

Investigation of Students' Internet Information-Seeking Behavior in Faculty of Dentistry of Guilan Medical Sciences and Hygienic Services University based on Kuhlthau Model (Information Seeking Process)

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ABSTRACT

Introduction and target: influence of internet on users' information-seeking behavior is a subject of great interest and has been investigated by many commentators. This study aims to investigate students' information-seeking behavior in faculty of dentistry in Guilan university of medical sciences and hygienic services based on Kuhlthau information-seeking model.

Methodology: this study is a descriptive-analytical study which was conducted in the form of a survey in 2014. Furthermore, the population under study included all students of faculty of dentistry in Guilan medical sciences and hygienic services University. Sample members were selected by means of random sampling and the questionnaires were distributed among them. The gathered data were analyzed by means of SPSS20 and using t student test.

Findings: the results showed that significance level for "feelings" factor in Kuhlthau model was smaller than 0.05. furthermore, considering the results of variance analysis, significance level for significance test among students of different academic degrees in faculty of dentistry was estimated to be smaller than 5% in terms of related feelings.

Conclusion: in sum, it can be concluded that absence of a significant difference between feelings and also among students of different academic stages shows the reliability and validity of this model such that it can be said that Kuhlthau model is not dependent on any particular area and it is applicable to all other academic stages including medical sciences and also both for men and women.

KEYWORDS: information-seeking, Kuhlthau information-seeking model, dentistry students, Guilan university of medical sciences and hygienic services.

INTRODUCTION

An increase in information in different fields like medical sciences has prompted organizations and different educational centers to investigate experts, employees and other people's information-seeking behaviors. Further, it seems necessary to train people to have information-seeking skills in different areas. Moreover, there is a significant relationship between production of information, resources and information flows and individuals' abilities to seek information. As information production has increased within the few past decades, individuals also need to have more abilities to seek information (Horri, 1994).

Therefore, considering the influence of internet on satisfaction of information needs of medical sciences students and continuous increase in using this global net, this study investigates the ways and methods of accessing information or the very information-seeking behavior in students of faculty of dentistry in Guilan medical sciences and hygienic services university based on Kuhlthau model. the results of this study can influence future planning and can satisfy access to information especially for Guilan medical sciences university and can also help improve internet usage. Librarians can provide students with different services and be more successful in dissolution of users' information problems and facilitate information usage of information resources which is the main profession of librarianship if they become aware of information-seeking behavior of students. Kuhlthau is one of the most important information-seeking models. This model which is called information-seeking process model is basically used for users of traditional libraries in an educational environment. Kuhlthau considers information-seeking process as being comprised of three areas: emotional, cognitive and physical. He believes that information-seeking process has 6 stages: primary involvement, selection, discovery, forming, gathering and presentation. Kuhlthau believes that seeking process involves: "a user's structural activity for finding meaning out of information in order to increase his or her knowledge level on a particular subject." since this model emphasizes on factors like emotions including: worry, uncertainty, confusion, anxiety, prediction, doubtfulness, optimism and trust as well as information seeking progress

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(Kousha,), it is useful to recognize students' information-seeking behavior considering the existing issues in the field of information-seeking behavior by means of this model. Information-seeking behavior has been investigated by many researchers both inside and outside Iran. Zahed Bigdelli, Faraj Pahlou and Ghaziadeh (2011) investigated higher education students' internet search process in Shahid Chamran University by means of "information-seeking process" model kuhlthau in order to identify their internet search model and guide librarians through involvement while searching. Their results showed that tendency to changing in the recommended information-seeking process model by kuhlthau are very tangible. Further, from students' viewpoint, the librarian's involvement and participation is very necessary in a particular stage of searching. They finally presented a new model for students' information-seeking behavior. Narmanji and Nokarizi (2009) investigated students' information-seeking behavior in their thesis writing processes based on kuhlthau model. their results showed that there is no significant difference between female and male students and also between different academic degrees in terms of feelings and thoughts about information-seeking. Parvini and Jalali (2010) investigated higher education students' information-seeking behavior in internet environment in Razi University using qualitative method using the fundamental theory of Meho and Tibo model. Asadi (2009) also studied internet information-seeking behavior in faculty members of Mazandara medical sciences university. He found that research and educational goals were the main goals of faculty members in searching for information in internet. Nikolas (2009) conducted a research titled "students' digital information-seeking behavior" and presented some evidence based on real information-seeking behavior of students in digital research environment. Furthermore, he compared students' information-seeking behavior with other academic associations. Qureshi (2008) in his research titled "information needs and students' information-seeking behavior in Pakistan universities", investigated and criticized information needs and students' information-seeking behaviors in developing countries. This study explained the influence of different factors like general model of gathered data in the system by students. Some similar studies have been conducted on investigation of students' information seeking behavior in other universities and higher education centers. However, no study has been conducted on investigation of information-seeking behavior of students in faculty of dentistry of Guilan medical sciences and hygienic services. Therefore, it is inevitable to understand the students' information-seeking behavior in order to increase their capabilities. Having understood students' information-seeking behavior and their problems in using internet information resources, librarians can be more successful in satisfying students' information needs. Considering the above discussion, this research tries to investigate the students of faculty of dentistry of Guilan University of medical sciences information-seeking behavior in terms of feelings and thoughts which govern different models of Kuhlthau based on different academic degrees and gender.

