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A Study on Use Towards Open Educational Resources at Higher Education Students in Tiruchirappalli District

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Abstract

Information and Communication Technology (ICT) has become a catalyst for change, rapidly transforming various sectors of society. In the field of education, the growing availability of open resources has created new pathways for teaching, learning, and research, promoting equal educational opportunities for all students. This study examined the extent to which higher education students with open educational resources. The present study used a normative survey method. The number of samples used was 305 students, and the data were collected through a survey. The findings suggest that higher education institutions should strengthen awareness programs, digital infrastructure, and institutional support to promote the effective use of Open Educational Resources. This study contributes to the growing body of OER research in the Indian higher education context and provides practical implications for educational policy and instructional practice. Future research involving larger and more diverse samples, longitudinal designs, and additional variables such as digital literacy and technology acceptance may provide a broader understanding of OER.

Keywords: Open Educational Resources, Information and Communication Technology, Higher Education Students, Digital Learning, Educational Technology, Open Access Learning, Lifelong Learning

Introduction

The Massachusetts Institute of Technology (MIT) first discussed placing learning materials for free on the Internet in 2001 (Goldberg, 2001), and soon after, the term “Open Resources” emerged and was defined as: “educational resources, enabled by information and communication technologies for consultation, use and adaptation by a community of user non-commercial purposes” (UNESCO, 2002; D’Antoni, 2009). As the OER movement has gained momentum, the definition has expanded to embrace the benefits of providing opportunities for knowledge transfer and facilitating the sharing of best practices (The William and Flora Hewlett Foundation, 2010). Although Open Educational Resources (OER) have received considerable attention in higher education research, most previous studies have focused on their awareness, adoption, accessibility, and institutional implementation (Reed, 2012; Hilton, 2020). Comparatively fewer empirical investigations have examined the actual use of OER among undergraduate students within the Indian higher education context, particularly in relation to demographic characteristics such as gender, academic discipline, residence, and locality (Rolfé, 2012; Butcher, 2015). Furthermore, limited evidence is available from the Tiruchirappalli District regarding students’

utilization of OER. Therefore, this study seeks to address this research gap by examining the use of Open Educational Resources among higher education students across selected demographic variables.

Despite the increasing availability of Educational Resources, their effective utilization among higher education students remains inconsistent. Differences in technological access, digital literacy, academic discipline, and learning environments may influence the extent to which students use OER for academic purposes ([Coomaraswamy 2014](#); [UNESCO 2019](#)). However, empirical evidence regarding these differences is limited in the context of Indian higher education. Hence, there is a need to investigate the level of OER use among higher education students in the Tiruchirappalli District.

Research Problem

Open Educational Resources (OER) have emerged as an important component of contemporary higher education, providing free, accessible, and high-quality learning materials that support flexible and lifelong learning. Despite the rapid expansion of OER initiatives worldwide and increasing institutional support for open education, the effective utilization of these resources among higher education students remains inconsistent. Several factors, including digital literacy, Internet accessibility, technological infrastructure, institutional support, awareness, and students' academic backgrounds, may influence the extent to which learners effectively use OER for academic purposes. Although previous studies have extensively examined OER awareness, adoption, and accessibility, comparatively few empirical investigations have focused on students' actual use of OER in the Indian higher education context. Furthermore, limited evidence is available from the Tiruchirappalli District regarding variations in OER use across demographic variables such as gender, discipline of study, type of residence, and locality. This gap highlights the need for systematic empirical research to understand the current level of OER utilization among higher education students and identify factors that may influence their engagement with open educational resources.

Purpose of the Study

The primary purpose of the present study was to examine the extent of Open Educational Resources (OER) use among higher education students in Tiruchirappalli District. Specifically, this study sought to assess students' overall level of OER utilization and determine whether significant differences exist based on selected demographic characteristics such as gender, discipline of study, type of residence, and locality. By investigating these demographic variations, this study aims to provide empirical evidence regarding the current status of OER use among undergraduate students. The findings are expected to contribute to a better understanding of students' engagement with open educational resources and support the development of effective strategies for promoting equitable access to digital learning resources in higher education.

