



Evaluation Of Open Education Resources With Special Reference To Educational System In West Bengal, India

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ABSTRACT:

Open education resources included the whole courses, courseware, content modules, learning objects, collections and journals. Tools that make it easier to create, use, reuse and disseminate educational information which included the content and learning management systems, content development tools and other applications. Design best practises, intellectual property licensing to promote open publishing of information and localized material are implementation resources are the best features now a day. In the academic setting of the higher education system, open access resources and open educational resources are interchangeable. In this article, open education resources have been evaluated with special reference to educational system in West Bengal, India.

Keywords: Open, Education, Resources, West Bengal, India

INTRODUCTION:

Open educational materials are those that are made available freely for use, adaptation, and consultation by a community of users for non-commercial reasons. They are made possible by information and communication technology. Open educational resources (OER) are currently most usually described as digital assets that are freely and openly made available for use in teaching, learning, and research by teachers, students, and self-learners [1-5].

RESEARCH METHODOLOGY, DATA ANALYSIS AND INTERPRETATION:

The method adopted for the study is survey method. It is mainly based on primary data collected through questionnaire from the faculty members, research scholars and PG students of Arts and Science, Engineering, Educational Colleges and University. The secondary data like review of literature and other information are collected from the internet, emerald journals, DOAJ database and other resources. Population for the study was selected randomly from post graduate students, research scholars and the faculty members of Arts and Science Colleges, Engineering Colleges, Education Colleges and

University within the state of West Bengal. The post graduate students, research scholars and faculty members are actively involved in research activities and hence the usage of e-resources is more among them than other category in the higher education system. Hence the population for the present study was final year post graduate students, research scholars and faculty members of Arts and Science Colleges, Engineering Colleges, Education Colleges and University. Sample for the study consists of 950 respondents which were selected using stratified random sampling technique to various categories of the users namely post graduate students, research scholars and faculty members of Arts and Science colleges, Engineering colleges, Education colleges and the University. It consists of

- (i) 500 post graduate students
- (ii) 200 research scholars and
- (iii) 250 faculty members from Arts and Science Colleges, Engineering Colleges, Education Colleges and University.

Tool used for the study was well-structured questionnaire prepared by the investigator in consultation with experts after conducting a pilot study. It included the questions measuring various aspects related to awareness, usage, user perception, information literacy and attitude of users towards open access resources.

The statements used for assessing information literacy of the respondents are adopted from the big six information literacy skills [6]. Reliability of the information literacy tool is measured in order to access the degree of consistency between multiple measurements of variables, and also to establish the extent of correlation between individual items in the same construct [7, 8]. For the 12 items, the corrected item, total correlation values were between 0.722 to 0.861, indicating that the items show good internal consistency and high correlation. The overall Cornbach Alpha Reliability for the 12 items is 0.963, above the acceptable value 0.7 to 0.8. this indicates high reliability. Similarly, reliability of Perception tool and Attitude statement are respectively 0.66 and 0.72.

The investigator has personally visited all higher educational institutions within the West Bengal state and had discussions with the faculty, students and research scholars on use of open access resources. After conducting the pilot study, the draft questionnaire is finalized and the final questionnaire is administered among the 1050 respondents using stratified random sampling technique by giving due representation to all categories of variables under study. By removing the incomplete one, 950 samples were selected for analysis and thus response rate is 90.5%.

Both descriptive as well as inferential statistics are used. The following statistical techniques are applied to analyze the data.

- (i) The univariate statistics of data distribution like Mean, Standard Deviation, Percentage, Maximum and Minimum.

- (ii) The 't' test of significant of the difference between the means for independent variables
- (iii) The univariate analysis of variance (ANOVA) is carried out for calculating 'F'test to significance of difference between means of different categories.
- (iv) The Post Hoc -Scheffe Test for different groups.
- (v) The correlation and ranking analysis.

All the calculations are done by using statistical package for social science version 17.0 (SPSS 17.0) and the null hypotheses are tested for its significance at 0.05 level.

Afterthat, analyze and interpret collected data pertaining to the use of open access resources by the academic community in the higher education system. Opinions collected from the respondents of the study are analyzed and interpreted by using appropriate statistical techniques. Both descriptive and inferential statistics are used for analysis. Descriptive statistics like mean, standard deviation, percentage, and inferential statistics like 't' test, ANOVA and Post Hoc - Scheffe Test, and correlation analysis are used. Ranking analysis is done using Garret method.

