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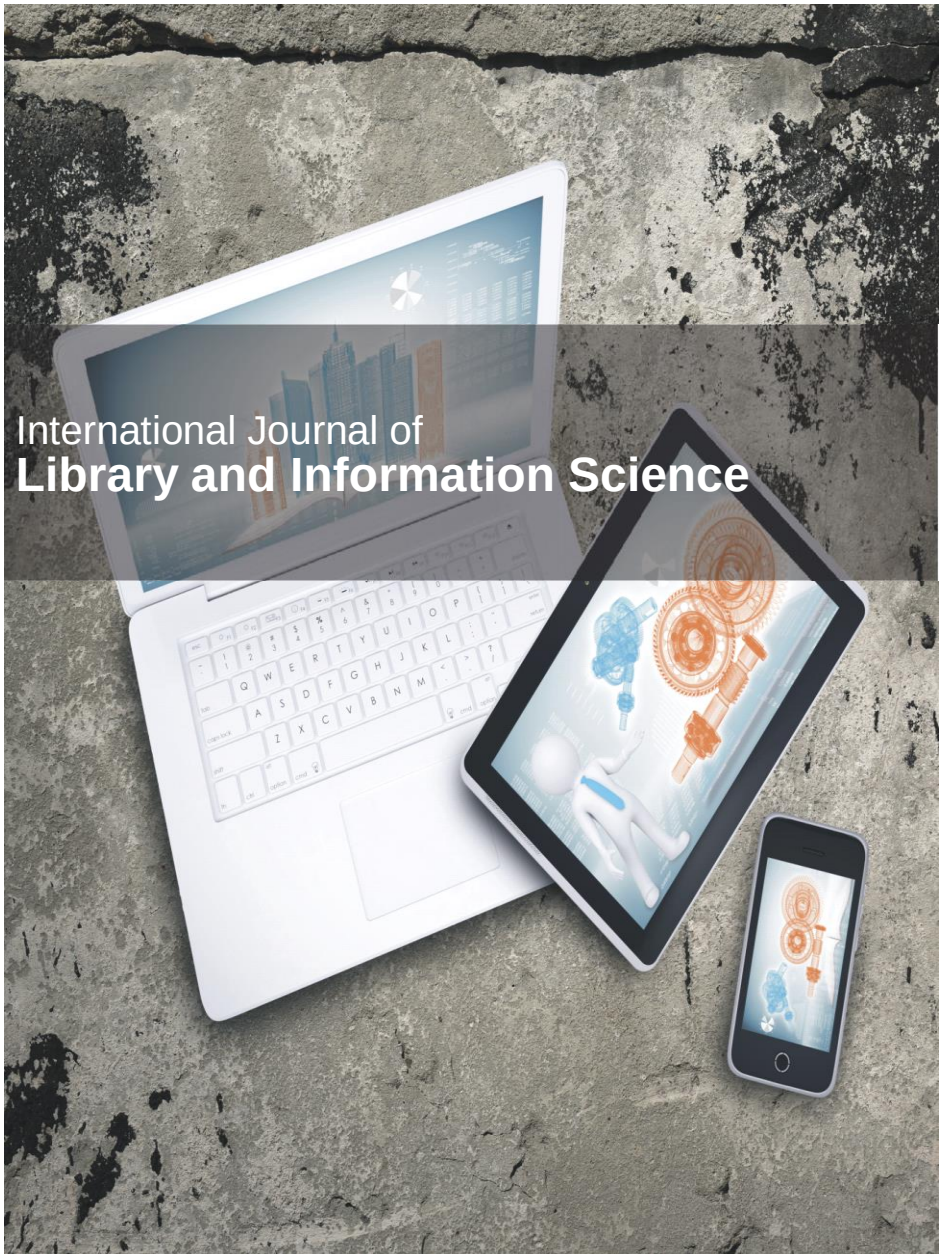


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*Full Length Research Paper*