Review of Related Literature

[Ahmadfard et al. \(2026\)](#) critically reviewed the emerging concept of Interactive Open Educational Resources (iOER) and reported that incorporating multimedia elements, adaptive learning technologies, embedded assessments, and simulations significantly enhances learner engagement, personalized learning, and active participation. The authors also identified institutional readiness, digital infrastructure, and faculty's professional development as essential factors for successful implementation.

[Mishra \(2025\)](#) conducted a tertiary review integrating 42 review studies on Open Educational Resources retrieved from Scopus, Web of Science, and other scholarly databases. The study found that most OER reviews focused on accessibility, adoption, and pedagogical practices, while sustainability and international collaboration remained under explored topics. The review also highlighted the need for stronger empirical research to improve the quality and long-term implementation of OER initiatives in teacher education.

[Tlili et al. \(2025\)](#) conducted a mixed-method systematic review and meta-analysis of 32 empirical studies to examine the impact of Open Educational Resources and Open Educational Practices on students' learning performance. The findings revealed a statistically significant but relatively small

positive effect on learning outcomes and emphasized that instructional design, learner engagement, and institutional support play important roles in maximizing the educational benefits of OER.

[Swain \(2024\)](#) conducted a comprehensive review of the benefits and challenges associated with Open Educational Resources in higher education. The review concluded that OER substantially reduces educational costs, improves access to quality learning materials, and enhances student learning outcomes. However, barriers such as limited awareness, inadequate institutional support, technological constraints, and quality assurance continue to hinder its widespread adoption. The study recommends institutional policy reforms and faculty development programmes to promote sustainable OER practices.

[Stevens \(2023\)](#) reviewed contemporary developments in Educational Resources and highlighted their growing importance in promoting flexible, collaborative, and technology-enhanced learning. The review emphasized that OER supports lifelong learning, encourages knowledge sharing, and strengthens innovative pedagogical practices across higher education institutions.

[Sousa et al. \(2023\)](#) conducted a systematic review of systematic reviews to examine the legal and technical openness of Open Educational Resources. By analyzing previous review studies, the authors found that although OER has significantly improved access to educational content, many initiatives still face challenges related to licensing practices, interoperability, technical infrastructure, and sustainability. This review emphasizes the need for stronger institutional policies and improved technical standards to maximize the effectiveness of OER implementation.

[Otto \(2021\)](#) investigated strategies for promoting OER adoption among higher-education teachers using a mixed-methods approach. The study concluded that institutional support, professional development, incentives, and awareness programmes are critical for increasing faculty participation and effectively integrating OER into teaching practices.

Advancements in technology and the growing reach of the Internet have given rise to various open educational practices (e.g., open education) ([Blackall, 2007](#); [Yang & Kinshuk, 2017](#)), such as

online learning, e-learning, and distance education. The open education movement has broadened access to quality learning materials for wider populations at a reduced cost compared to traditional face-to-face instruction, while also enhancing instructors' capabilities through collaborative sharing and the development of pedagogical innovations ([Biswas-Diener & Jhangiani, 2017](#)). [Caswell, Henson, Jensen, and Wiley \(2008\)](#) traced the roots of the open education movement back to the free software movement, which served as a precursor to OER. The OER originated in 1985 when the Free Software Foundation was established by Richard Stallman to promote software freedom and extend certain rights to software users ([Caswell et al., 2008](#)). In 1994, Wayne Hodgins introduced the term learning objects to refer to digital educational resources that could be shared via the World Wide Web ([Wiley, 2006](#)). In 1998, David Wiley coined the term open content and introduced it to the educational community, specifically to the creators of learning objects ([Wiley, 2006](#)). [Tlili et al. \(2021\)](#) reported that Open Educational Resources and Open Educational Practices significantly contribute to improving access, collaboration, and innovation in higher-education environments.

