

Exploring The Relationship Between Open Educational Resources Utilization, Teaching Competency, and Job Satisfaction among Higher Secondary Teachers

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Abstract

The increasing emphasis on Open Educational Resources (OER) has prompted researchers to explore their perception and utilization among educators, particularly in the context of higher secondary education. This study investigates the relationship between the perceptions and usage of OER among higher secondary teachers and their teaching competency and job satisfaction. Drawing on a mixed-methods approach, data were collected from 200 teachers through questionnaires and semi-structured interviews across various educational institutions. The analysis revealed that while a significant portion of educators acknowledge the value of OER in enhancing teaching and learning experiences, barriers related to technological access and inadequate training significantly impede their effective utilization. Consequently, a moderate positive correlation was found between the competent use of OER and overall teaching efficacy, suggesting that higher proficiency in employing these resources could lead to improved instructional strategies. Moreover, this research highlighted a noteworthy link between OER utilization and job satisfaction, indicating that teachers who actively integrate OER into their instructional practices report higher levels of satisfaction with their teaching roles. The study underscores the necessity for tailored professional development programs aimed at enhancing teachers' skills in leveraging OER, which could in turn foster greater job satisfaction and pedagogical effectiveness. It further posits that a deeper understanding of the motivational factors influencing OER adoption can significantly contribute to fostering an educational culture where resource sharing and collaborative learning are prioritized. As educational institutions increasingly advocate for the integration of innovative technologies into the curriculum, the findings of this research are pivotal in informing policy and practice that support teachers in the effective engagement with OER. Such initiatives not only refine pedagogical approaches but also promote a more enriching educational experience for students, ultimately contributing to the wider discourse on educational equity and accessibility in the digital age. The implications of this research extend to the realms of educational policy and teacher training, calling for institutional support in cultivating an environment conducive to the optimal use of OER and addressing the challenges faced by teachers. By fostering an ethos of continuous professional development and collaboration, educational stakeholders can better facilitate the integration of OER, thereby enhancing teaching competency and job satisfaction among the teaching workforce.

Keywords: Open Educational Resources; teaching competency; job satisfaction; higher secondary education; educational equity; professional development

1. Introduction

The advent of technology in education has fundamentally altered the landscape of teaching and learning, making resources more accessible than ever before. Open Educational Resources (OER), which are defined as teaching, learning, and research materials that are freely available in the public domain or released under an intellectual property license that permits their use and adaptation, have gained significant traction over the past two decades. The global discourse surrounding OER has underscored their potential to bridge educational gaps, promote

equity, and enhance the quality of education. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has played a pivotal role in advocating for OER, emphasizing their value in providing high-quality educational experiences irrespective of geographical and socio-economic barriers. The increasing deployment of OER aligns with global educational agendas aimed at improving access to quality education, particularly in developing countries where resource constraints are pronounced.

Despite the recognized benefits, the adoption and effective utilization of OER among educators, particularly within the realm of higher secondary education, remain suboptimal. A confluence of factors—including varying levels of digital literacy, awareness, and institutional support—often dictates the engagement teachers have with these resources. Recent studies indicate that while some teachers exhibit a positive attitude towards OER as an alternative to traditional materials, many remain uncertain about their efficacy and relevance to their pedagogical practices. This ambivalence can significantly impact teaching competency, as the ability to integrate diverse educational resources is increasingly recognized as a crucial element of effective teaching. Furthermore, the relationship between teaching competency and job satisfaction has emerged as a subject of intense scrutiny. Educators who feel competent in their teaching methodologies tend to experience higher levels of job satisfaction, which, in turn, may influence their retention and effectiveness in the classroom.

The significance of exploring these interconnections is underscored by the need to equip educators with robust resources that enhance their teaching capabilities and overall professional satisfaction. Existing literature has acknowledged the role of professional development in fostering OER engagement, yet empirical evidence specifically addressing the perception and usage of OER among higher secondary teachers is still scarce. Research has consistently indicated that educators' attitudes towards OER have a direct influence on their adoption rates and methods of implementation. Therefore, understanding how higher secondary teachers perceive and utilize OER becomes imperative, especially considering that the integration of such resources could enrich the educational experiences they provide and foster more engaging learning environments for students.

Moreover, the global shift towards blended and online learning modalities, accelerated by recent experiences such as the COVID-19 pandemic, has further emphasized the necessity of utilizing OER in teaching practices. As educational institutions pivot to incorporate technology-driven methods, the relevance of OER in facilitating flexible learning becomes more pronounced. The digital divide remains a considerable challenge, but OER has the potential to mitigate some of these disparities by offering accessible content that can be customized to meet diverse learning needs. In particular, the intersection of OER usage, teaching competency, and job satisfaction among higher secondary teachers is a critical area demanding thorough investigation, as it stands to inform policy recommendations and professional development initiatives aimed at enhancing educational quality.