The analyses done for the present study are presented in the following order:

- Demographic variables of the respondents
- Usage of Electronic and Open Access Resources among the respondents
- Awareness on Open Access Resources
- Extent of usage of Open Access Resources
- Information Literacy of the users
- Perception towards Open Access Resources
- Attitude of users towards Open Access Resources
- Correlation Analysis and
- Problems faced by the users in Accessing Open Access Resources

FINDINGS AND DISCUSSION:

1. The majority of the respondents (52.6 per cent) belong to female category and the remaining 47.4 per cent belongs to male category.
2. Forty-seven per cent of the respondents belong to rural background, 36.8 per cent from urban and 15.8 per cent from semi-urban.

3. Most of the respondents (49.8 per cent) belong to the age group below 25 years and 6.6 per cent of the respondents are above 40 years.
4. In the present study 42 per cent of the respondents are from Engineering Colleges, 36.8 per cent are from Arts & Science Colleges, 14.7 per cent are from Education Colleges and the remaining 6.4 per cent are from the University.
5. Majority of the respondents (71.6 per cent) belong to self-financing institutions, and the remaining 28.4 per cent belong to Government-aided Institution.
6. Majority of the respondents (52.6 per cent) belong to post graduate students category.
7. Majority of the users (57.7 per cent) who uses e-resources are somewhat familiar with computer and 38.2 per cent of the users are well familiar with computer.
8. Majority of the users (66.1 per cent) in the higher education system have experience in using electronic resources for more than two years.
9. Google is the most preferred search engine for accessing e-resources among the users in higher education system (91.1 per cent).
10. Majority of the users in the higher education system (51.9 per cent) uses Uniform Resource Locator (URL) as a technique for retrieving relevant information from electronic resources, whereas, 66.6 per cent prefer search engine, 66.8 per cent prefer subject term, 67.1 per cent prefer keywords, title by 72.5 per cent and 27.6 per cent prefer digital object identifier as techniques for retrieving information.
11. Academic community in the higher education system get informed about open access resources through seminar/conferences/workshop (65.7 percent), websites (65.8 per cent), e-mail services (55.9 percent), and library professionals (52 per cent).
12. Majority of the users (59.4 per cent) use open access resources for the purpose of studying course material. It is followed by, for research /project work by 44.9 per cent, for update subject knowledge by 44.6 per cent, for teaching purpose by 35.7 per cent, for writing papers/articles by 31.8 per cent and other academic purposes by 26.8 per cent.
13. Majority of the users (50.1 per cent) prefer open access resources due to its flexibility.
14. Lack of knowledge and misconception about open access resources led them to keep away from using open access resources.
15. Forty-nine per cent of the users in higher education system are fully aware of open educational resources.
16. There is no significant association between gender and awareness towards open access resources ($\chi^2 = 2.434$ at 2 degrees of freedom, $p = 0.296$).

17. There is an association between locality and level of awareness towards open access resources ($\chi^2 = 17.118$; $p < 0.05$).
18. There is an association between type of student user and their awareness on open access resources ($\chi^2 = 24.631$; $p < 0.05$).
19. There is an association between the category of faculty user and their awareness towards open access resources.
20. There is an association between user category and awareness towards open access resources ($\chi^2 = 26.424$; $p < 0.05$).
21. There is an association between computer familiarity and awareness on open access resources ($\chi^2 = 67.612$; $p < 0.05$).
22. Awareness of users in higher education system towards various open access resources are in the order: institutional websites (80.3 per cent), followed by open access journals by 79.2 per cent, open access e-book by 70 per cent, personal blogs and websites by 57.1 per cent, open access database by 56.4 per cent and open access repositories by 29.7 per cent.
23. Majority of the respondents have medium level awareness towards open access journals such as DOAJ, open access library, Indian Academy of Sciences, OAJSE, IETE, Open J Gate and open access portals of payment journals.
24. Users in higher education system have medium level awareness towards various open access repositories such as the directory of open access repositories (45.9 per cent), networked digital library of thesis and dissertations (43.2 per cent), Shodhganga (39.6 per cent), National Programme on Technology Enhanced Learning (NPTEL) (39.8 per cent), open courseware (44 per cent) and National Institute of Science Communication and Information Resources (45.5 per cent).
25. Majority of the users in the higher education system have only medium level awareness towards various open access resources such as open access databases (42.7 per cent), open access e-books (47.9 per cent), institutional websites (49.7 per cent) and personal blogs and websites (53.2 per cent).
26. Academic community in the higher education system uses open access resources mainly for accessing research articles (88.1 per cent), research reports (77.3 per cent) and specific information on their respective subject (71.5 per cent).
27. Academic community in the higher education system uses open access resources daily by 28.3 per cent, at least once in a week by 43.7 per cent, once in a fortnight by 6.6 per cent and at least once in a month by 21.4 per cent.