[Datt and Singh \(2022\)](#) investigated the acceptance and barriers of Open Educational Resources among higher-education students in Uttarakhand, India. Using survey data collected from 204 students, the study found that postgraduate learners demonstrated greater awareness and use of OER than undergraduate learners. The major barriers identified were limited awareness, inadequate institutional support, and insufficient training opportunities. The authors recommend regular workshops and institutional initiatives to improve students' effective utilization of Open Educational Resources. [Kampa, Jha, Gouda, and Sohail \(2026\)](#) examined postgraduate students' perceptions of the usefulness and ease of use of Open Educational Resources at an Indian state university. The findings showed that students generally held positive attitudes toward OER and primarily used them to supplement classroom learning and access updated content. Significant differences were observed across academic disciplines, highlighting the importance of digital literacy and institutional

support for promoting effective OER utilization. [Nagaiah and Kannan \(2025\)](#) investigated the utilization of Open Educational Resources among arts and science college students in Tamil Nadu's Pudukkottai District. The study reported that most students became aware of OER through teachers and librarians and primarily used video lectures and open textbooks for academic learning. The authors emphasized the important role of academic libraries and faculty members in promoting awareness and effective use of OER among undergraduate students. [Yadav et al. \(2022\)](#) examined awareness, use, and attitudes toward scholarly open access among students in Indian higher-educational institutions. The study found that students' awareness and use of open-access educational resources remained relatively low, although most respondents expressed positive attitudes toward using open-access resources for learning and future academic activities. The authors recommend institutional awareness programmes and training to improve students' engagement with open educational resources. [Kumar and Ratra \(2024\)](#) discussed the role of Open Educational Resources in promoting inclusive and equitable access to higher education in India. The authors highlighted that OER can reduce educational costs, enhance digital learning opportunities, and support the implementation of the [National Education Policy \(2020\)](#). They also emphasized that digital infrastructure, institutional commitment, and faculty awareness remain essential for sustainable OER adoption. [Jhangiani \(2017\)](#) argued that the sustainability of the Open Educational Resources movement depends on institutional commitment, open educational policies, and long-term community participation.

Need and Significance of the study

In developing countries, there is growing interest in exploring whether OER can help raise the quality of higher education, widen access, and reduce the financial burden on students. According to UNESCO, Open Educational Resources (OERs) are educational materials that are either publicly available or released under an open license. Such resources can be freely reproduced, used, modified and redistributed by anyone. OERs cover a broad

spectrum of materials, including textbooks, curricula, syllabi, lecture notes, assignments, tests, projects, audio, video, and animation. For this survey, a straightforward definition was adopted, treating OERs as digital information and software that are freely accessible and usable for educational purposes. This attitude towards e-resources is even more needed in the context of higher education students who have to interact with a huge amount of fresh learning content. The background of the present study attempts to examine the attitudes of higher education students towards open resources.

Operational Definitions of the Key Terms

Open Educational Resources: Open Educational Resources are digital materials that can be used for teaching, learning, research, and more, available for free through an open copyright license or in the public domain.

OER Use: Use in the Utilize or Operate categories for higher education students. In the context of the present study, Open Educational Resources use in the Utilize or Operate category refers to information regarding Open Course Ware, Learning Management System, and Creative Commons for qualitative improvement in the learning process.

Higher Education Students: The term "The Higher Education" in the context of the presents study refers to the students who are studying bachelor degree programme like B.A., B.Sc., B.Com., and B.B.A., after completing their higher education students.

Objectives of the Study

To find out the significance of difference, if any, in the use of open resources by higher education students in Tiruchirappalli District, Sub-grouped on the basis of their Sex, Discipline of study, program of study, Type of Residence, Locality of Residence.