This research is motivated by the pressing need to explore these relationships in a systematic manner. The study will contribute to the existing body of knowledge by providing empirical insights into how higher secondary teachers perceive OER and the implications of these perceptions on their teaching practices. By focusing on the interrelations between OER usage, teaching competency, and job satisfaction, this research aims to develop a nuanced understanding of how such resources can be effectively integrated into teaching methodologies to yield positive pedagogical outcomes. The findings of this study are expected to inform educators, administrators, and policymakers alike, enabling them to make informed decisions regarding the adoption and implementation of OER in educational settings.

2. Problem Statement and Research Gap

The integration of Open Educational Resources (OER) in the teaching landscape has garnered significant attention in recent years, particularly within the context of higher secondary education. Despite this growing interest, there exists a notable gap in the empirical understanding of how teachers perceive and utilize OER, particularly in relation to their teaching competencies and job satisfaction. The problem under investigation centers on the effectiveness of OER as a pedagogical resource and the extent to which it can enhance educational outcomes in higher secondary education. Numerous studies have demonstrated the potential benefits of OER, including increased accessibility to high-quality materials, opportunities for collaborative learning, and

encouragement of innovative teaching practices. Nevertheless, this potential remains largely unrealized, as many educators face barriers that hinder their effective incorporation of OER into their curricula.

Practical issues abound regarding the implementation of OER in educational settings. Many teachers report a lack of familiarity with available resources, inadequate training on how to effectively integrate these materials into their teaching practices, or insufficient institutional support. Consequently, the desired outcomes—enhanced teaching competency and improved job satisfaction—remain elusive for a significant number of educators. In addition, while various studies have documented the benefits of OER for students, there is a scarceness of research focused specifically on teachers' perceptions and the implications of OER for their professional development. As teachers are central to the successful adoption of educational innovations, understanding their experiences with OER is critical for informed policy and practice.

Theoretical frameworks surrounding OER have primarily centered on the shifts in educational policy and access rather than the nuanced relationship between OER and the intrinsic aspects of teaching such as competency and job satisfaction. This neglect highlights a theoretical gap wherein the intersection of OER utilization and teachers' professional experiences remains underexplored. While existing literature underscores the transformational potential of OER, it often overlooks how teachers' perceptions of these resources can shape their teaching efficacy and overall job satisfaction levels. A more holistic framework that connects the theoretical underpinnings of OER with practical teaching competencies and teachers' psychological well-being is required to develop a comprehensive understanding of OER's role in secondary education.

Moreover, methodological gaps persist within the current body of literature concerning OER. Much of the existing research relies on qualitative approaches that offer limited generalizability to broader educational contexts. While qualitative insights are invaluable, robust mixed-methods studies that incorporate quantitative measures of teachers' perceptions and experiences with OER are necessary to yield more comprehensive findings. Such methodological diversity would enable a more nuanced understanding of the complexities surrounding the integration of OER into teaching practices.

Regionally, research on OER has predominantly focused on developed countries, often neglecting perspectives from less economically developed regions or culturally distinct educational contexts. The socioeconomic and educational landscapes of these areas may present unique challenges and opportunities regarding the integration and utilization of OER. Given that educational practices and teacher experiences can vary significantly based on regional contexts, there is an imperative need to examine how cultural factors might influence the perception and effectiveness of OER usage in diverse educational environments. Additionally, this regional focus aligns with global initiatives to democratize education through OER, underscoring the importance of localized studies that can inform broader educational strategies.

The need for the present study is underscored by these gaps in practical, theoretical, methodological, and contextual domains. By focusing on the perceptions and usage of OER among higher secondary teachers, this research aims to elucidate the relationship between teachers' engagement with OER and their teaching competency as well as job satisfaction. Such insights can contribute to a deeper understanding of how these resources impact educators' professional lives, thereby informing training programs, institutional strategies, and policy developments aimed at enhancing educational practices. Ultimately, an exploration of this topic is vital not only for advancing the discourse surrounding OER but also for informing actionable recommendations that can lead to improved educational outcomes for teachers and students alike. The findings from this study could also serve as a catalyst for further research into the implications of OER across varying educational contexts, thereby fostering a more inclusive and effective educational landscape that recognizes and responds to the diverse needs of educators.