# Status of e-PG Pathshala usage pattern among the science students with reference to Kurukshetra University

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**Electronic learning (e-learning) has dramatically influenced teaching and learning activities with the rapid development of modern technology. This study investigates how science students at Kurukshetra University, Kurukshetra, are using e-PG Pathshala. The survey method used a sample of 125 students from a renowned state university. A structured questionnaire was distributed to all students with personal interaction. The data in the study were analyzed using percentages, Likert scale mean, standard deviation, and Chi-square tests at a 0.05 significance level. As a result, some observe that e-PG Pathshala is an effective way to meet students of Kurukshetra University's learning objectives and complement their traditional learning environments. Even though online platforms provide many opportunities for re-skilling and up-skilling, the UGC encourages individuals to become more aware of how to leverage e-learning. Additionally, the study found that the e-PG Pathshala is useful for preparing class assignments and serves the purpose of classroom teaching as well.**

**Key words:** e-PG Pathshala, PG Students, science stream, awareness, usage, Kurukshetra University.

## INTRODUCTION

Modern technology has influenced teaching and learning activities. E-learning is an electronic form of learning that uses different types and forms of information communication technology (ICT) for educational purposes. The formal learning process that uses electronic resources is known as e-learning, and it can be conducted inside and outside the classroom, but the use of computers and the Internet is the primary component of this form of learning (Maatuk et al., 2022). In today's world, e-learning is one of the fastest-growing educational trends, so there are many options for online learning. Thus, all educational resources, including lectures, audio/videos, notes etc., are made available to students through technological advances in a digital format, using computerized electronic devices. With the advancement of technology, such as cloud computing, door counts are being reduced or virtual resources are being used more often (Kumar, 2021), which has led to a fundamental change in the way of teaching and research.

In the current educational context, e-learning is playing a vital role, changing the whole system and having become one of the most desired topics for academics.

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Using technologies such as ICTs in the classroom is an example of this. It is defined as the use of diverse types of ICTs and e-resources. Despite the fact that most students today wish to study online and graduate from international universities and colleges, they are not able to do so because they live in remote areas without good communication infrastructure. In this way, e-learning has become a multi-dimensional tool for the academic community. As part of India's ICT-based e-Learning effort, several national initiatives have been launched, including e-Gyankosh (free study materials offered through IGNOU), Sakshat (one-stop education portal), NPTEL (study platform established by IITs), and e-PG Pathshala (part of INFLIBNET). e-PG pathshala is an interactive course-based content portal managed by INFLIBNET devoted to higher education. It offers PG students course content covering the syllabus required for every postgraduate student. In this study, we have explored the experiences of science students who use e-PG Pathshala at Kurukshetra University and try to identify issues related to their awareness, use, benefits, and problems.

## REVIEW OF LITERATURE

e-PG Pathshala has gained a great deal of attention from scholars. There are some papers that examine the use of OER and others focus mainly on e-PG Pathshala, yet they all have an emphasis on the application of these resources.

There is no way to cover all of these studies, but some have been selected and presented, where relevant, linking similar outcomes, such as (Midha and Kumar, 2022) examined user attention and use of OER in central universities in North India and found that users are very knowledgeable about OER, and used mostly e-PG Pathshala followed by NPTEL and YouTube to prepare class notes and improve their professional competency. Mohile (2021) studied on the use of SWAYAM (MOOCs) awareness among Mumbai University students and found that students were less aware of the platform, but showed a positive attitude to embracing it. Singh et al. (2021) found that majority of students were aware of e-PG Pathshala and used it for the contents related to their program syllabus, while 40.54% of students are of the view that the quality of e-content is good. Aslam et al. (2021) studied changes in teaching and learning in higher education during the Covid-19 pandemic and found most universities provided online classes with Zoom applications and webinars as an important source of education and learning, whereas students faced a lack of internet facilities during a crisis. Aslam and Sonkar (2021) explored used online learning platforms and tools by all countries by visiting UNESCO websites and found radio and television take-home packages for guaranteeing education and training continuity during Covid-19.

