

BRIDGING POLICY AND PRACTICE: AWARENESS OF THE UNESCO OER RECOMMENDATION ACROSS INSTITUTIONAL ROLES AND EXPERIENCE IN HIGHER EDUCATION

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Abstract

Open Education and Open Educational Resources have gained importance in the context of higher education, but there is less information available on the extent to which the UNESCO OER Recommendation is interpreted at the institutional level. The concept of awareness is especially pertinent since it determines the degree to which practice can be informed by policy in professional contexts. This study examined the level of awareness of the UNESCO OER Recommendation among higher education professionals and explored whether awareness differed by institutional role and experience in Open Education. A quantitative, cross-sectional design based on secondary data analysis was employed. The study used 135 valid responses and focused on organization type, country, institutional role, experience in Open Education, and awareness of the UNESCO OER Recommendation. Descriptive statistics, cross-tabulation, and chi-square tests were used for analysis. Awareness was generally moderate to high, with most respondents reporting that they were very familiar or somewhat familiar with the UNESCO OER Recommendation. No statistically significant association was found between awareness and institutional role. However, awareness was significantly associated with experience in Open Education, with greater involvement corresponding to higher levels of familiarity. Awareness of the UNESCO OER Recommendation appears to be shaped more by practical engagement in Open Education than by formal institutional position. Embedding open education in routine institutional practice may therefore be important for strengthening policy uptake in higher education.

Keywords: Open Education, Open Educational Resources, UNESCO OER Recommendation, higher education, policy awareness

1. Introduction

The increasing need to have an accessible, flexible and inclusive education has increased the move towards open educational practices in the world. Open Education (OE) and Open Educational Resources (OER) have become the key aspects of this change as they allow learning materials to be freely used, adapted, and spread across institutional and geographical borders. Such changes have been closely linked to the growth of online and digital education, which has transformed the world in terms of teaching and learning (Palvia et al., 2018). In this regard, OER enable effective resource management and delivery through enabling educators and institutions to share and reuse resources that will lead to increased accessibility and pedagogical innovation (Reddy et al., 2017). The idea of openness in education belongs to a greater paradigm shift and incorporates open science, open data, and open innovation into knowledge systems. This change is indicative of a break between closed and institution-oriented models in favor of more collaborative and participatory models of knowledge creation and dissemination (de Beer, 2017). With the development of educational ecosystems, openness has become a characteristic of a modern learning environment, affecting the knowledge production, access, and use (Bozkurt and Stracke, 2023). Traditionally, OER programs have evolved beyond the content-sharing habits to more systematic and policy-oriented strategies that consider the involvement of an institution and its sustainability (Carlisle-Johnston, 2023). At the policy level, the UNESCO OER Recommendation is a key step towards the development of open education in the world. It offers a holistic approach to enhancing capacity building, fair access, and sustainable utilization of OER within education systems. The significance of the framework was especially noticeable during the COVID-19 pandemic, when institutions became more and more dependent on open resources to guarantee continuity in education (Huang et al., 2020). Moreover, OER being incorporated into larger digital transformation initiatives is consistent with the new educational patterns linked to Education 4.0, where technology-enabled education and international cooperation are the key features (Ramírez-Montoya et al., 2022).

The current body of literature presents the existing possibilities of OER and OE in improving access, equity, and inclusivity in education. OER, by lowering the financial and technological obstacles to education, can lead to more equal access to learning and can promote lifelong learning in a variety of settings (Ossiannilsson, 2019). Moreover, the OER-based models of education, such as online micro-courses, have proven their usefulness in increasing access to quality education and contributing to the development agenda worldwide (McGreal et al., 2023). The development of policy is a key to the success of open education initiatives' implementation. The institutional and national policies are significant in supporting the collaboration, innovation, and sustainability of the OER practices (Atenas et al., 2020). But the existence of policy frameworks does not necessarily lead to effective implementation. Their effectiveness will hinge on institutional preparedness, consciousness, and the capacity of stakeholders to implement policy into practice. In institutions of higher learning, professionals play a focal position in ensuring the introduction and assimilation of OER. The emergence of new professional roles reflects the increasing complexity of higher education systems and the need for specialized expertise in managing educational innovation (Enders & Naidoo, 2022). Such professionals as the academic staff and support staff, such as librarians, play an important role in the formation and realization of open education practices. Meanwhile, higher education professionals are an increasing and separate occupational group that is vital in defining the institutional strategies and processes (Schneijderberg, 2020). Although such improvements have been made, the literature indicates that institutional awareness and engagement usually determine the effectiveness of the OER initiatives. The availability increases, but it will only be effective as long as the stakeholders are aware of them and participate in their implementation. Despite the fact that the adoption of OER and its effects have been a focus of previous studies, the issue of awareness regarding global policy frameworks, especially the UNESCO OER Recommendation, among higher education institutions has been comparatively overlooked. The literature is much more inclined to address implementation outcomes as opposed to the underlying awareness needed to facilitate policy adoption. In addition, scarcity of empirical evidence on how awareness differs in terms of institutional functions and experience levels in Open Education. This disparity is considerable, since awareness is an essential prerequisite to any meaningful participation in OER initiatives and successful transformation of policy into practice.

