Prediction of Academic Performance of the University Students through their Use of Library Electronic Resources and their Self-efficacy

Tariq Mahmood Chohan[1], Prof. Dr. Rubina Bhatti[2], Dr. Salman Bin Naeem[3]

[1]Chief Librarian, The Islamia University of Bahawalpur, Pakistan. tmchohan@iub.edu.pk

[2]Professor & Chairperson, Department of Library and Information Science, The Islamia University of Bahawalpur, Pakistan. dr.rubytariq@gmail.com

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Background

- The **self-efficacy** has been defined by Bandura as “beliefs in one's capability to organize and execute the courses of action required to manage prospective situations”. It is also described as “a person’s belief in his ability to attain desired outcomes” [1].
- Many psychologists and academicians have realized the fact that an individual’s self-efficacy, or person’s belief in his ability or capability, is largely correlated with how he learns and behaves. Many students find it difficult to study, learn and get good marks not as a result of physical impairment or low intelligence, but due to their perception of being unable to do academic work [2].

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- Bandura concluded that a person with higher self-efficacy is likely to choose difficult and challenging tasks, remain persistent and perform them successfully [1]. Similarly, academic achievement is also largely dependent on a person's belief of being in-charge of their own fate [8].
- The persons who are successful and high achievers do not attribute their fate to fortunate or vagaries of chances but they attribute their success to their power of decision, determination, persistency and hard work [9].

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- In a same way, students who find themselves unsuccessful in the classroom/ academics and perceive themselves poor in studies are more likely to develop a syndrome that includes many types of self-defeating motives such as low motivation and low self-efficacy [10].
- According to Tella and Tella, ability and previous performance achievements are the determinants to perceive strong self-efficacy. Both are also taken as strong predictors of subsequent performance [9].

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- Self-efficacy beliefs in academic differ from discipline to discipline. For example, students might have higher self-efficacy in one discipline but low in another [11-12].
- Whereas, Ren concluded that people like to perform the activities in which they perceived to have a higher self-efficacy [13].
- Wang et al., reported that people with high self-efficacy are at advantaged to use e-resources more frequently and get maximum out of these resources in terms of learning as compared to people with low self-efficacy. Generally, low self-efficacy leads toward unfamiliarity and feelings of uncomfortable with e-resources and services [14].

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- Availability of **electronic information resources** through the library (e.g., online databases) and wide acceptability and usage of these resources by students are likely to influence their academic performance. Previously many studies reported a positive impact of "electronic information resources" on students' academic performance [6-7].

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- Many studies conducted previously in order to determine the relationship between self-efficacy and the use of e-resources have concluded a positive relationships between these two variables. Similarly, self-efficacy and use of e-resources have also a positive impact on academic performance [6-7, 15-17].
- A study ascertained that male students have higher self-efficacy as compared to female students [15].
- Self-efficacy is positively correlated with academic achievement, and it is a strong predictor of academic performance [9].

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- Previously, many research studies indicated that self-efficacy influence academic performance and the use of e-resources [17, 23-26]. But, these variables and their correlations are not tested in public sector universities of South Punjab.

Objective of the Study

- Therefore, this study is conducted with an objective to assess the influence of students' self-efficacy and their use of electronic resources on their academic performance.

Practical Implications

- The findings of the study will be significant to the librarians of the participating university in order to understand the strength or weakness of the relationship among “self-efficacy”, “use of electronic information sources” and “academic performance” of the students. Previously, not much of the work on students’ self-efficacy has been done by the community of library and information scientists in Pakistan. Therefore, this study will help draw their attention towards this important variable and its relation with “the use of library’s e-resources” and “academic performance” of the students.
- The results will also provide an opportunity to organize trainings sessions for students according to their exact stage of self-efficacy (low, medium, high) in order to make them self-efficient.

Methodology

- A survey was conducted in The Islamia University of Bahawalpur, Pakistan. All the regular enrolled BS, Master, M. Phil students in the faculty of arts, science, Islamic learning, and management science were the population of this study.

Questionnaire

- A questionnaire was developed to gather the data on variables related to demographic information of the respondents, their use of the library's e-resources, self-efficacy, and academic performance. Self-efficacy was measured using a set of 13 statements; these statements were related to "I can manage to solve difficult problems related to ICT use", "I am confident (or feel strongly) that I can figure out the solutions of any problem", and "I always stick to my aims to accomplish my goals".

- However, academic performance was measured using Grade Point Average (GPA) in each semester.
- A pre-tested questionnaire administered among the population through convenience sampling.

Data Analysis

- The data analyzed using “Statistical Package for Social Sciences”. “Pearson Correlation Coefficient” statistics was used to assess the correlation between the self-efficacy and academic performance. Linear Regression model was used to determine the influence of “self-efficacy” and “the use of electronic resources” on “university student’s academic performance”.
- A four-point Likert type scale from “not at all true” to “exactly true” was used to collect the data for this study.