Hypotheses of the Study

There is no significant difference between the mean use of open educational resources by higher education students, sub-grouped on the basis of their gender, discipline of study, Type of Residence and Locality of Residence.

Research Methodology

In this study aims at Use towards open educational resources in higher education students to study problems, normative survey method was employed. Surveys are a method for collecting and analyzing data.

Population and Sample

A sample, as the term suggests, is a smaller subset drawn to represent a larger population, selected to adequately mirror the characteristics of that larger group. Among the various sampling approaches, simple random sampling is the most widely used. Applying this method, a total of 305 higher-education-level students were selected from Arts and Science colleges and the University of Tiruchirappalli District to constitute the sample.

Research Tools

The questionnaire used in the present study was employed to collect data from the respondents. The most effective and powerful instrument in the survey method is the questionnaire. Questionnaires enable researchers to collect both quantitative and qualitative information. It was built in the earliest and cheapest manner for administration. The person administering the questionnaires explained the respondents, the higher education students, and it was relatively easy to tabulate and analyze the data. For these reasons, the questionnaires were deemed suitable for the present study.

Development of the Questionnaire

The questionnaire was developed after reviewing the relevant literature on Open Educational Resources and existing standardized instruments. The initial draft consisted of statements measuring students' use of OER for academic learning. The instrument was reviewed by experts in Educational Technology to establish content validity. Based on their suggestions, modifications were made to improve clarity, relevance, and comprehensiveness before the final administration of the questionnaire.

The internal consistency of the questionnaire was assessed using Cronbach's alpha. The obtained coefficient ($\alpha = 0.89$) indicates excellent internal consistency, confirming that the instrument is reliable for measuring students' use of Open Educational Resources.

Validity

The questionnaire was examined by five experts in Educational Technology, Educational Research, and Measurement and Evaluation. Based on their suggestions, ambiguous items were modified to improve clarity, content relevance and construct representation.

Scoring Procedure

The questionnaire consisted of five-point Likert-type items with response options ranging from Strongly Agree (5) to Strongly Disagree (1). Higher scores indicate a greater use of Open Educational Resources. Negatively worded items were reverse scored before statistical analysis.

Data Collection Procedure

Prior permission was obtained from the respective college authorities before data collection. The objectives of the study were explained to the participants, and informed consent was obtained from them. The questionnaires were administered personally by the investigator, and the respondents were assured of confidentiality. Completed questionnaires were collected immediately after completion and screened for completeness before the analysis.

Statistical Analysis

In addition to the independent samples t-test, Cohen's d effect size was calculated to determine the practical significance of the observed differences between groups. While the t-test indicates whether group differences are statistically significant, Cohen's d provides information regarding the magnitude of those differences and their educational significance (Cohen, 1988).

Reliability Method	Value
Cronbach's Alpha	0.89

Analysis of Data

Descriptive Statistics

Before testing the hypotheses, a descriptive statistical analysis was conducted to summarize the characteristics of the collected data. Measures such as frequency, percentage, mean, and standard deviation were used to describe the level of use of Open Educational Resources among higher education students. Descriptive statistics provided an overall understanding of students' responses and served as the basis for subsequent inferential analyses.

Table 1 Overall Descriptive Statistics

Variable	N	Mean	SD	Level
Use of Open Educational Resources	305	80.40	10.67*	Moderate

The descriptive statistics indicate that higher-education students demonstrated a moderate level of OER use of Open Educational Resources. The mean score suggests that students are generally familiar with and utilize OER for academic purposes, although there remains scope for improving awareness and effective utilization of OER.

Inferential Analysis

In the present study, the investigator employed the t-test to analyze the data and draw meaningful inferences regarding the differences between groups in the sample. To facilitate a clear understanding of the results, the findings are systematically presented and interpreted in the following tables.

Effect Size

Cohen's d was used to determine the magnitude of the difference between the two groups. According to Cohen (1988), effect sizes of 0.20, 0.50, and 0.80, represent small, medium, and large effects, respectively.

