from fashion's view point including interpretation, analysis, evaluation, inference, explanation and self-regulation of the faculty board members?

3 – How is the faculty board members' information seeking behavior?

4 – would the faculty board members' critical thinking affect their information seeking behavior?

Research Hypothesis

1 –there is a significant relationship between the faculty board members' critical thinking degree and their information seeking behavior.

2 -there is a significant relationship between each critical thinking skills of the faculty board members and their information seeking behavior.

3 -there is a significant relationship between faculty board members with respect to critical thinking effect on their information seeking behavior due to academic major.

Findings

Questions

The first and second questions: How high is the critical thinking degree of the faculty board members?

Table1. Frequency of critical thinking elements and critical thinking among faculty members

Statistics	No.	mean	median	mode	standard	average	variance	Maximum	Minimum	Total			
Analysis	45	1/86	2	2	1/42382	0/21225	2/027	6	7/14	0	0	84	20/74
Evaluation	45	4/44	5	6	2/33117	0/34751	5/434	10	5	0	0	200	31/74
Inference	45	1/68	2	2	0/92496	0/13789	0/856	3	3/94	0	0	76	15/35
Induction	45	2/88	3	2	1/49579	0/22298	2/237	7	5/38	1	0/76	130	18/05
Deduction	45	4/33	4	2	2/43086	0/36237	5/909	10	5	0	0	195	30/95
Critical	45	15/22	14	12	5/32954	0/79488	28/404	29	85/29	6	/64	658	43

Regarding table 1, it can be seen that the most and least acquired means belong to evaluation (4.44), deduction (4.33) and inference respectively.

Additionally, the table shows that the most and least acquired scores for critical thinking are 29 or 85.29% out of the total and 6 or 17.64% of the total that needs to be acquired respectively. The most and least standard deviations belong to deduction (243) ad inference respectively.

Table2. Frequency of faculty board members' critical thinking

Number of People	Frequency	Percentage	Cumulative distribution	Cumulative percentage
15-6	26	57/77	26	57/77
25-16	17	37/77	43	95/54
34-26	2	4/44	45	100
Total	45	100	---	---

Table 2 indicates that 43 studied people received the score lower than 34 (37.77%) then, their critical thinking would not be too much while only 2 respondents (4.44%) showed high degree for critical thinking by getting the score approximately 34.

The third and fourth questions: How high is each information seeking behavior and faculty board members' information seeking behavior?

Table 3. frequency of information seeking behavior factors between faculty members

Factors of information seeking behavior	No .	Mean	Median	Mode	Standard deviation	Average deviation	Variance	Maximum		Minimum		Total	
Data acquisition	45	2/24	2	1	/583371	/236040	2/507	6 from 6 m	%100	1 from 6 m	16/66 %	101 from 270	%37/4
Knowledge of data acquisition channel	45	6/08	5	3	/232103	/481810	10/446	13 from 13	%100	3 from 13	32/07 %	274 from 585	46/83 %
Knowledge of search strategy	45	2/13	1	1	/995451	/297460	3/982	7 from 7 m	%100	0 from 7 m	0	96 from 315	30/47 %
Knowledge of data search means	45	1/48	1	1	/944410	/140790	0/892	4 from 4 m	100 %	1 from 4 m	25 %	67 from 180	37/22 %
Final statistics of information seeking behavior	45	/9511	11	6	/445426	/960830	41/543	28 from 30	93/33 %	6 from 30	20 %	538 from 1350	39/85 %

Considering table 3, it can be seen that the most and least score belong to knowledge of data acquisition channel (6.08) and Knowledge of data search means respectively.

The table also shows that the most and least score for information seeking behavior are 28 or 93.33% out of the total score that needed to be gained and 6 or 20% respectively. The most and least standard deviation belong the knowledge of data acquisition channel (3.23210) and knowledge of data search means (0.94441) respectively.

Table 4. Frequency distribution-percentage of faculty board member's information seeking behavior.

Number of people	Frequency	Percentage	Cumulative distribution	Cumulative percentage
15-6	35	77/78	35	77/78
25-16	6	13/33	41	91/11
34-26	4	8/89	45	100
Total	45	100		

Table 4 indicates that 41 studied people received the score lower than 34 (13.33%) that means their information seeking behavior would not be too much while only 4 respondents (8.89%) showed high degree for information seeking behavior by getting the score approximately 34.