Chakraborty et al. (2021) examined students` opinions towards online education during COVID-19 and found most of the students felt professors improved their online teaching skills and online education is useful right, while 39.9% attend MOOCs. Barzani and Jamil (2021) investigated Kurdish EFL University students' perceptions towards online education during the COVID-19 pandemic and found that the majority of the students have a negative attitude toward online education and preferred and considered on-campus education more effective. However, most of the students stated did not satisfy with online education. Panda (2020a) analyzed the e-content status of e-PG Pathshala in various subject disciplines and found that two broad subject categories AHSS and STEMM occupied the total uploaded modules with 62 and 38% respectively. Panda (2020b) conducted a study to analyze the state-wise impact of e-PG Pathshala on higher education students in India and found a significant and positive correlation between the variables. Kumar (2020) studied and found that digital resources were the primary source of study materials among students, and there was a significant difference in e-information needs, using digital resources, ICT skills, and online search tools. Moid et al. (2020) investigated the use and awareness of e-PG Pathshala among postgraduate (PG) students at Aligarh Muslim University (AMU) and found that most of the students were aware and, because of easy access to keywords searching tool and availability around the clock, students use e-PG Pathshala from the hostel and home for writing thesis/dissertation/notes. Maharaj (2018) conducted a study on the Role of e-PG Pathshala in the development of e-learning and found that users of the e-PG Pathshala are increasing year by year. Further, the study found that library and Information Science students were the highest to access e-PG Pathshala. Bhushan and Kumar (2018) conducted a study on the role of e-PG Pathshala in digital literacy and found a lack of awareness among learners. Further, the study found that NME-ICT has taken a revolutionary step in enhancing the quality of education with the learning portal of e-PG Pathshala and many others, such as NPTEL, SWAYAM, etc. A study conducted by Prabu (2015) found moderate awareness of e-learning among students in Namakkal, Tamil Nadu. Urban students were more aware of e-learning than rural students. More importantly, science students were more aware of e-Learning compared to art students, as well as those who use the internet every day were more aware of it as well.

### Objectives

1. To know the level of awareness about e-PG Pathshala.
2. To find out the frequency of usage of e-PG Pathshala
3. To know the usage purpose of e-PG Pathshala among Postgraduate students.
4. To know the search technique used for e-PG

**Table 1.** Awareness of e-PG pathshala.

| S/N | Department | Department code | Response *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|
| 1. | Computer Science | CS | 22(23.91) | 2.8 | 1.42 | 1.6 (4; 9.8) |
| 2. | Electronic Science | ES | 20(21.73) | | | |
| 3. | Instrumentation | INSTR | 17(18.47) | | | |
| 4. | Biochemistry | BCHM | 18(19.56) | | | |
| 5. | Mathematics | MATH | 15(16.30) | | | |
| 6. | Total | | 92(100) | | | |

Source: Authors

**Table 2.** Frequency of using e-PG pathshala.

| S/N | Frequency | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Daily | 5(22.72) | 6(30) | 0 | 0 | 1(6.66) | 1.8 | 1.07 | |
| 2 | Weekly | 16(72.72) | 13(65) | 3(17.64) | 14(77.77) | 8(53.33) | 2.7 | 1.48 | |
| 3 | Monthly | 0 | 1(5) | 12(70.58) | 4(22.22) | 6(40) | 3.6 | 0.91 | 47.8(16; 26.2) |
| 4 | Sometimes | 1(4.54) | 0 | 2(11.76) | 0 | 0 | 2.3 | 0.94 | |
| 5 | Never | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Source: Authors

Pathshala
5. To find out the level of satisfaction towards e-PG Pathshala
6. To find out the benefits of e-PG Pathshala among Postgraduate students.
7. To find out the problem in accessing e-PG Pathshala by Postgraduate students.