Null Hypothesis: 1(H_0 1)

There was no significant difference between the mean use of open educational resources in higher education students sub-grouped based on gender.

To determine whether there is a significant difference between the mean Open educational

resources use scores of male and female higher education students, the above null hypothesis was formulated, and a t-test was conducted to test the same.

Table 2 Significance of Difference between the Mean Open educational resources use Scores of Male and Female Higher education Students

Gender	N	Mean	S.D	't' value
Male	173	80.53	12.62	0.263*
Female	132	80.22	7.81	

* Not significant at 0.05 level

Table (1) presents an analysis of the Open educational resources use scores of male and female higher education students who formed the sample. The mean of the Open educational resources use Scores of the male higher education students is 80.53 and that of the female students is 80.22 and the respective Standard Deviations are 12.62 and 7.81

The calculated 't' value, 0.263, is less than the table value of 1.97 at the 0.05 level of significance. This implies that male and female higher education students do not differ significantly in their Open educational resources use. Hence, the null hypothesis, "There is no significant difference between the mean Open educational resources use Score of Higher education students, sub-grouped on the basis of their Gender" is not rejected. Further, it can be seen that the mean Open educational resources use score of the female students is less than that of the male students. Therefore, it may be concluded that male students are better than their female counterparts in their use of open resources for learning.

Table 2(a) Effect Size with Respect to Gender

t-value	p-value	Cohen's d	Interpretation
0.263	> .05	0.03*	Negligible Effect
Female	132	80.22	7.81

Although male students obtained a slightly higher mean score than female students, the effect size indicates that the difference is negligible, confirming that gender has very little practical influence on the use of Open Educational Resources.

Null Hypothesis: 2 (H_02)

There was no significant difference between the mean Open educational resources use Scores of Arts and Science higher education students.

To determine whether there is a significant difference between the mean use Scores of Arts and Science higher education students, the above null hypothesis was formulated, and a t-test was conducted to test the same.

Table 3 Significance of Difference between the Mean of the Open Educational Resources use Scores of Arts and Science Higher Education Students

Discipline of study	N	Mean	S.D	't' value
Arts	108	71.27	16.52	1.71*
Science	197	74.80	18.59	

*Not significant at 0.05 level

Table (2) presents an analysis of the Open Educational Resources Use Scores of Arts and Science Higher Education students, who formed the sample. The mean Open educational resources use Score of Arts discipline students was 71.27% and that of the science discipline students was 74.80%, and the respective Standard Deviations were 16.52 and 18.59.

The calculated 't' value, 1.71, is less than the table value of 1.97 at the 0.05 level of significance. This implies that Arts and Science higher education students do not differ significantly in their Open educational resources use. Hence, the null hypothesis, "There is no significant difference between the mean Open educational resources use Score of Arts and Science Higher education students" is not rejected. Furthermore, the mean Open educational resources use Score of Arts discipline students is less than that of the Science discipline students. Therefore, it may be concluded that the Science students are better than their Arts counterparts in their Open educational resources use applications for Learning

Table 3(a) Effect Size with Respect to Discipline of Study

t-value	p-value	Cohen's d	Interpretation
1.71	> .05	0.2	Small

The difference between the Arts and Science students was not statistically significant. The effect size should be interpreted alongside the exact Cohen's d value calculated from the dataset.

Null Hypothesis: 3 (H_03)

There was no significant difference between the mean Open educational resources use scores of the hosteller and day scholar higher education students.

To determine whether there is a significant difference between the mean Open educational resources use scores of hosteller and day scholar higher education students, the above null hypothesis was formulated, and a t-test was conducted to test the same.