To address this gap, the current research explores how much higher education professionals are aware of the UNESCO OER Recommendation and how this awareness pertains to institutional positions and experience in Open Education. This research aims at developing awareness distribution and determining whether awareness differs among various professional settings. In this way, it hopes to give an understanding of the factors that could affect the adoption of open education policies in institutions of higher learning.

2. Methodology

2.1 Research Design

This research proposal follows a quantitative, cross-sectional research design, which is founded on secondary data analysis. It is a descriptive and analytical approach, which seeks to analyze trends in awareness and institutional orientation towards Open Education (OE) in higher education settings. Besides descriptive statistics, inferential measures are also used to investigate the correlation between the most important variables, specifically awareness, institutional role, and experience in OE. The design is suitable for determining associations in an existing dataset without experimental manipulation.

2.2 Data Source

The statistics employed in this research were acquired on the SPARC Europe Open Education in European Libraries of Higher Education Survey 2022 (Santos-Hermosa & Proudman, 2022). The data set will include the answers of the

professionals who are employed in higher education institutions, specifically in libraries and their contribution to the development of Open Education and Open Educational Resources (OER). It encompasses data about the institutional properties, the degree of awareness about the UNESCO OER Recommendation, and participation in the activities connected with OE. It is an anonymous dataset that can be used for secondary analysis.

2.3 Sample and Variables

In the data cleaning and preprocessing process, the analytical sample is made up of 135 valid responses. The research targets five variables, namely, the type of organization, country, institutional role, experience in Open Education, and awareness of the UNESCO OER Recommendation. Institutional positioning is reflected in the organization type and role, and experience reflects the extent of engagement in the activities of OE. The main variable of interest is awareness.

2.4 Data Preparation

Preparation of data was done to reorganize the data to be consistent and usable. Multi-row headers were merged, and the names of columns were standardized. Omitted or missing or non-informative records were dropped where appropriate, and categorical variables were refined so that all assumed the same format. The answers were kept in their original categorical forms, and no imputation was made on the missing values. The data was formatted in a way that would facilitate descriptive and inferential analysis.

2.5 Data Analysis

The characteristics and important variables of the respondents were summarized using descriptive statistics such as frequencies and percentages. Cross-tabulation was used to look at associations between awareness and the chosen independent variables. Statistical significance of these associations was determined using chi-square tests of independence. A significance level of $p < 0.05$ was used to determine statistical relevance.

3. Results

3.1 Respondent Characteristics

The sample of respondents also offers valuable background information on the institutional and professional contexts of the respondents in the study. Table 1 indicates that most of the participants belonged to universities or full-fledged institutions (72.6%), with smaller percentages representing technical universities (9.6%), universities of applied sciences (9.6%), and specialized or distance learning institutions. Regarding professional roles, more than fifty per cent of the respondents (57.0) responded that they were in support positions, and 37.8% said that they were decision-makers. A low percentage (5.2%) denoted other roles. When it comes to experience with Open Education (OE), the majority of respondents had 1-5 years of experience (50.4%), yet a significant number said that they had little or no experience. The UNESCO OER Recommendation recognition was moderate to high, with most of the respondents reporting a high or moderate level of familiarity.

Table 1. Respondent characteristics

Variable	Category	Frequency	Percentage (%)
Organization type	University / Comprehensive institution	98	72.6
	Technical university / University of technology	13	9.6
	University of Applied Sciences	13	9.6
	Specialized institution	5	3.7
	Distance learning university	3	2.2
	Other	3	2.2
Role	Support role	77	57.0
	Decision maker	51	37.8
	Other	7	5.2
Experience in Open Education	1–5 years	68	50.4
	Less than 1 year	22	16.3
	Not involved in OE	20	14.8
	More than 10 years	13	9.6
	6–10 years	12	8.9
Awareness of UNESCO OER Recommendation	Very familiar	47	35.1
	Somewhat familiar	46	34.3
	Not so familiar	24	17.9
	Not at all familiar	12	9.0
	Extremely familiar	5	3.7

To further explain the institutional distribution of respondents, Figure 1 provides a visual overview of the types of organizations. The figure shows that the proportion of universities and comprehensive institutions remains very strong compared to other types of organizations, with all other forms of organization making up relatively small shares.