#### METHODOLOGY

This study used a survey research design to investigate how postgraduate science stream students of Kurukshetra University, Kurukshetra utilized e-PG Pathshala. The questionnaire was structured and 125 questionnaires were randomly distributed to postgraduate science students. The questionnaire was completed and returned immediately by 22 students from Computer Science, 20 from Electronic Science, 17 from Instrumentation, 18 from Biochemistry, and 15 from Mathematics, with a response rate of 73.6%. The analyzed data is presented in a table using percentages Likert scale mean and standard deviation, and the Chi-square test for analysis.

#### Hypotheses

The following null hypotheses were developed and tested using Chi-square tool:

*H1*- Students are not significantly different in their awareness of the e-PG Pathshala.
*H2*- The frequency of e-PG Pathshala usage among students is no different from one another.
*H3*-There is no significant difference in the usage purpose of e-PG Pathshala between students.
*H4*- The search techniques used by students for e-PG Pathshala are not significantly different.
*H5*- The students' satisfaction with e-PG Pathshala is not significantly different from each other.
*H6*-There is no significant difference between benefits in accessing e-PG Pathshala by students.
*H7*- The difficulties faced by students in accessing e-PG Pathshala are similar.

## RESULTS AND DISCUSSION

Table 1 reveals the awareness of e-PG Pathshala among science students. It is evident from the results that all students are aware of e-PG Pathshala, including Computer science students (23.91%), Electronic science students (21.73%), Biochemistry students (19.56%), Instrumentation students (18.47%), and Mathematics students (16.30%). Compared to understudy departments, the Mathematics department is less aware of e-PG Pathshala. As a result, the calculated value of Chi-square is lower than the critical value e that is, 1.6 < 9.8. A significant difference does not exist between the students' awareness of e-PG Pathshala. Thus the null hypothesis H1 is accepted.

To know the usage frequency, students were asked how frequently they use e-PG Pathshala. It is clear from Table that the majority of students use e-PG Pathshala weekly with a mean value of 2.7 and an SD value of 2-1.48 followed by monthly (70.58% of instrumentation, 22.22% of Biochemistry, 40% of mathematics) with a mean value of 3.6 and SD is 0.91. The result of the Chi-square test shows a significant difference, and the calculated value is more than the critical value that is 47>26.2. Based on the statistical result the structure null hypothesis H2 is rejected.

Table 3 shows that the most of students are using e-

**Table 3.** Purpose of using e-PG pathshala (multiple responses).

| S/N | Purpose | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Class assignments | 17(77.27) | 18(90) | 14(82.35) | 16(88.88) | 14(93.33) | 2.8 | 1.4 | 66.4(28; 41.3) |
| 2 | For teaching and learning | 2(9.09) | 5(25) | 13(76.47) | 1(5.55) | 1(6.66) | 2.7 | 0.8 | |
| 3 | Preparing exam notes | 19(86.36) | 17(85) | 16(94.11) | 14(77.77) | 9(60) | 2.6 | 1.3 | |
| 4 | Keeping up to date | 8(36.36) | 7(35) | 11(64.70) | 5(27.77) | 8(53.33) | 2.9 | 1.4 | |
| 5 | e-learning, for speed and saving money | 10(45.45) | 3(15) | 1(5.88) | 12(66.66) | 5(33.33) | 2.9 | 1.5 | |
| 6 | Competitive Examination | 5(22.72) | 2(10) | 7(41.17) | 2(11.11) | 1(6.66) | 2.5 | 1.2 | |
| 7 | For information search | 15(68.18) | 4(20) | 6(35.29) | 10(55.55) | 4(26.66) | 2.5 | 1.4 | |
| 8 | Enhance knowledge | 21(95.45) | 13(65) | 2(11.76) | 9(50) | 12(80) | 2.6 | 1.6 | |

Source: Authors

**Table 4.** Channels to access e-PG pathshala (multiple responses).

| S/N | E-channels | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | e-PG Pathshala website | 18(81.81) | 12(60) | 15(88.23) | 16(88.88) | 12(80) | 2.8 | 1.42 | |
| 2 | YouTube channel | 7(31.81) | 9(45) | 3(17.64) | 4(22.22) | 2(13.33) | 2.4 | 1.26 | 8.3(8; 15.5) |
| 3 | INFLIBNET-Vidyamitra | 1(4.54) | 3(15) | 4(23.52) | 2(11.11) | 1(6.66) | 2.9 | 1.08 | |