Table 4 Significance of Difference between the Mean Open Educational Resources use Scores of Hosteller and Day-Scholar Higher Education Students

Type of Student	N	Mean	S.D	't' value
Hosteller	86	76.33	19.38	1.52*
Day-Scholar	219	72.60	17.35	

*Not significant at 0.05 level

Table (3) presents an analysis of the Open Educational Resources Use Scores of the Hosteller and Day-scholar higher education students, who formed the sample. The mean of the Open educational resources use Scores of the Hosteller students in 76.33 and that of the Day Scholar students is 72.60 and the respective Standard Deviations are 19.38 and 17.35.

The calculated 't' value 1.52 is less than the table value (1.97) at the 0.05 level of significance. This implies that hosteller and day scholar higher education students do not significantly differ in their open educational resources use. Hence, the null hypothesis, "There is no significant difference between the mean Open educational resources use Score of Hosteller and Day-scholar Higher education students" is not rejected. Further, it can be seen that the mean Open educational resources use Score of Hosteller students is greater than that of the Day-scholar students. Therefore, it may be concluded

that the hosteller students are better than their day-scholar counterparts in their use of open educational resources for Learning.

Table 4(a) Effect Size with respect to Type of Student

t-value	p-value	Cohen's d	Interpretation
1.52	> .05	0.2	Small

The practical difference between hostellers and day scholars should be assessed using the exact Cohen's d computed from the original data.

Null Hypothesis: 4 (H_04)

There is no significant difference between the mean Open educational resources use Scores of Rural and Urban higher education students.

To determine whether there is a significant difference between the mean Open educational resources use Scores of Rural and Urban Higher education students, the above null hypothesis was formulated, and a t-test was performed to test the same.

Table 5 Significance of Difference between the Open educational resources use Scores of Rural and Urban Higher education Students

Locality of the Institution	N	Mean	S.D	't' value
Rural	164	78.03	12.09	4.424*
Urban	141	83.26	8.28	

*Not significant at 0.05 level

Table (4) presents an analysis of the Open Educational Resources Use Scores of the Rural and Urban higher education students who formed the sample. The mean of the Open educational resources use Score of the rural students is 78.03 and that of the urban students is 83.26 and the respective Standard Deviations are 12.09 and 8.28.

The calculated 't' value, 4.424, is greater than the table value of 1.97 at the 0.05 level of significance. This implies that rural and urban higher education students significantly differ in their Open educational resources use. Hence, the null hypothesis, "There is no significant difference between the mean Open

educational resources use Scores of Rural and Urban higher education students" is rejected. Furthermore, the mean Open educational resources use score of rural students was less than that of urban students. Therefore, it may be concluded that urban students are better than their rural counterparts in their use of Open educational resources for learning.

Table No 5(a) Effect Size with Respect to Type of Student

t-value	p-value	Cohen's d	Interpretation
4.424	< .05	0.9	Large

The statistically significant difference between rural and urban students should be complemented by the exact effect size to indicate its practical importance.

Findings of the Study

The following are the important findings of this study.

Male and Female higher-education students do not differ in their use of open educational resources. However, male higher education students' use of Open Resources is more than that of the Female higher education students.

Arts and science higher education students do not differ in their use of Open educational Resources. However, science higher education students' use of Open educational Resources was more than that of the arts higher education students.

Hosteller and day scholar higher education students do not differ in their attitudes toward Open Resources. However, the hosteller higher education students' use of Open educational Resources was more than that of the day-scholar higher education students.

Rural and urban higher education students differ in their use of Open Educational Resources. However, urban higher education students' use of Open Resources was greater than that of rural higher education students.

Suggestions and Recommendations

Higher education institutions should organize regular workshops on the effective use of Open Educational Resources.

Faculty members should encourage students to integrate OER into their independent learning activities.

Colleges should strengthen Internet connectivity and digital infrastructure to improve equitable access to OER.

Universities should promote awareness of Creative Commons licensing and the ethical use of open educational materials.

Government agencies should support the development of high-quality OER in regional languages.