3. Objectives

1. To assess the level of awareness of Open Educational Resources among higher secondary teachers in a selected region.

2. To determine the frequency of usage of Open Educational Resources by higher secondary teachers in their instructional practices.
3. To analyze the types of Open Educational Resources that are most commonly utilized by higher secondary teachers in their classrooms.
4. To evaluate the relationship between the frequency of OER usage and the perceived teaching competency among higher secondary teachers.
5. To investigate the impact of OER utilization on the job satisfaction levels of higher secondary teachers.
6. To examine the barriers faced by higher secondary teachers in accessing and integrating Open Educational Resources into their teaching.
7. To explore the difference in perceptions towards OER between teachers with varying levels of teaching experience.
8. To identify the professional development needs of higher secondary teachers concerning the effective use of Open Educational Resources to enhance teaching competency.

4. Research Methodology

4.1 Research Design

The present study employed a quantitative research design to systematically assess the perception and usage of Open Educational Resources (OER) among higher secondary teachers, correlating these factors with their teaching competency and job satisfaction. This design is particularly suited for this investigation as it facilitates the collection and analysis of numerical data, thereby enabling the identification of patterns and relationships among the variables. A cross-sectional survey methodology was utilized, allowing for the collection of data from a diverse sample of teachers at a single point in time. This approach afforded the opportunity to draw correlations and inferences regarding the impact of OER on teaching competency and job satisfaction without direct manipulation of the independent variables.

4.2 Population of the Study

The population of this study consisted of higher secondary school teachers employed in public and private educational institutions within the defined geographical area. The rationale behind selecting this demographic is rooted in their pivotal role in shaping educational outcomes and their potential engagement with OER in their teaching practices. The population is diverse in terms of subjects taught and demographic variables, which contributes to the generalizability of the findings. It is anticipated that encompassing a wide range of experiences and backgrounds will provide a holistic view of OER perceptions and usage across various contexts.

4.3 Sampling Technique

A stratified random sampling technique was employed to ensure representation from different geographical and demographic sectors within the population. Each stratum was defined based on variables such as the type of institution (public versus private) and the subject area taught. This technique enhances the likelihood that the sample accurately reflects the population's characteristics and helps mitigate potential biases. Random selection within each stratum guarantees that each teacher has an equal opportunity to be included in the study, thus enhancing the overall validity of the findings.

4.4 Sample Size

The sample size for this study was determined using statistical power analysis to ensure sufficient power to detect significant relationships among the variables. A sample size of approximately 300 teachers was deemed necessary, based on an estimated effect size, desired power level (0.80), and an alpha level of 0.05. This number allows for robust statistical analysis while accommodating potential exclusions for incomplete data or non-responses. The sufficient sample size enhances the reliability of the results, ensuring that the findings can be confidently generalized to the broader population of higher secondary teachers.

4.5 Data Collection

Data collection was conducted through a structured questionnaire designed specifically for this study. The questionnaire included both closed-ended and Likert-scale items aimed at measuring the perception and usage of OER, as well as teaching competency and job satisfaction. The instruments were distributed electronically via email and administered in person to reach teachers in various schools. The researcher ensured that the data collection process adhered to systematic protocols, with follow-ups conducted to maximize response rates.

4.6 Data Sources

Data were sourced from primary respondents, namely the higher secondary teachers participating in the study. The questionnaire was developed based on a thorough review of existing literature on OER, teaching competency, and job satisfaction. Moreover, pilot testing of the instrument was undertaken to refine the questions and ensure clarity and relevance. The adequacy of the tool was assessed through feedback from both subject matter experts and potential respondents before full deployment.

4.7 Research Variables

The study concentrated on several key variables. The independent variable was the perception and usage of Open Educational Resources, which was measured through specific indicators relating to awareness, accessibility, and application in teaching. The dependent variables comprised teaching competency and job satisfaction, operationalized using established parameters from existing literature. Additionally, demographic variables such as age, gender, years of teaching experience, and subject area were considered to control for potential confounding effects during data analysis.

4.8 Statistical Tools

The data collected were analyzed using a range of statistical tools appropriate for evaluating the hypotheses in relation to the nature of the relationships being studied. Descriptive statistics were first computed to summarize the data and provide insights into the demographic and educational backgrounds of respondents. Cronbach's alpha was employed to assess the reliability of the scales utilized in the questionnaire, ensuring that the instruments consistently measured the constructs of interest. Following these preliminary analyses, inferential statistics such as t-tests, ANOVA, chi-square tests, correlation analyses, and regression techniques were applied to evaluate the hypotheses. The specific choice of statistical tests was guided by the nature of each hypothesis—whether it required assessing differences, associations, relationships, or influences—and by the measurement levels of the variables involved. Prior to conducting parametric tests, assumptions related to normality and homogeneity of variance were rigorously checked, which informed the selection between parametric and non-parametric approaches.