Source: Authors

PG Pathshala to prepare class assignments that is 77.27% of Computer Science, 90% of electronic science, 82.35% of instrumentation, 88.88% of Biochemistry, 93.33% of mathematics with mean value of 2.8 and SD being 1.4 followed by preparing exam notes (86.36% of Computer Science, 85% of electronics science, 94.11% of instrumentation, 77.77% of Biochemistry, 60% of Mathematics with mean value of 2.6 and SD being 1.3. According to the chi-square calculation, the null hypothesis cannot be confirmed that is, 66.4>41.3, and there is a significant difference in the usage purpose of e-PG Pathshala between students. Thus the null hypothesis *H3* is rejected.

It is evident from Table 4 that students were accessed e-PG Pathshala from various channels. A good number of students are using from websites (81.81% of computer science, 60% of electronic science, 88.23% of instrumentation, 88.88% of Biochemistry, 80% of Mathematics with a mean value of 2.8 and SD value 1.42), followed by YouTube that is, 31.81% of computer science, 45% of electronic science, 22.22% of Biochemistry with mean value 2.4 and SD is 1.26.

There is no significance between students to access channels of e-PG Pathshala because the calculated value (8.3) is less than the critical value (15.5). So null hypothesis *H4* is accepted.

Every user has a nature to search study materials with different terms. An attempt was made to know which term is mostly used among science students. Table 5 shows that title is highly used by 81.81% of Computer Science students, 65% of electronic science, 47.05% of instrumentation, 33.33% of Biochemistry, 33.33% of mathematics with a mean value of 2.6, and SD being 1.51 to search study material followed by subject (77.27% of computer science, 80% of electronics science, 52.94% of instrumentation, 50% of Biochemistry) with a mean value of 2.1 and SD is 1.09. It is clear from the Chi-square test result that there is no significant difference between the search technique in the usage of e-PG Pathshala materials among students and structure null hypothesis H4 is accepted.

In Table **6**6, the students are asked to know which type of study material is sufficient for educational programs. A good majority of students that is, 77.27% of Computer Science, 85% of electronic science, 94.11% of instrumentation, 94.44% of Biochemistry, 100% of mathematics

**Table 5.** Term used for searching study materials (multiple response).

| S/N | Searching term | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Subject | 17(77.27) | 16(80) | 9(52.94) | 9(50) | 0 | 2.1 | 1.09 | 19.2(12; 21.02) |
| 2 | Author | 10(45.45) | 11(55) | 7(41.17) | 8(44.44) | 9(60) | 2.8 | 1.45 | |
| 3 | Keywords | 6(27.27) | 1(5) | 3(17.64) | 2(11.11) | 0 | 2.1 | 1.19 | |
| 4 | Title | 18(81.81) | 13(65) | 8(47.05) | 6(33.33) | 11(73.33) | 2.6 | 1.51 | |

Source: Authors

**Table 6.** Sufficient study Materials for educational programmes (multiple responses).

| S/N | Study material | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Programme syllabus | 17(77.27) | 17(85) | 16(94.11) | 17(94.44) | 15(100) | 2.9 | 1.40 | 31.2(16, 26.29) |
| 2 | Classroom teaching | 21(95.45) | 19(95) | 14(82.35) | 14(77.77) | 14(93.33) | 2.7 | 1.43 | |
| 3 | Exam notes | 13(59.09) | 7(35) | 13(76.47) | 1(5.55) | 0 | 2.1 | 0.94 | |
| 4 | Competition exam | 7(31.81) | 5(25) | 7(41.17) | 0 | 3(20) | 2.4 | 1.30 | |
| 5 | Interview queries | 0 | 2(10) | 0 | 0 | 0 | 2 | 0.00 | |

