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# **E-book reading and its impact on academic status of students at Payame Noor University, Iran**

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## **Abstract**

The purpose of this study is to explore the effect of taking advantage of electronic books on the academic progress of students at Payame Noor University, Iran. This research is of descriptive and survey methodology. The statistical population includes the students of public administration in Shiraz Payame Noor University, who are studying in the academic year 2013-2014. 142 students have been chosen by simple random sampling.

Results indicated that use of electronic resources causes a meaningful difference to be created in several contexts such as academic progress, variety of learning resources, flexibility while learning, and learning effectiveness between the students of virtual and conventional programs.

**Keywords:** e-books, distance education, academic progress, virtual programs, e-learning.

## **Introduction**

As one of the modern phenomena of the information age, electronic books have caused a rapid progress in educational media since the early 1990s. Emergence of concepts such as electronic books and electronic learning into the field of education indicates development of education and creation of the possibility to learn for everyone anywhere and anytime.

Landouni and Diaz (2003) believe that electronic textbooks are counted as educational tools prepared in an electronic way, which assist in teaching methods and learning. In fact, electronic learning provides easier and wider access to information for education as it makes coordination and collaboration between experts and students and shows more rate of success compared to the conventional method as well. However, it should be noted that such a use of modern media in field of education requires financial support, skilled work force, and change in roles. In the past, electronic books had the similar or more prices compared to printed ones. Recently, the prices have decreased taking a positive step towards the use of electronic books. Undoubtedly, letting people use electronic books will be much more economical and less time-consuming than making them use printed ones.

Considering its increasing growth of electronic books in several educational fields, these resources are counted as one of the purposes of distance education, several aspects of which can be studied. For sure, success in use of electronic books in Payame Noor University's virtual education system requires us to conduct some studies on foresight and assessment of needs in this regard. Therefore, the present research tries to investigate the role of electronic books in Payame Noor University graduate students' learning rate. Investigating the effect of use of electronic books on both virtual and conventional programs students' academic progress in a simultaneous way, the present research is distinguished from the other studies already done in this field.

There have been a large number of studies carried out on the performance of electronic books in learning process and its changing role of these resources compared to that of printed ones. The viewpoints stated indicate the lack of agreement between critics and proponents of electronic books.

Readers of electronic books are able to search for their favorable topics more easily and rapidly compared to those of printed ones (Shelburne, 2009). The possibility of accessing to desired content as well as the lack of need for physical presence in library, time- and energy-saving and, sometimes, users' costs-savings are popular among readers of electronic book. In addition, students like advantages such as possibility of moving through the text, flexibility, possibility of saving a lot of resources in cell phone hard disk as well as the possibility of using electronic ink for recording subject matters and notes and prefer them to printed books (Gibson & Gibb, 2011).

A large number of researches have been already conducted to investigate the effect of electronic books on academic progress and students' interest in studying; but, what distinguishes the present research from the other similar ones is that it investigates the effect of electronic books on students' academic progress and, at the same time, compares it to that of printed books. This may assist relevant officials in making their future decisions so as to more and better use this technology or to limit it.

Conducting a research on 600 students of management information system, Rozel and Gardner (2000) suggested that use of electronic resources has a direct and meaningful effect on students' academic progress. Through a research, Sen (2005) explored the effect of electronic resources on students' academic progress. Findings revealed that students' computer skills efficiency has a positive and meaningful effect on perceived usefulness. Minard and Mcknight (2006) conducted a research on students' interaction rate with electronic books. In most cases, participants reached the required interaction for using electronic books and gained more complete understanding of the materials existing within the book. But, there is no significant difference in speed of studying the materials between the two groups. In his research paper, Al-Harbi (2001) tried to investigate the factors

affecting electronic learning acceptance at higher education level in Saudi Arabia. The results indicated that students' capability of access to internet and computer skills efficiency have a meaningful effect on behavioral intention.

Adopting a qualitative approach, Letchumanan and Tarmizi (2011) studied the rate of use of electronic books among students of mathematics in one of Malaysian universities, and concluded that most of the respondents have similar reading habits. Factors such as easy access, reduction of physical reference to library and variety of learning methods have caused students to tend to use electronic books. Through a comparative study, Jeong (2012) investigated the effect of electronic and printed books on rate of 56 6-year-old students' comprehension and eye fatigue. They concluded that printed books are better than electronic one in terms of comprehension. In terms of eye fatigue, students felt more tired after studying the electronic books than after studying the printed ones. Results of their research also showed that the students were satisfied with electronic books, but preferred printed type ones.