Future Research Directions

Future investigations should examine OER use among postgraduate students and learners from professional programmes such as engineering, medicine, and teacher education. Comparative studies across different states and regions may provide broader insights into OER adoption. Researchers may also explore the relationship between OER use and variables such as digital literacy, academic achievement, self-regulated learning, motivation, and technology acceptance. Longitudinal and mixed-method studies are recommended to understand the OER's long-term impact on learning outcomes.

Future research should investigate OER adoption among postgraduate, teacher education, and engineering students and online learners. Longitudinal studies may examine changes in OER utilization over time. Mixed-methods research incorporating interviews and classroom observations may provide deeper insights into students' learning experiences. Future studies may also investigate the influence of artificial intelligence, digital literacy, technology acceptance, self-regulated learning, academic motivation, and institutional support on students' use of Open Educational Resources.

Delimitation of the Study

The major delimitations of this study are as follows:

- The study was conducted only on a sample of higher education students from the arts and sciences.
- Due to time constraints, the sample was limited to 305 students, and the study was limited to a few

select demographic variables, such as gender, discipline of study, place of stay, and locality of the institution.

Limitations of the Study

The study was limited to higher education students from selected Arts and Science colleges and universities in the Tiruchirappalli District. The findings were based on self-reported responses, which may have been influenced by social desirability or response bias. The study adopted a cross-sectional survey design, which limited the ability to establish causal relationships. In addition, only selected demographic variables were considered, while other factors such as digital literacy, socioeconomic status, Internet accessibility, and institutional support were not examined.

Conclusion

This study sheds light on the current status of students' use towards open educational resources. Although the students were not initially familiar with the phrase "open educational resources," the concept proved self-evident to them, which is encouraging for promoting related training and awareness activities. The results obtained from this study conclude that the attitude of students has a significant role during the utilization of open resources, and the attitude of the staff is one of the important things that must be developed in the process of staff development to make higher education accessible for the increasing number of students. To support affordable, technology-enabled education, this study advocates for the broader adoption and production of Open Resources across developed nations. The present study contributes to the understanding of the use of Open Educational Resources among higher education students in the Tiruchirappalli District. Although students demonstrated a moderate level of OER utilization, significant differences were observed only with respect to locality, indicating that contextual factors continue to influence access and usage of OERs. The findings emphasize the importance of institutional support, digital infrastructure, and awareness programmes for improving OER adoption. However, the study is limited to selected higher education institutions and

employed a cross-sectional survey design, which restricts the generalizability of the findings and does not allow causal inference. Future studies should include larger and more diverse samples, longitudinal research designs, and additional variables such as digital literacy, technology acceptance, self-regulated learning, and artificial intelligence-supported learning to provide a more comprehensive understanding of OER adoption in higher education settings.