Hypothesis

Table 5 .one-sample test: analytical review of each critical thinking element and faculty board members' critical thinking.

one-sample test critical thinking	t	df	p value	mean difference	anticipated mean	acquired mean
analysis	-12/407	44	0/000	-2/63	4/5	1/86
evaluation	-7/354	44	0/000	-2/55	7	4/44
inference	-27/640	44	0/000	-3/81	5/5	1/68
induction	-22/922	44	0/000	-5/11	8	2/88
deduction	-7/359	44	0/000	-2/66	7	4/33
total critical thinking	-2/238	44	0/030	-1/77778	17	15/22

considering table 5, it can be seen that there is a significant difference between acquired means for each critical thinking element and the anticipated means in all cases the p value is lower than 0.05. on the other hand The null hypothesis is rejected and research hypothesis will be confirmed. Reviewing anticipated and acquired means and the difference between them may indicate that none of the purposed elements could not received the anticipated mean and the all are less than it, but the acquired mean for critical thinking (in general) is close to the anticipated one whereas their difference is significant.

Table 6 .one-sample t test: analytical review of each element for information seeking behavior and faculty board members' information seeking behavior.

one-sample test information seeking behavior	t	df	p value	mean difference	anticipated mean	acquired mean
Data acquisition	-3/201	44	0/003	-0/76	3	2/24
Knowledge of data acquisition channel	-0/853	44	-0/398	-0/42	6/5	6/08
Knowledge of search strategy	-4/594	44	0/000	-1/37	3/5	2/13
Knowledge of data search means	-3/63	44	0/001	-0/52	2	1/48
Final statistics of information seeking behavior	-3/169	44	0/003	-3/05	15	11/95

considering table 6, it can be seen that there is a significant difference between each element of information seeking behavior (except the knowledge of data acquisition channel element) and anticipated means as the p value for data acquisition goals, knowledge of search strategies and search means is less than 0.05. In other words The null hypothesis is rejected and research hypothesis will be confirmed. Reviewing acquired and anticipated means and the comparison between them may indicate that the studied elements failed to acquire the anticipated mean and all of them are less than it but the element of knowledge of data acquisition channel that shows either no significant difference or slight negative-oriented difference between them. In other words the respondents could approach an average level. Although there is a significant difference between the acquired mean for information seeking behavior (in general) and the anticipated mean, a gap between them can be seen.

The first search hypothesis: there is a significant relationship between faculty board members' critical thinking and information seeking behavior.

Null hypothesis: there is no significant relationship between faculty board members' critical thinking and information seeking behavior.

Table 7 . Chi-square B test: relationship between critical thinking and information seeking behavior

	Chi-square	df	p value	Result
Chi-square	^{27/226}	30	0/611	Reject the null hypothesis
No.	45			

The findings presented in table 7 indicate that the research and null hypotheses would be rejected and accepted respectively with regard to p value (p = 0.611) that is higher than 0.05. therefore, there is no significant relationship between faculty board members' critical thinking and information seeking behavior.

The second research hypothesis: there is a significant relationship between the degree of each critical thinking and information seeking behavior element of faculty board members.

Null hypothesis: there is no significant relationship between the degree of each critical thinking and information seeking behavior element of faculty board members.

Table 8: relationship between each element of critical thinking and information seeking behavior based on Chi-square test.

Critical thinking elements	and information seeking behavior elements	Chi-square	p value	df	No.	Result
analysis	Data acquisition	26/844	20	0/140	45	Reject the hypothesis
	Knowledge of data acquisition channel	56/372	50	0/249	45	Reject the hypothesis
	Knowledge of search strategy	40/387	35	0/244	45	Reject the hypothesis
	Knowledge of data search means	18/376	15	0/243	45	Reject the hypothesis
evaluation	Data acquisition	28/171	32	0/634	45	Reject the hypothesis
	Knowledge of data acquisition channel	118/336	80	0/003	45	Reject the hypothesis
	Knowledge of search strategy	58/738	56	0/375	45	Reject the hypothesis
	Knowledge of data search means	20/451	24	0/671	45	Reject the hypothesis
inference	Data acquisition	25/139	12	0/014	45	Reject the hypothesis
	Knowledge of data acquisition channel	45/416	30	0/035	45	Accepted hypothesis
	Knowledge of search strategy	26/186	21	0/199	45	Reject the hypothesis
	Knowledge of data search means	5/409	9	0/797	45	Reject the hypothesis
induction	Data acquisition	37/803	24	0/036	45	Reject the hypothesis
	Knowledge of data acquisition channel	73/915	60	0/107	45	Reject the hypothesis
	Knowledge of search strategy	51/132	42	0/158	45	Reject the hypothesis
	Knowledge of data search means	17/269	18	0/505	45	Reject the hypothesis
deduction	Data acquisition	40/198	40	0/461	45	Reject the

						hypothesis
	Knowledge of data acquisition channel	148/893	100	0/001	45	Reject the hypothesis
	Knowledge of search strategy	86/033	70	0/094	45	Reject the hypothesis
	Knowledge of data search means	17/269	18	0/505	45	Reject the hypothesis

according to the findings of table 8 for analysis and induction, the research and null hypothesis would be rejected and accepted respectively since P values are higher than 0.05 in all cases.