METHODOLOGY

The methodology of the present research is descriptive-analytical survey. Statistical population of the research included all students of Guilan University of medical sciences and hygienic services (faculty of dentistry) who studied in 2010, 2011, 2012 academic years and were senior students. Furthermore, Krucker questionnaire was used for gathering data and investigation of corresponding feelings and thoughts. Krucker reported Cronbach's alpha to be equal to 0.78 for cognitive aspect of the questionnaire and 0.87 for emotional (feelings) aspect of the questionnaire (3). In this questionnaire, a direct and an indirect phrase has been used for investigation of feelings and thoughts in every stage. Respondents should specify their agreement level with the items on a 5-point Likert scale. They had scores from 1 to 5 (score 5 for completely agree and score 1 for completely disagree). Cronbach's alpha was equal to 0.834 and reliability of the instrument was acceptable. Furthermore, the questionnaire was used for data gathering after verification of academics and experts. Data were analyzed by means of SPSS (version 20). Because data had normal distributions, parametric tests like t student and variance analysis were used for testing the research hypothesis. Data were analyzed after asking permission from respondents.

Research findings

The results showed that 51 respondents (55.4%) were female and 41 people (44.6%) were male. In terms of internet usage target, the results showed that the main goal of dentistry students in using internet was: 14 people using email (15.2%), 19 people web surfing (20.7%), 21 people entertainment (22.8%), and 38 people educational goals (41.3%). Further, in terms of the search engine, 62 respondents (67.4%) used Google, 17 people (18.5%) used yahoo, 6 people (6.5%) used Bing and 4 people (4.3%) used Google scholar and 1 person (1.1%) used Cyrus and 2 people (2.2%) used other search engines. Furthermore, in terms of finding necessary information level, 2 respondents selected very low option (2.2%), 3 respondents (3.3%) selected low, 54 respondents (58.7%) selected average, 30 people selected high (32.6%) and 3 people (3.3%) selected very high option. The level of satisfaction with recovered data also showed that 1 respondent (1.1%) selected very low, 5 people (5.4%) selected low, 61 people (66.3%) selected average, 22 people selected high (23.9%), and three

respondents (3.3%) selected very much option. According to the first hypothesis of the research, there is a significant difference between female and male students in terms of feelings related to different stages of Kuhlthau model. Findings also showed that t statistic is equal to 4.950. moreover, degree of freedom is equal to 90 for performance variable and significance level for upper limit is 6.854 and is 2.927 for lower limit. Considering the fact that significance level for this factor is smaller than 5%, it can be concluded that there is a significant difference between female and male students of Guilan medical sciences and hygienic services university regarding different stages of Kuhlthau model and the first hypothesis is supported.

Table 1: results of first hypothesis, T-test

95% certainty level		Sig. level	df	T statistic	factor
Upper limit	Lower limit				
6.854	2.927	0.000	90	4.950	Related feelings

Furthermore, there is a significant difference between different academic levels in terms of feelings related to different stages of Kuhlthau model. As it can be seen in the following table, $f=6.335$ and because significance level is smaller than 5%, it can be inferred that the significant difference does really exist.