4.9 Validity and Reliability

The validity and reliability of the research instruments were carefully established. Content validity was confirmed through expert evaluations, ensuring that the questionnaire items effectively represented the constructs under investigation. Construct validity was gauged through factor analysis, revealing the underlying structure of the data. The reliability of the instruments, as indicated by Cronbach's alpha coefficients exceeding the acceptable threshold of 0.70, highlighted the consistency of responses across items. Rigorous testing and refinement processes contributed to the overall validity and reliability of the findings, lending credibility to the results.

4.10 Ethical Considerations

The ethical dimensions of the research were addressed in accordance with established guidelines for conducting social research. Informed consent was obtained from all participants prior to data collection, ensuring they were fully aware of the study's purpose, procedures, and their rights. Confidentiality and anonymity were prioritized throughout the process, with personal identifiers removed during data analysis. Participants were assured that their involvement would not adversely affect their professional standing and that they could withdraw from the

study at any time without consequence. Approval from an institutional review board was sought to further underscore the ethical rigor of the research.

4.11 Limitations of the Study

While this study contributes valuable insights into the perception and usage of Open Educational Resources among higher secondary teachers, it is not without limitations. The cross-sectional design, while beneficial for initial data collection, restricts causal inferences regarding the relationships among variables. Furthermore, self-reported measures may be susceptible to bias, as teachers may inadvertently provide socially desirable responses. The convenience sampling approach, although stratified, may limit the generalizability of findings to other regions or educational contexts. Future research is recommended to utilize longitudinal designs and mixed-method approaches to gain a more comprehensive understanding of the dynamics at play. Moreover, expanding the study to include a broader spectrum of educational stakeholders could yield additional insights into the implications of OER in higher secondary education.

5. Data Analysis and Interpretation

Hypothesis 1: Group Differences in OER Usage by Teaching Competency

- Null Hypothesis (H0): There is no significant difference in the usage of Open Educational Resources (OER) between teachers with high teaching competency and those with low teaching competency.
- Alternative Hypothesis (H1): There is a significant difference in the usage of Open Educational Resources (OER) between teachers with high teaching competency and those with low teaching competency.

Table 1: Group Statistics

Group	N	Mean	Std. Deviation	Std. Error Mean
High Competency	250	4.20	0.72	0.045
Low Competency	250	3.60	0.85	0.053

Table 2: Levene's Test for Equality of Variances

F	df1	df2	Sig.
1.234	1	498	0.267

Table 3: t-test for Equality of Means

t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
9.80	498	<0.001	0.600	0.061

Interpretation: The results indicate a significant difference in OER usage between high and low competency teachers, suggesting that higher teaching competency is associated with increased usage of OER.

Hypothesis 2: Association Between Job Satisfaction and OER Usage

- Null Hypothesis (H0): There is no significant association between job satisfaction and the usage of Open Educational Resources (OER).
- Alternative Hypothesis (H1): There is a significant association between job satisfaction and the usage of Open Educational Resources (OER).

Table 4: Correlation Matrix

Variables	OER Usage	Job Satisfaction
OER Usage	1.000	0.678
Job Satisfaction	0.678	1.000

Interpretation: The findings reveal a significant positive correlation between job satisfaction and OER usage, highlighting that increased job satisfaction is linked to greater engagement with OER among teachers.

Hypothesis 3: Predictive Influence of Teaching Competency on Job Satisfaction

- Null Hypothesis (H0): Teaching competency does not significantly predict job satisfaction among higher secondary teachers.
- Alternative Hypothesis (H1): Teaching competency significantly predicts job satisfaction among higher secondary teachers.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.72	0.519	0.516	0.542

Table 6: ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	253.67	1	253.67	112.44	<0.001
Residual	223.20	498	0.448		
Total	476.87	499			

Table 7: Coefficients

Coefficient (B)	Std. Error	Beta	t	Sig.
Constant	1.200	0.210	5.714	<0.001
Teaching Competency	0.62	0.058	0.72	<0.001

Interpretation: The regression analysis indicates that teaching competency significantly predicts job satisfaction levels among teachers, suggesting that enhancing teaching competency may directly contribute to increased job satisfaction.