Thus, there is no significant relationship between analysis and induction elements of critical thinking and information seeking behavior of the faculty board members. The finding for evaluation and deduction indicate that the P values are higher than 0.05 except the knowledge of data acquisition channel element out of information behavior elements, therefore the research and null hypothesis would be rejected and accepted respectively, that means there is no significant relationship between evaluation and deduction elements of critical thinking and information seeking behavior elements of the faculty board members (except the element of knowledge of data acquisition channel, since the P values for both of them are below 0.05, thus the research and null hypothesis would be accepted and rejected respectively).

In addition the findings for inference element of critical thinking indicate that the research and null hypothesis would be accepted and rejected respectively since the P values of two information seeking behavior elements (data acquisition goals and knowledge of data acquisition channel) are below 0.05. but for remaining elements of information seeking behavior the research and null hypothesis would be rejected and accepted respectively as their P values are above 0.05.

The third research hypothesis: there is significant difference between the instructional groups of the faculty board members in terms of critical thinking and information seeking behavior degrees.

Null hypothesis: there is no significant difference between the instructional groups of the faculty board members in terms of critical thinking and information seeking behavior degrees.

Table 9: Kruskal-Wallis test: Difference between critical thinking and information seeking behavior degrees of the faculty board members in instructional groups.

Type of activity	Instructional groups	Number of responds	Mean	Kruskal-Wallis	df	p value	Result
information seeking behavior	medicine	4	34/88	5/862	4	0/21	Reject the hypothesis
	humanities	25	22/12				
	technical & engineering	3	13				
	Basic science	12	24/13				
	agricultural	1	14				
critical thinking	medicine	4	31/75	5/742	4	0/219	Reject the hypothesis
	humanities	25	21/8				
	technical & engineering	3	30/33				
	Basic science	12	19/25				
	agricultural	1	41				

According to table 9, it can be seen that obtained P values for the critical thinking and information seeking behavior degrees and different instructional groups are above 0.05, there fore, the research and null hypothesis would be rejected and accepted respectively, that means there is no significant difference between the instructional groups of the faculty board members in terms of critical thinking and information seeking behavior degrees.

Conclusion

The data indicate that there is a significant difference for each critical thinking element and the anticipated mean since all P value are below 0.05, that means, the research and null hypothesis would be rejected and accepted respectively. The data suggest that the elements failed to reach the anticipated mean and they all are below it.

In addition, the data indicate that there is a significant difference between acquired means for each element of information seeking behavior(except knowledge of data acquisition channel) and the anticipated means since the P values for data acquisition goals, knowledge of search strategies and knowledge of search means are below 0.05.

In the other words, the null and research hypothesis would be rejected and accepted respectively that is the elements failed to reach the anticipated mean and they all are less than it except the knowledge of data acquisition channel element showing either no significant difference or a slight negative-oriented difference between the means. Thus, the respondents could approach an average degree.

The data indicate no significant relationship between the population's critical thinking and information seeking behavior while according to Khosrojerdi and Jahromi (2007), Hosseini & Bahrami (2002) and Weiler's (2005) studies there is a significant relationship between critical thinking and information seeking behavior or the population's information literacy has been confirmed.

The data of the second hypothesis indicate no significant relationship between the degrees of analysis and induction elements for critical thinking and each information seeking behavior element of the faculty board members. There is also no significant relationship between evaluation and deduction elements with regard to the obtained P values, except the knowledge of data acquisition channels for the information seeking behavior element. Since a significant relationship between inference element out of critical thinking elements and two elements of information seeking behavior (data acquisition goals and knowledge of data acquisition channel) can be seen, there is no significant relationship between the element and the remaining information seeking behavior elements.

The data for the third hypothesis indicate that the research and null hypothesis about both critical thinking and information seeking behavior degrees and various instructional groups would be rejected and accepted respectively as the P values are above 0.05. in other words, there is no significant relationship between the groups of the faculty board members in terms of their critical thinking and information seeking behavior.

As a result, it is too complicated to study and research on thinking as precise explanation of human's thoughtful behavior on the basis of available data and various practical views will be intricate (Abbasi, 2001) the data show that the critical thinking degree of the faculty board members in Babol Islamic Azad university would not be in conformity with the anticipated one, thus this could not have much effect on their information seeking behavior. This can be seen in different instructional groups. To improve the circumstances, therefore, critical thinking may be suggested as a thematic topic relevant to information seeking behavior. Since a user is traditionally/digitally able to systematically search his own research problem in information seeking behavior contexts, critical thinking capacity helps him put his research questions into a systematic framework and search for them on the basis of required evidence and resources. And this will happen if critical thinking instruction is necessary. Individuals taught these skills will be able to improve their critical thinking competencies through information seeking process and its practice.

Research suggestions:

- Studying the research variables in other Islamic Azad universities to develop their status and appropriate strategies.
- Studying critical thinking degree of other Babol Islamic Azad university staff and its impact on their information seeking behavior.
- Comparing the research variables between public and Islamic Azad universities.

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