Table 2: results of the second hypothesis test (ANOVA)

Related feelings	Sum of squares	df	F statistic	Sig. level
Inter-group	316.639	2	6.335	0.000
Intra-group	2224.263	89		
sum	2540.902	91		

Other findings showed that there is a significant difference between female and male students of Guilanmedical sciences and hygienic services university in terms of governing thoughts based on Kuhlthau model different stages and the hypothesis is supported because t statistic is equal to 2.163 and lower limit is 0.111 and upper limit is 3.329 in (0.036) significance level.

Table 3: results of the third hypothesis results of first hypothesis-T test

95% certainty level		Sig. level	df	T statistic	factor
Upper limit	Lower limit				
3.329	0.111	0.036	90	2.163	Reigning thoughts

Furthermore, the results showed that $f=4.461$ and significance level of the test is smaller than 5%. In general, it can be said that there is a significant difference between students of different academic degrees in faculty of dentistry of Guilan University of medical sciences and hygienic services in terms of feelings based on different stages of Kuhlthau model.

Table 4: results of the third hypothesis ANOVA

Reigning thoughts	Sum of squares	df	F statistic	Significance level
Inter-group	99.423	2	4.461	0.036
Intra-group	1278.316	89		
sum	1377.739	91		

DISCUSSION

The results of the research showed that students of different grades of faculty of dentistry of Guilan University of Medical Sciences and Hygienic Services had covered the very stages of Kuhlthau search model with a small difference and showed more or less the same feelings and thoughts corresponding to those stages. The difference with respect to Kuhlthau model was that in the first stage the respondents felt certain more than average level, while according to Kuhlthau model respondents should feel uncertainty and worry in this stage. The results of this research are consistent with the results of Narmanji and Nokarizi (2009). They investigated information-seeking behavior of higher education students in Birjand and Ferdosi Universities based on Kuhlthau model in preparation of their theses. They showed that higher education students of Ferdosi and Birjand universities used the very steps of Kuhlthau model with small differences in preparation of their theses. The results of the present study were also consistent with their results.

In terms of internet usage target, the results showed that the main goal of dentistry students in using internet was: 14 people using email (15.2%), 19 people web surfing (20.7%), 21 people entertainment (22.8%), and 38 people educational goals (41.3%). Hayati and Tasviri (2000) also investigated the internet influence on information-seeking behavior and research activities of faculty members of Iranian scientific and industrial studies organization in Tehran, Shiraz and Mashhad. Their results showed that internet usage is low in the faculty members. Email was the most common internet option used by faculty members. The results of this study was not consistent with the results of Hayati and Tasviri's research because our study revealed that educational goal is the main goal sought by internet users in Guilan medical sciences and hygienic services university.

The results of Khakpour (2004) research which investigated information-seeking behavior of master degree students of librarianship and information in public universities of Tehran were consistent with the results of this study. He showed that 41.5% of the studied population mentioned scientific information updating as the main goal of using internet and most common information resources among them included auxiliary curricular books, specialized periodicals and information banks each constituting 12.86%. The students of faculty of dentistry of Guilan University of Medical Sciences and Hygienic Services mentioned educational goals as the main motivation for using internet.

Conclusion

Considering the analysis of the results of research hypotheses results, it can be said that the main goal of this research was to specify information-seeking behavior of students of faculty of dentistry of Guilan University of Medical Sciences and Hygienic Services based on Kuhlthau information-seeking model. In general, it can be said that absence of a significant difference between feelings and thoughts of students and also between students of different degrees indicates validity and reliability of the model. That is to say, Kuhlthau model is not dependent on gender or any academic degree and is applicable to all other academic areas including medical sciences and both for men and women. The results of this research can be used for future planning and provision of access to diverse internet services by students especially students of faculty of dentistry of Guilan University of Medical Sciences and Hygienic Services. Having understood students' information-seeking behavior and their problems in using internet information resources, librarians can be more successful in satisfying students' information needs. Finally, it is recommended that librarians teach medical sciences experts to use more of search engines because they showed low search engine usage. Moreover, it is necessary to permanently and continuously teach users to use e-sources in Guilan medical Sciences University in order to increase students' knowledge for selection of subject, research design and other research activities and prevention from mental involvement before starting scientific activities. It should be mentioned that teaching students of faculty of dentistry of Guilan University of Medical Sciences and Hygienic Services by research experts to become aware of different resources like theses, papers of journals, and books published by conferences and workshops in order to select a new subject and also increase research community capabilities to do successful studies is also useful for elimination of existing defects.

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