In a recent research, Hwang et al. (2014) examined the usage patterns and perceptions toward e-books in South Korea. They uncovered the role of the library to be very important, as most users learn about and access e-book through the websites of university libraries, not through such portal sites as Google. Moreover, they found that the users with higher education more easily recognize and have better experiences with e-book services. Using a web-based survey, Wilson et al. (2014) explored the extent to which e-books meet the needs of medical academics of the University of New South Wales in the performance of their academic tasks. Results indicated that e-book usage by medical academics was relatively low; however, most of them predicted that they would be using e-books within the next five years. Research tasks dominated the use of e-books, and 71 percent agreed that e-books helped improve their overall productivity.

To sum up, literature review suggests that although a lot of researches have been conducted on the importance of use of electronic books for providing information-based needs in order to improve users' learning process over the recent years, there has not been any comparative study carried out so as to compare the effects of electronic books on learning aspects of the two groups virtual and conventional learners. So, it seems necessary to do a study with the mentioned purpose.

## **Research Methodology**

Since the field of Public Administration is offered in both traditional and virtual forms in Shiraz Payame Noor University, it is possible to compare the application of electronic books within an academic major in conventional and virtual methods.

This research is of descriptive and survey methodology. The statistical population includes the students of Public Administration in Shiraz Payame Noor University, who are studying in the academic year 2013-2014. The volume of the research sample was calculated to be 142 individuals using Cochran formula. The data gathering instrument was a self-administered questionnaire.

## **Research Objectives**

The overall purpose of the present research is to investigate the effects of taking advantage of electronic books on Payame Noor University students' learning rate.

Partial purposes: the partial purposes of the present research are as following:

1. To investigate the effect of electronic books on students' learning rate,
2. To investigate the relationship between students' genders on taking advantage of electronic books,
3. To study the effect of computer skills literacy on students' benefit from electronic books,
4. To investigate students' viewpoint on use of electronic books,
5. To study the effect of taking advantage of electronic books on students' academic progress.

## **Research Hypotheses**

Considering the objectives of the research, research hypotheses are as follow:

1. Use of electronic resources makes a meaningful difference in academic progress between the students of conventional and virtual programs.
2. Use of electronic resources makes a meaningful difference in variety of learning resources between the students of conventional and virtual programs.
3. Use of electronic resources makes a meaningful difference in flexibility during the learning process between the students of conventional and virtual programs.
4. Use of electronic resources by students of virtual programs makes a meaningful difference in learning speed between the students of conventional and virtual programs.
5. Use of electronic resources by students of virtual programs makes a meaningful difference in learning efficacy between the students of conventional and virtual programs.

## **Research Findings**

In the present research, we tried to scientifically investigate and compare virtual and conventional program students' attitude towards several aspects of learning process. The research work was conducted on two groups of students of Public Administration students in Payame Noor University. The first group is formed from students who are studying through physical presence in the form of conventional education at the university. The second includes students of virtual programs who are studying in the form of electronic learning. Results obtained from the present research led to interesting findings creating new topics for future and new researches. In spite of the small size of the statistical population used including students of only one major imposed specific limitations for generalizing the results, the research findings may be used to improve the current situation as it is counted as the first research of its type which measures the effects of use of electronic resources and books on learning among two groups of traditional and virtual program students. In this section, the research hypotheses are examined and then verified or rejected.

Hypothesis 1: Use of electronic resources makes a meaningful difference in academic progress between the students of conventional and virtual programs.

	Hypotheses	F Levin rate	Meaningfulness level	Observed t	Degree of freedom	Meaningfulness level
Academic progress	If variances are equal to each other	5.746	0.018	2.177	142	0.031
	If variances are <b>not</b> equal to each other			2.232	121.6	0.035

Given the information presented in the above table, since the meaningfulness level calculated (0.031) is lower than the allowable error, 5%, it can be concluded that there is a meaningful difference between the effect of use of electronic resources and academic progress of students of the conventional and virtual programs.

Hypothesis 2: Use of electronic resources makes a meaningful difference in variety of learning resources between the students of conventional and virtual programs.

	Hypotheses	F Levin rate	Meaningfulness level	Observed t	Degree of freedom	Meaningfulness level
Variety of learning resources	If variances are equal to each other	6.962	0.009	2.585	142	0.011
	If variances are <b>not</b> equal to each other			3.451	119.3	0.001

As the meaningfulness level obtained (0.011) is lower than the allowable error, 5%, the second hypothesis of the research is verified. In other words, it can be



mentioned that there is a meaningful difference in variety of learning resources between the students of the conventional and virtual programs.

Hypothesis 3: Use of electronic resources makes a meaningful difference in flexibility during the learning process between the students of conventional and virtual programs.