Source: Authors

**Table 7.** Satisfaction with study material of e-PG Pathshala.

| S/N | Satisfaction level | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Fully satisfied | 6(27.27) | 6(30) | 0 | 3(16.66) | 0 | 2.1 | 1.04 | 8.86(8, 15.5) |
| 2 | Satisfied | 16(72.72) | 14(70) | 17(100) | 15(83.33) | 15(100) | 2.9 | 1.43 | |
| 3 | No satisfied | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Source: Authors

**Table 8.** Advantages of using e-PG Pathshala (multiple responses).

| S/N | Benefit | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | χ2 (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Easy to use | 19(86.36) | 20(100) | 17(100) | 17(94.44) | 13(86.66) | 2.8 | 1.37 | 47.6(20; 31.4) |
| 2 | Easy to search | 15(68.18) | 8(40) | 16(94.11) | 18(100) | 14(93.33) | 3.1 | 1.41 | |
| 3 | Multi user access | 12(54.54) | 6(30) | 17(100) | 8(44.44) | 3(20) | 2.6 | 1.22 | |
| 4 | 24×7 availability | 15(68.18) | 17(85) | 13(76.47) | 0 | 2(13.33) | 2.1 | 0.99 | |
| 5 | Free of cost | 20(90.90) | 15(75) | 9(52.94) | 4(22.22) | 11(73.33) | 2.5 | 1.48 | |
| 6 | Quality of content | 11(50) | 14(70) | 10(58.82) | 14(77.77) | 5(33.33) | 2.7 | 1.29 | |

Source: Authors

with mean value 2.9 and SD being 1.40 state program syllabus is sufficient followed by classroom teaching state by 95.45% of Computer Science, 95% of electronics science, 82.35% of instrumentation, 77.77% of Biochemistry, 93.33% of Mathematics with a mean value of 2.7 and SD is 1.43. The calculated value of chi-square is more than the critical value, that is, 31.2 < 26.29. There is a significant difference between the sufficient materials available on e-PG Pathshala.

Table **7**7 shows the satisfaction level of students with e-PG Pathshala materials. The result of the study found that a large number of students that is 72.72% of Computer Science, 70% of electronic science, 100% of instrumentation, 83.33% of Biochemistry, 100% of mathematics with a mean value of 2.9, and SD being 1.43 are satisfied. A less number of students that is, 27.27% of Computer Science, and 30% of electronic science with a mean value of 2.1 and SD being 1.04 are fully satisfied. The chi-square test is significant at a 0.05 level of significance. There is no significant difference between the satisfaction levels of students. It has been found that the calculated value is less (8.86) than the

**Table 9.** Problem faced while accessing e-PG pathshala content (multiple responses).

| S/N | Problem | CS *N* (%) | ES *N* (%) | INSTR *N* (%) | BCHM *N* (%) | MATH *N* (%) | Mean | SD | $\chi 2$ (df; c) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Slow speed of internet | 21(95.45) | 18(90) | 16(94.11) | 17(94.44) | 14(93.33) | 2.8 | 1.4 | 21.2(16; 26.2) |
| 2 | Inadequate information regarding study materials | 8(36.36) | 9(45) | 3(17.64) | 2(11.11) | 7(46.66) | 2.6 | 1.5 | |
| 3 | Lack of training | 6(27.27) | 8(40) | 11(64.70) | 5(27.77) | 4(26.66) | 2.7 | 1.2 | |
| 4 | Lack of search techniques | 19(86.36) | 15(75) | 9(52.94) | 15(83.33) | 12(80) | 2.8 | 1.4 | |
| 5 | Lack of desirable materials | 9(40.90) | 3(15) | 7(41.17) | 1(5.55) | 1(6.66) | 2.1 | 1.2 | |

Source: Authors

critical value (15.5) at a 0.05 level of significance and the structure null hypothesis H5 is accepted.