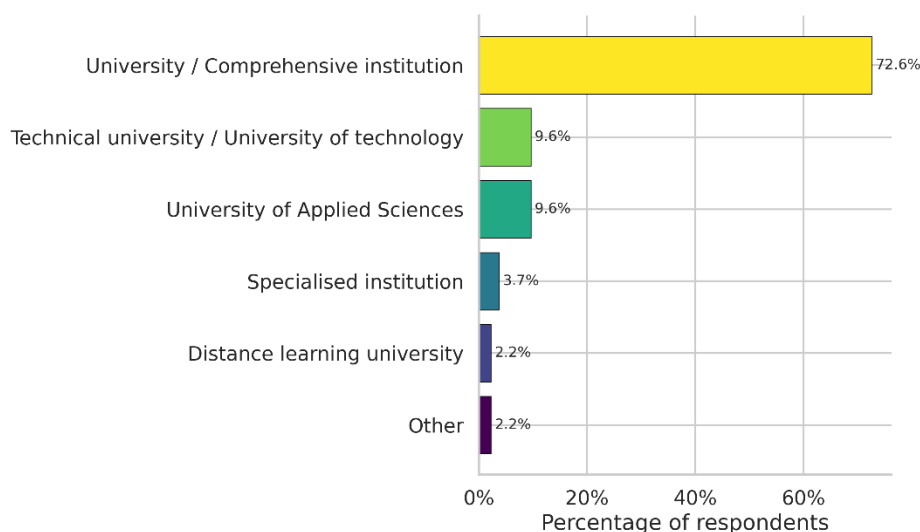


Figure 1. Distribution of Respondents by Organization Type.

3.2 Awareness of the UNESCO OER Recommendation

The awareness levels distribution is also described in Figure 2 that gives a visual representation of the familiarity of the respondents with the UNESCO OER Recommendation. The figure indicates that there is a concentration of awareness in the middle-to-high classes, with the majority of responses being on very familiar and somewhat familiar. The lesser degrees of familiarity were less common but still exist, which means that there was variation in awareness among respondents.

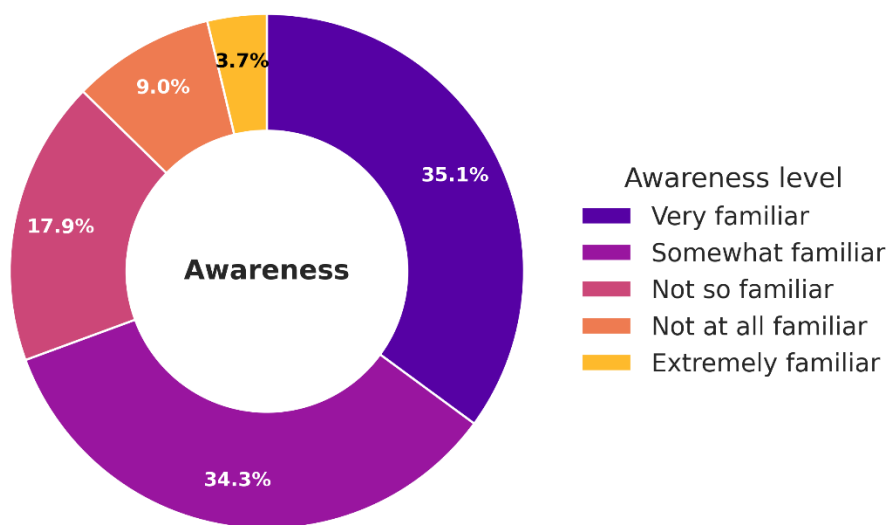


Figure 2. Awareness of the UNESCO OER Recommendation

3.3 Awareness by institutional role

The cross-tabulation analysis was used to analyze the relationship between awareness and institutional role. As shown in Table 2, the highest percentage of most of the categories of awareness was the support staff in the somewhat familiar and very familiar groups. Despite observable differences in distribution, the chi-square test indicated that the association between awareness and role was not statistically significant ($\chi^2 = 5.622$, $df = 8$, $p = 0.690$). This implies that the knowledge of the UNESCO OER Recommendation is not highly determined by whether the respondents have decision-making roles or support roles in their institutions.