Response Rate

- A total of 500 copies of questionnaire were distributed among the respondents in a university library, class rooms of different departments, and male and female hostels of the university.
- Of the 500 copies, 307 filled copies were retuned with a 61.4 percent response rate. Of the 307 copies of questionnaire, six questionnaires were filled carelessly and not valid for data analysis. They were discarded. One questionnaire was discarded randomly to keep the 300 questionnaire for data analysis.

Results

Demographic Information. The majority (n=157; 52.3 percent) of the respondents were male and 143 (47.7 percent) were female.

Age. The mean age of the respondents was 20.75 years with SD= 2.97, minimum age of the respondents was 17 years and a maximum age 38 years with a range of 21 years.

Enrollment. A majority of the respondents (n=168; 56.9 percent) were enrolled in BS program, 95 (32.2 percent) were at master level, 12 (4.1 percent) were enrolled in M. Phil programs, 9 (3.1 percent) were in PhD programs, and 11 (3.7 percent) were enrolled in other programs.

- **Respondents' Grade Point Average.** The mean GPA of the respondents was 3.34 with standard deviation .367, with a minimum GPA 2.10 and maximum GPA 4.00. The GPA was ranged between 1.90 points. The median GPA was 3.30, and mode was 3.20 GPA.
- **Use of Library's Electronic Information Resources.** Most respondents (n=241; 80.3 percent) have used the library's e-resources. However, 59 (19.7 percent) respondents have not used the library's e-resources.

- **Frequency of Library's Electronic Information Resources Use.** A majority (n=112; 37.3 percent) of the respondents reported their frequency of library's e-resources as at least once a week; 53 (17.7 percent) reported their use of library's e-resource as daily, 49 (16.3 percent) use at least once a month, and 22 (7.3 percent) use less than once a month. However, 42 (14 percent) respondents have never used library's e-resources.

Table 1. Measure of Self-Efficacy

Rank	Statements	Valid	Mean	Std. Deviation
1	I am confident (or feel strongly) that I can figure out the solutions of any problem	284	3.79	5.565
2	I can manage the problems in my life so, I can focus on my studies	278	3.50	3.231
3	To achieve better grades I have to look after my health	278	3.39	2.634
4	"If I am in trouble, I can usually think of a solution"	280	3.34	1.831
5	I know I will get good position in my career if I do well in my studies	278	3.32	1.099
6	I have a fair support from my family to excel in my studies	281	3.28	2.057
7	"I always stick to my aims to accomplish my goals"	287	3.27	2.099
8	"Thanks to my resourcefulness, I know how to handle unforeseen situations"	274	3.24	4.398
9	"I can manage to solve difficult problems"	258	3.17	.904
10	I attend my classes no matter how busy I am	275	3.17	1.043
11	I am certain I can manage the time to do all my class assignments	277	3.15	2.670
12	"I am confident that I could deal with unexpected events"	279	3.03	.990
13	I can remain calm in difficulties	283	3.01	2.615

"Scale: 1 = Not at all True, 2 = Hardly True, 3 = Moderately True, 4 = Exactly True"

- **Relationship between Library's Electronic Information Resources Use and Academic Performance.** In order to assess the relationship between the frequency of library's electronic information use and academic performance, the researcher used a Spearman's rho statistics. The results of the Spearman's rho showed a statistically positive correlation between the frequency of library's e-resources use and respondents' academic performance. It means the respondents who use library's e-resources regularly also get higher GPA as compared to those who use library irregularly, Spearman's rho (278)= .174, p = .004

- **Correlation between Respondents' Self-efficacy and Academic Performance.** Respondents' academic performance were measured using their grade point average (GPA). However, a set of 13 statements were asked to measure the self-efficacy of the respondents. "Pearson Correlation Coefficient" statistics was used to determine the correlation between self-efficacy and academic performance of the students. No statistically significant relationship found between the two variables Pearson r (140) = .078, p = .361

- **Influence of Self-efficacy and Electronic Resource's Use on Academic Performance.** Linear Regression model was used to determine the influence of self-efficacy and e-resource's use on university student's academic performance. No statistically significant influence was found of self-efficacy and electronic information resource's use on the academic performance of the students

Conclusion

- The results of the study concluded that the use of library's electronic information resources has a significant influence on the academic performance of the students. However, it has a negative influence on self-efficacy of the students. The results of the study concluded that self-efficacy is not correlated with academic performance of the students, however, it is negatively correlated with the use of university library's electronic information resources

Recommendations

- There is a need for information literacy and instruction programs to be organized in order to increase awareness among students about different subscriptions and other electronic resources by a library. These sessions will also be helpful in developing a capacity and self-efficacy among students and it will make them able to access and use and electronic resources effectively.
- A separate computer lab in each department should be developed in order to facilitate effective access and use of library's electronic resources.
- The use of scholarly search engines such as Google Scholar and HEC Summon search for all database should be promoted among students instead of general search engine.

- Various library's services and sources need to be promoted among students in order to increase the use of these resources and services (e.g., library's orientation registration facility, HEC digital library resources, IUB VPN services, online public access catalogue, friend of library program, HEC summon search for all database, availability of M. Phil and PhD theses, and scholar's room).

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