	Hypotheses	F Levin rate	Meaningfulness level	Observed t	Degree of freedom	Meaningfulness level
Flexibility	If variances are equal to each other	3.523	0.034	3.543	136	0.001
	If variances are <b>not</b> equal to each other			2.753	115.1	0.005

Given the degree of freedom obtained, 136, and that the meaningfulness level obtained, 0.001, which is lower than the allowable error, 5%, the third hypothesis of the research is statistically verified. So, it can be concluded that use of electronic resources causes increase in flexibility of learning duration compared to that of printed resources.

Hypothesis 4: Use of electronic resources by students of virtual programs makes a meaningful difference in learning speed between the students of conventional and virtual programs.

	Hypotheses	F Levin rate	Meaningfulness level	Observed t	Degree of freedom	Meaningfulness level
Learning speed	If variances are equal to each other	4.274	0.041	4.201	122	0.058

	If variances are <b>not</b> equal to each other			3.604	104.7	0.05
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Given the meaningfulness level obtained, 0.058, that is over than the allowable error, 5%, the fifth hypothesis of the research is rejected. So, use of electronic resources does not increase the speed of learning among the virtual program students compared to the conventional program students.

Hypothesis 5: Use of electronic resources by students of virtual programs makes a meaningful difference in learning efficacy between the students of conventional and virtual programs.

	Hypotheses	F Levin rate	Meaningfulness level	Observed t	Degree of freedom	Meaningfulness level
Learning efficacy	If variances are equal to each other	4.359	0.024	3.792	<b>122</b>	0.001
	If variances are <b>not</b> equal to each other			3.021	115.1	0.005

Given the information presented in the table above, the meaningfulness level obtained, 0.058, is lower than the allowable error, 5%, indicating a meaningful difference in the effect of use of electronic books on learning efficacy between the students of conventional and virtual programs. So, the sixth hypothesis of the research is verified.

## Discussion and Conclusion

Results obtained from the present research led to interesting findings creating new topics for future and new researches. Since the present work measures the effect of

use of electronic resources learning among two groups of general and virtual program students, the research findings may be used to improve the current situation.

Analysis of the research data revealed that there is a meaningful difference in academic progress between the students of virtual and conventional programs. In other words, use of electronic books by the virtual students causes them to make further academic progress, and there is a meaningful difference between the two groups in this regard so that the conventional students have been less affected by this type of resources due to the lack or only little use of electronic books. This part of the research findings seems not to be irrational as electronic books are not used much in Payame Noor University's conventional education system.

As we know, the virtual and conventional groups are more likely to use several and different references in their academic studies. In this way, findings of the present research showed a meaningful difference in learning resources between the students of virtual and conventional programs. With respect to the research findings, it seems that students of virtual programs use electronic resources and books more than conventional students do as having access to computer and internet is one of the main pre-requirements in virtual education. A lot of these pre-requirements are needed to study an electronic book, so it is easier for this type of students to provide and study the electronic resources and books considering the prepared context prepared for them thankful to the virtual program facilities. This may be why there is a meaningful difference in rate of access to learning resources between the students of virtual and conventional programs.

Among the other findings of the present research is existence of a meaningful difference in flexibility during the learning process between the students of virtual and conventional programs. Considering some definitions related to virtual education including words and phrases such as education everywhere, education for everyone, and education for all the times, it is obvious that students' learning duration is more than duration of a physical class, and can be reduced to some extents while there is not such flexibility in the conventional education.

Results of a part of the present research indicated a meaningful difference in learning efficacy between the students of virtual and conventional programs. This

may be due to the fact that readers of electronic books are able to find a certain topic in an electronic book much easier and effective than in a printed one, as they like some advantages relevant to electronic books, such as easy search, simple use, saving ability, and use of electronic ink in order to display the material on the screen (Gibson & Gibb, 2011).

Although some differences and relationship between students of two conventional and virtual programs were examined and judged in the present research, it is not possible to make a definite conclusion until similar researches are conducted on the other and larger groups. So, it is recommended to carry out other studies and researches on larger groups in similar or different environments so as to increase the possibility of generalizing the findings with higher degree of certainty.

Overall, considering the results of the present research, it can be confirmed that the electronic book has stabilized its place as a good way to access the printed words, alongside its printed counterparts, can be seen in collections of any library today, and will be an attractive topic of digital type for the future publications. Undoubtedly, there is a long way against the electronic book technology until it gains the legibility and richness of the features of printed books. Nonetheless, the electronic book has its unique features making it flexible, availability, and domination over the printed book. There is no doubt that the role of electronic books in libraries will be highlighted in the future. Electronic books are likely to attract new users to libraries and obviate their specific needs (such as those of physically disabled people). The future libraries may be hybrid environments several services of which use various media so as to meet the users' increasing needs and expectations (Jeong, 2012).

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