28. There is an association between gender of the academic community and frequency of using open access resources ($\chi^2 = 47.95$; $p < 0.05$). Users of female category are using open access resources more frequently than their male counterparts.
29. There is no significant association between the locality of the academic community and frequency of using open access resources.
30. There is an association between the age of the academic community and frequency of using open access resources ($\chi^2 = 30.68$; $p < 0.05$). Users of age below 25 are using open access resources more frequently than other age groups.
31. There is an association between student user discipline wise and frequency of using open access resources ($\chi^2 = 57.83$; $p < 0.05$). Users from Engineering Colleges are more frequently using open access resources than others.
32. There is an association between type of faculty members and frequency of using open access resources. Faculty members of engineering colleges are using more frequently than others.
33. There is an association between the type of user among the academic community in the higher education and frequency of using open access resources ($\chi^2 = 26.93$; $p < 0.05$).
34. Majority of the users in academic community in the higher education system (50.6 per cent) spent 1-2 hours for accessing open access resources per week. It is followed by 31.8 per cent of the respondents spent less than one hour per week and 17.6 per cent spent more than two hours per week.
35. There is no association between gender of the academic community in the higher education system and the time spent for accessing open access resources.
36. There is a significant association between locality of the academic community in the higher education system and time spent for accessing open access resources per week ($\chi^2 = 9.63$; $p < 0.05$).
37. There is a significant association between age of the academic community in the higher education system and time spent for accessing open access resources per week ($\chi^2 = 22.69$; $p < 0.05$).
38. There is a significant association between user category of academic community in the higher education system and time spent for accessing open access resources per week.
39. Majority of the respondents (58.5 per cent) preferred library as the convenient place for accessing open access resources by the academic community.
40. Most of the users in the academic community in the higher education system (45.4 per cent) use open access resources since it is freely available. The other reasons for using

open access resources are easy to collect and open access resources have quality and reliable information.

41. About 37% of academic community in the higher education system uses open access resources to present papers in various academic forums.

42. More than 34 per cent users in the academic community always use institution website and open access e-book, 20.6 per cent use DOAJ database, 29.6 per cent use NPTEL and 23.7 per cent use personal blogs.

43. Various type of library services rendered by the library to the users for accessing open access resources are: article alert service (69.5 per cent), links in the library portal (61.5 per cent) and citation alert service (33.6 per cent).

44. Academic community in the higher education system uses different open access resources in the following order: open access journals, Institutional websites, open access e-book, open access databases, personal blogs and websites and open access repositories.

45. Majority of the respondents (50.8 per cent) prefer pdf format for downloading open access resources.

46. Most of the respondents (42.2 per cent) of the respondents use keyword as their search strategy for retrieving relevant information from open access resources, and DOI is used by very few.

47. There is a significant association between student user category among the academic community and search strategies adopted for accessing open access resources.

48. There is no significant association between the type of faculty among the academic community and search strategies adopted for accessing open access resources.

49. Majority of the users (67.9 per cent) in the higher education system are satisfied with open access resources.

50. The mean information literacy score of the users in the higher education system is 41.08 and standard deviation 9.1. Users among the academic community have information literacy above the average level.

51. Users of the academic community in the higher education system do differ significantly in information literacy based on gender at 0.05 level. Users of male category have more information literacy than the female category.

52. Users of academic community in the higher education system do not differ in information literacy based on their locality ($F = 0.438$; $p > 0.05$).

53. Users of the academic community in the higher education system do differ significantly in information literacy based on age ($F = 5.539$; $p < 0.05$) at 0.05 level.

54. Faculty members in the higher education system differ significantly in information literacy based on type of faculty at 0.05 level ($F = 4.11$; $p < 0.05$).

55. Users of academic community in the higher education system differ significantly in information literacy based on type of institution ($t=2.49$; $p<0.05$) at 0.05 level. Users of self-financing category have more information literacy than government aided institution.

56. Users of academic community in the higher education system do differ significantly in information literacy based on category of users ($F=7.74$; $p<0.05$) at 0.05 level.

57. Users of academic community in the higher education system do differ significantly in information literacy based on familiarity of the computer ($F=13$; $p<0.05$) at 0.05 level.

58. Users of academic community in the higher education system have medium level perception towards open access resources. The mean and standard deviation are respectively 31.70 and 4.9.

59. Forty per cent of the users have low level user perception towards open access resources, 26.6 per cent have medium level and 33.9 per cent have high level user perception towards open access resources

60. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on gender ($t=0.409$; $p>0.05$).

61. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on locality ($F= 1.22$; $p>0.05$).

62. Users of academic communities in the higher education system do differ significantly in user perception towards open access resources based on age ($F= 3.07$; $p<0.05$) at 0.05 level.

63. Users of academic communities in the higher education system do differ significantly in user perception towards open access resources based on category of student user ($F= 4.107$; $p<0.05$) at 0.05 level.

64. Based on category of faculty, the users of academic communities in the higher education system do differ significantly in user perception towards open access resources ($F= 4.77$; $p<0.05$) at 0.05 level.