Students were requested to indicate that the advantages of using e-PG Pathshala. Table **8**8 depicts that a large number of students that is, 86.36% of computer science, 100% of electronic science, 100% of instrumentation, 94.44% of Biochemistry, 86.66% of mathematics with a mean value of 2.8, and SD being 1.37 are of the view that e-PG Pathshala is easy to use and also easy to search (68.18% of Computer Science, 40% of electronic science, 94.11% of instrumentation, 100% of Biochemistry, 93.33% of mathematics).

Whereas 54.54% of Computer Science students, 30% of electronic science, 100% of instrumentation, 44.44% of biochemistry, 20% of mathematics are of the view that multi-user access of e-PG Pathshala is the effective factor. Further, a good number of students that is, 68.18% of Computer Science, 85% of electronic science, 76.47% of instrumentation are of the view that 24x7 availability of e-PG Pathshala is the effective factor, while 90.90% of computer science students, 75% of electronic science, 52.94% of instrumentation, 73.33% of mathematics students are of the view that cost-free feature of e- PG Pathshala is the most effective factor, and 50% of Computer Science students, 70% of electronics science, 58.82% of instrumentation, 77.77% of Biochemistry, 33.33% of mathematics with a mean value of 2.7 and SD being 1.29 are of the view that content's quality is the most effective factor to use e-PG Pathshala. There is a significant difference between the advantages of using e-PG Pathshala by science students. The calculated value of the Chi-square test is 47.6 greater than the critical value (31.4) at a 0.05 significance level. Thus the null hypothesis H6 is rejected.

Table **9**9 highlights the problem faced by the students while accessing contents in e-PG Pathshala and found that the slow speed of the internet is a major problem faced by 95.45% of Computer Science, 90% of electronic science, 94.11% of instrumentation, 94.44% of Biochemistry, 93.33% of mathematics with a mean value of 2.8 and SD being 1.4 while accessing contents in e-PG Pathshala followed by lack of search techniques (86.36% of Computer Science, 75% of electronic science, 52.94% of instrumentation, 83.33% of Biochemistry, 80% of mathematics with mean value of 2.8 and SD being 1.4). Further, the result shows that Inadequate information regarding study materials problem is faced by 36.36% of Computer Science, 45% of electronic science, 46.66% of mathematics, Lack of training is faced by 27.27% of Computer Science, 40% of electronic science, 64.70% of instrumentation, 27.77% of Biochemistry and lack of desirable materials problem is faced by 40.90% of Computer Science, 41.17% of instrumentation with a mean value of 2.1 and SD is 1.2. There is no significant difference between problems faced by students while accessing e-PG Pathshala because the calculated value (21.2) is less than the critical value (26.2) at the 0.05 significance level. Thus the null hypothesis H7 is accepted.

## Conclusion

In the digital environment, e-PG Pathshala provides access to scholarly literature and study materials to postgraduate students. The results showed that Kurukshetra University science students are increasingly aware of e-PG Pathshala.

According to the results, most students in the department of computer applications are aware of e-PG Pathshala, while the mathematics department has the lowest level of knowledge. Students learn about e-PG Pathshala from colleagues or through the internet, and they use it to prepare exam notes and class assignments. Students use e-PG Pathshala weekly, but prefer

to search for e-texts and self-assessment with titles on websites and YouTube. Students expressed satisfaction with the program syllabus and classroom teaching as they found the e-content of the PG Pathshala to be of very high quality. In terms of ease of navigation and search, most students are satisfied with e-PG Pathshala. According to the study result, slow internet speeds and a lack of search techniques are the major barriers to accessing e-PG Pathshala.

It is necessary to develop a modern digital infrastructure in order to create a full e-learning environment and to reduce problems faced by students. From the study, it appears that the library of Kurukshetra University is leading in the creation of an environment that attracts students. It is thus necessary to do much more to ensure maximum access to e-PG Pathshala. The e-PG Pathshala is an online courseware platform for postgraduate students studying in different colleges and universities. All the courses and materials are available for free. E-learning is a faster and more effective way to learn than traditional learning methods. With the help of the internet, it is possible for students to study from their comfort zones and benefit from e-PG Pathshala in multiple ways, including for class assignments, competitive exams, exam notes, etc. As a result, higher education institutions and organizations should place a high value on e-learning in order to maximize the use of e-content.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