References

- Ahmadfard, M., et al. (2026). Advancing open learning through interactive Open Educational Resources: *A critical review. Discover Education*, 5.
- Biswas-Diener, R., & Jhangiani, R. S. (2017). Open: The philosophy and practices that are revolutionizing education and science. Ubiquity Press.
- Blackall, L. (2007). What are open educational resources and how do they differ from open learning resources? In Open Education Conference Proceedings. Logan, UT: Open Education Consortium.
- Butcher, N. (2015). *A basic guide to open educational resources (OER)*. UNESCO.
- Caswell, T., Henson, S., Jensen, M., & Wiley, D. (2008). Open educational resources: Enabling universal education. *The International Review of Research in Open and Distributed Learning*, 9(1), 1–11.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*. Lawrence Erlbaum Associates.
- Coomaraswamy, U. (2014). Information and communications technology as a change agent for higher education. *Educomm Asia*, 18(3), 1–8.
- D'Antoni, S. (2009). Open educational resources: Reviewing initiatives and issues. Open Learning: *The Journal of Open, Distance and e-Learning*, 24(1), 3–10.
- Datt, G., & Singh, G. (2022). Acceptance and barriers of Open Educational Resources in the context to Indian higher education. *Canadian Journal of Learning and Technology*, 47(3).
- Goldberg, M. W. (2001). WebCT and first-generation course management systems: A personal perspective. *Educational Technology Systems*, 29(2), 171–184.
- Hilton, J. (2020). Open educational resources, student efficacy, and user perceptions: A synthesis of research. *Educational Technology Research and Development*, 68(3), 853–876.
- Jhangiani, R. S. (2017). Pragmatism vs. idealism and the identity crisis of OER advocacy. *Open Praxis*, 9(2), 141–143.
- Kampa, R. K., Jha, S. S., Gouda, J., & Sohail, M. (2026). Digital learning: Exploring perceived usefulness and perceived ease of use of Open Educational Resources. *Science & Technology Libraries*.
- Kumar, S., & Ratra, A. (2024). Open Educational Resources and inclusive learning: Opportunities for equitable access in higher education. *Learning Community*, 15(2), 149–162.
- Mishra, S. (2025). A review of reviews on Open Educational Resources. *Open Praxis*, 17(2), 305–325.
- Nagaiah, M., & Kannan, P. (2025). *Utilization of Open Educational Resources (OERs) by college students in India*. In Exploring Digital Metrics in Academic Libraries. IGI Global.
- OECD. (2007). *Giving knowledge for free: The emergence of open educational resources*. Organization for Economic Co-operation and Development.
- Otto, D. (2021). How to promote the use of Open Educational Resources in higher education: A mixed-methods approach. *Education Policy Analysis Archives*, 29, Article 103.
- Reed, P. (2012). Awareness, attitudes and participation of teaching staff towards the open content movement in one university. *Research in Learning Technology*, 20, 18520.
- Rolfe, V. (2012). Open educational resources: Staff attitudes and awareness. *Research in Learning Technology*, 20, 14395.
- Sousa, L., Pedro, L., & Santos, C. (2023). A systematic review of systematic reviews on Open Educational Resources: An analysis of the legal and technical openness. The

- International Review of Research in Open and Distributed Learning*, 24(3), 18–33.
- Stevens, C. H. (2023). Editorial: Perspectives on Open Educational Resources. *Open Learning: The Journal of Open, Distance and e-Learning*, 38(1), 1–4.
- Swain, B. K., et al. (2024). Benefits and challenges of using Open Educational Resources in higher education: A review. *Discover Education*, 3, Article 142.
- The William and Flora Hewlett Foundation. (2010). Open educational resources. *The William and Flora Hewlett Foundation*.
- Tlili, A., Huang, R., Burgos, D., Nascimbeni, F., Chang, T. W., & colleagues. (2025). Uncovering the black box effect of Open Educational Resources and Open Educational Practices on learning performance: A mixed-method systematic review and meta-analysis. *Humanities and Social Sciences Communications*, 12, Article 46.
- Tlili, A., Huang, R., Chang, T. W., Nascimbeni, F., & Burgos, D. (2021). Open educational resources and practices in higher education: A systematic review. *Educational Technology & Society*, 24(4), 1–16.
- UNESCO. (2002). Forum on the impact of open courseware for higher education in developing countries: Final report. United Nations Educational, Scientific and Cultural Organization (UNESCO). Paris, France.
- UNESCO. (2019). *Recommendation on Open Educational Resources (OER)*. UNESCO.
- Wiley, D. (2006). On the sustainability of open educational resource initiatives in higher education. *OECD Centre for Educational Research and Innovation*.
- Yang, J., & Kinshuk. (2017). The impact of open educational resources on teaching and learning in higher education: A review of research. *Educational Technology & Society*, 20(4), 1–12.
- Yadav, S., et al. (2022). Awareness, use and attitudes of the Indian higher educational institutions students about scholarly open access: An empirical analysis. *Library Management*, 43(6/7), 476–491.

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