65. Users of academic community in the higher education system do differ significantly in user perception towards open access resources based on type of institution ($t=3.12$; $p<0.05$) at 0.05 level.

66. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on user category ($F= 2.61$; $p>0.05$).

67. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on familiarity of computer ($F= 0.55$; $p>0.05$).

68. Users of academic community in the higher education have favorable attitude towards open access resources (mean is 56.39 and Standard deviation is 8.57).

69. Majority of the respondents (60.6 per cent) have positive attitude towards open access resources.

70. Users of academic communities in the higher education system differ significantly on attitude towards open access resources based on gender ($t = 2.44$; $p<0.05$) at 0.05 level.

71. Users of academic communities in the higher education system do not differ significantly on attitude towards open access resources based on locality ($F= 1.744$; $p>0.05$).

72. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on age ($F= 4.95$; $p<0.05$) at 0.05 level.

73. Users of academic communities in the higher education system significantly differ on attitude towards open access resources based on category of student ($F= 12.31$; $p<0.05$) at 0.05 level.

74. Faculty members in the higher education system differ significantly on attitude towards open access resources based on type of institution ($F= 5.044$; $p<0.05$) at 0.05 level.

75. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on type of institution ($t= 3.79$; $p<0.05$) at 0.05 level.

76. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on user category ($F= 4.35$; $p<0.05$) at 0.05 level.

77. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on familiarity of computer ($F= 5.36$; $p<0.05$) at 0.05 level.

78. The demographic variables like age, type of institution, and user category have low positive significant correlation; gender and familiarity of the computer have low negative significant correlation with respect to information literacy.

79. The demographic variables like age, type of institution and information literacy have low positive significant correlation with respect to user perception towards open access resources.

80. The demographic variables like age, type of institution and user category have low positive significant correlation; familiarity with computer and gender has very low negative significant correlation with respect to attitude towards open access resources.

81. Users of academic communities in the higher education system faces various problems while accessing open access resources such as slow internet connection (66.6 percent), frequent power failures (34.3 per cent), and minimum subject coverage (30.6 per cent) are the significant problems faced by them. Lack of information literacy (35.2 per cent) is a major individual problem while accessing open access resources.

CONCLUSION:

Use of open access resources in the higher educational institutions is inevitable in this open decade. Many educational resources in the forms of e-books, e-journal database and multimedia database are freely available in the web on various open access platform. It provides more benefits to the academic community in the higher education system for quality education initiatives to the younger generation and projecting their creativity in teaching, learning and generation of new knowledge and findings. The present study concludes that majority of the users in the higher educational institutions have awareness about open access resources and their uses to fulfil their academic needs. More awareness and training programmes would definitely help to enhance their familiarity in use of open access resources effectively. Now a days, most of the higher education institutions have moved from toll access to open access platform. The benefits of open access include lower cost, great accessibility and better prospects for long term preservation of scholarly works. The academic community in particular and the whole society in general benefits from open access. Hence, the findings of the study would of great use to the LIS fraternity, Academicians, and the Policy makers.

REFERENCES:

1. Janakiraman, A. & Subramanian, N. (2014). Utilization of ICT in R&D institutions libraries in Chennai a pilot study. *International Journal of Library and Information Science* , 3 (2), 01-09.
2. Sinha, M. & Bhattacharjee, S. (2013). A Study on ICT literacy and internet use pattern among college library users of Barak Valley, South Assam, North East India. *Current Trends in Technology and Science* , 2 (5), 301-316.
3. Emwanta, M.G. & Nwalo, K.L. (2013). Influence of computer literacy and subject background on use of electronic resources by undergraduate students in universities in South-western Nigeria. *International Journal of Library and Information Science*, 5 (2), 29-42. doi: 10.5897/IJLIS12.017.

4. Kumar, P. (2012). Application of information and communication technology (ICT) by medical students : a study of government medical college, Chandigarh, India. *International Journal of Library and Information Science* , 4 (3), 45-51. doi: 10.5897/IJLIS12.001.
5. Sinha, M. (2012). Internet literacy skills and internet usage patterns to access e-resources by Assam University library users an evaluative study. *International Research Journal of Library, Information and Archival Studies* , 1 (6), 30-47.
6. Eisenberg, M., Lowe, C. A. & Spitzer, K. L. (2004). *Information Literacy: Essential Skills for the Information Age*. Westport: Libraries Unlimited.
7. Gay, L.R., Mills, G.E., & Airasian, P.W. (2009). *Education research: Competencies for analysis and applications*. Upper Saddle River, New Jersey: Prentice Hall.
8. Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2010). *Multivariate data analysis*. Upper Saddle River, New Jersey: Prentice Hall.