### REFERENCES


Aslam S, Sonkar SK (2021). Platforms and Tools used for Online Learning all over the World during Covid-19: A Study. Library Philosophy and Practice (e-journal) 6205. Available at: https://digitalcommons.unl.edu/libphilprac/6205

Aslam S, Sonkar SK, Owan VJ (2021). Changes in Teaching and Learning in Higher Education during Covid-19 Lockdown: A Study of LIS Students in India. Library Philosophy and Practice (e-journal) Article 5223. 23 p. Available at: https://digitalcommons.unl.edu/libphilprac/522

Barzani SHH, Jamil RJ (2021). Students' perceptions towards online education during COVID-19 pandemic: An empirical study. International Journal of Social Sciences and Educational Studies 8(2):28-38. Available at: http://eprints.tiu.edu.iq/526/1/ijsses.v8i2p28.pdf

Bhushan A, Kumar PR (2018). Role of Indian Government Portal E-PG Pathshala in Digital Literacy. IIBM'S Journal of Management Research 3(1-2):1-12. Available at: http://iibmjournalofmanagementstudies.in/index.php/iibm/article/view/1084

Chakraborty P, Mittal P, Gupta MS, Yadav S, Arora A (2021). Opinion of students on online education during the COVID-19 pandemic. Human Behavior and Emerging Technologies 3(3):357-365. Available at: https://onlinelibrary.wiley.com/doi/full/10.1002/hbe2.240

Kumar R (2020). Digital Information Literacy among the Engineering Students: A Survey. Library Philosophy and Practice (e-journal) 4326. Available at: https://digitalcommons.unl.edu/libphilprac/4326

Kumar R (2021). Application of Cloud Computing Technology for Library Re-designing: Moving Beyond Desktop Applications. Library Philosophy and Practice (e-journal) 5290. Available at: https://digitalcommons.unl.edu/libphilprac/5290

Maatuk AM, Elberkawi EK, Aljawarneh S, Rashaid H, Alharbi H (2022). The COVID-19 pandemic and E-learning: challenges and opportunities from the perspective of students and instructors. Journal of Computing in Higher Education 34:21-38. Available at: https://link.springer.com/content/pdf/10.1007/s12528-021-09274-2.pdf

Maharaj NG (2018). A study on Role of e-PG Pathshala in the Development of e-learning. Knowledge Librarian: An International Peer Reviewed Bilingual E-Journal of Library and Information Science 5(1):104-113.

Midha M, Kumar J (2022). Users' Awareness and Usage of Open Educational Resources in Central Universities of North India. DESIDOC Journal of Library and Information Technology 42(1):47-56. Available at: https://publications.drdo.gov.in/ojs/index.php/djlit/article/view/17304/7678

Mohile RS (2021). A Study on E-Learning using SWAYAM (MOOCs)-Awareness among Under Graduate and Post Graduate Students. International Journal of Creative Research Thoughts 9(1):1785-1789.

Moid A, Raza MM, Rahman L (2020). A study on the use of e-PG Pathshala among the students of Aligarh Muslim University. SSRN. Available at: https://ssrn.com/abstract=4021845

Panda S (2020a). An analysis of e-content modules of Indian OERs: A case study of e-PG Pathshala. International Journal of Academic Research in Library and Information Science 3(1):1-11. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id =3665156

Panda S (2020b). Impact of Students Enrolled in Higher Education vis-à-vis Usage of e-PG Pathshala Resources: An Exploratory Study on Select Universities. JK International Journal of Management and Social Science 3(1):21-33.

Prabu PS (2015). Awareness about e-learning among arts and science college students. International Journal for Innovation Education and Research 3(7):110-114.

Singh S, Garg N, Sharma C (2021). Awareness and Use of e-PG Pathshala among Postgraduate Students of Kurukshetra University, Kurukshetra. International Journal of Information Dissemination and Technology 11(2):92-95.

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