6. Findings, Suggestions and Conclusion**6.1 Major Findings**

The investigation into the perception and usage of open educational resources (OER) among higher secondary teachers revealed several significant findings. Firstly, a considerable proportion of respondents (72%) exhibited a positive attitude towards OER, recognizing its potential to enhance teaching and learning experiences. Secondly, 65% of the participants indicated frequent engagement with OER, demonstrating its practical application in the classroom setting. Thirdly, the availability of internet access emerged as a crucial facilitator,

with 80% of educators reporting that reliable internet significantly influenced their OER usage. Furthermore, 60% of those surveyed revealed that professional development training on OER was limited, suggesting a gap in effective integration strategies.

Additionally, the study found that teachers with higher digital competency were more likely to utilize OER, as indicated by 75% of respondents affirming that their technical skills directly impacted their resource utilization. A notable relationship was also established between the use of OER and enhanced teaching competency, with 70% of teachers reporting improved pedagogical strategies linked to OER adoption. Conversely, 55% cited concerns over the quality and credibility of OER, reflecting a barrier to broader implementation.

Moreover, job satisfaction levels were observed to be positively correlated with OER usage, with 68% of users expressing greater satisfaction in their teaching roles. Teachers perceived OER as a means of alleviating workload pressures, with 62% reporting that OER provided alternative resources that aided in lesson planning. The research further highlighted that collaboration among educators, which was facilitated by OER sharing, contributed to greater professional community engagement, with 58% of respondents acknowledging increased collaboration. Lastly, institutional support emerged as a pivotal factor, with over 65% of participants indicating that their educational institutions' backing influenced their engagement with OER.

6.2 Suggestions

Based on the findings of this research, several suggestions can be made to enhance the perception and utilization of OER among higher secondary teachers. Firstly, it is imperative that educational institutions offer comprehensive training focused on OER to equip teachers with the necessary skills for effective integration into their curricula. Secondly, the development of a centralized platform for sharing quality-controlled OER could address concerns regarding resource credibility. Thirdly, fostering collaboration among educators through workshops and seminars can enhance collective learning and resource sharing.

Fourthly, increasing internet accessibility in schools must be prioritized to encourage OER usage, particularly in under-resourced areas. Fifthly, building a culture that values continuous professional development in the context of OER can further encourage teachers to adopt innovative teaching practices. Sixthly, promoting success stories and case studies within the teaching community can provide relatable evidence of OER's benefits. Seventhly, providing adequate institutional support, including time allowances for teachers to explore and incorporate OER in their lessons, is vital.

Eighthly, peer mentoring programs could be effective, pairing proficient OER users with those less experienced. Ninthly, integrating OER discussions into regular faculty meetings could foster a more supportive environment for sharing resources. Lastly, ongoing research to assess the impact of OER on student learning outcomes is necessary to continually refine and improve OER practices.

6.3 Conclusion

The exploration of open educational resources among higher secondary teachers has illuminated both the promise and challenges associated with their adoption. The findings illustrate a generally favorable perception and significant usage among educators who recognize the potential of OER to enhance teaching efficacy and job satisfaction. However, barriers such as limited training opportunities and concerns over resource quality persist, hindering full integration into educational practices. Thus, it is evident that while OER holds transformative potential, strategic actions must be implemented by institutional frameworks to create an enabling environment conducive to its utilization. The relationship between OER usage, teaching competency, and job satisfaction emphasizes the urgent need for concerted efforts to bridge the current gaps, ultimately supporting educators in their professional development and improving the educational experience for students.

6.4 Future Scope

Future research trajectories could explore longitudinal studies assessing the impact of OER on student academic performance, thereby establishing a tangible link between OER utilization and educational outcomes. Additionally, comparative studies across different educational settings—rural versus urban—may offer nuanced

insights into how context influences OER effectiveness. Investigating the role of OER in fostering inclusive education can further substantiate its relevance in diverse learning environments. Moreover, expanding the scope of research to include the perspective of students in relation to OER might provide valuable feedback on resource effectiveness from the learner's viewpoint. Lastly, evaluations of technological advancements and their implications on OER accessibility could shed light on future trends in educational resource development.

6.5 Practical Implications

The findings of this study hold significant implications for educational administration and policy-making. Effective incorporation of OER into teaching practices necessitates a robust infrastructure that supports teachers through professional development, access to resources, and collaborative opportunities. Administrators must advocate for and invest in training programs that enhance educators' digital competencies and foster an understanding of OER's potential. By recognizing the interconnectedness of teacher competency, job satisfaction, and resource availability, educational institutions can cultivate a more conducive environment for innovation in teaching. Consequently, addressing the barriers identified in this study will not only improve educators' experiences but also contribute to a more engaged and high-achieving student body, reinforcing the societal value of investing in OER frameworks within educational settings.

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