Table 2. Awareness of UNESCO OER Recommendation by role (counts)

Awareness level	Decision maker	Other	Support role	Total
Extremely familiar	3	1	1	5
Not at all familiar	4	1	7	12

Not so familiar	8	1	15	24
Somewhat familiar	20	2	24	46
Very familiar	16	2	29	47
Total	51	7	76	134

3.4 Awareness by experience in Open Education

The connection between awareness and experience in Open Education was further developed. Respondents who were more involved in OE were more likely to report higher familiarity with the UNESCO OER Recommendation, as presented in Table 3. The younger demographics of 1-5 years' experience had a high representation in the higher awareness levels, and those who were not practicing OE were more often in the low awareness levels. These patterns indicate a clear relationship between practical engagement and familiarity. The chi-square test confirmed that this association was statistically significant ($\chi^2 = 30.657$, $df = 16$, $p = 0.015$).

Table 3. Awareness of UNESCO OER Recommendation by experience in Open Education (counts)

Awareness level	1–5 years	6–10 years	Not involved	<1 year	>10 years	Total
Extremely familiar	2	0	1	1	1	5
Not at all familiar	2	0	7	1	2	12
Not so familiar	11	3	5	4	1	24
Somewhat familiar	24	5	6	8	3	46
Very familiar	29	4	1	7	6	47
Total	68	12	20	21	13	134

3.5 Distribution of awareness across experience levels

To further demonstrate the differences in the level of awareness, Figure 3 shows the proportional distribution of the levels of awareness amongst the different groups of experiences. As the figure shows, the higher the familiarity levels, the more common it is among the respondents who are more engaged in Open Education. Conversely, OE participants who have never participated in OE demonstrate greater concentration on lower awareness categories. This distribution visually supports the statistically significant relationship found in the preceding analysis.

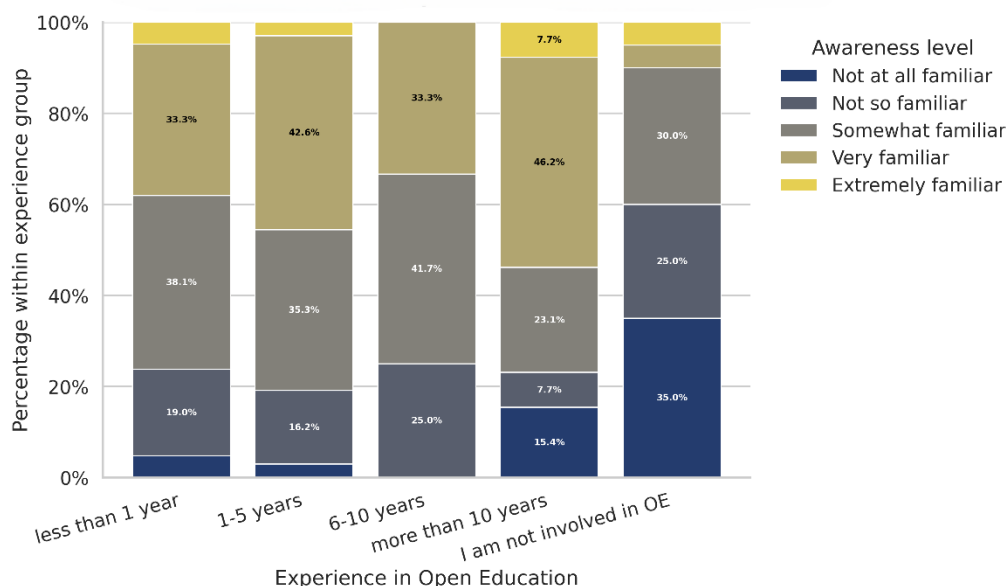


Figure 3. Awareness by Experience in Open Education

4. Discussion

The awareness of the UNESCO OER Recommendation was typically focused in the moderate-to-high range, meaning that the open education policy discourse has acquired at least some visibility within the higher education professional circle. Meanwhile, the familiarity was not equally high across the board, with a significant percentage of respondents having a low familiarity degree. This trend implies that policy recognition can be at a general level without the need to be entrenched in all professional situations. The findings thus lead to a mottled landscape where the Recommendation can be seen, yet not equally internalized in institutions. It is also interesting how there is no statistically significant association

between awareness and institutional role. There was no significant difference in the familiarity levels between decision-makers and support staff, despite the fact that these groups may be anticipated to work closer to policy orientations. The most likely explanation is that the open education policy awareness is not concentrated at the formal level only, but spreads throughout various professional groups that enable the implementation. Open education practice in higher education contexts frequently relies on the partnership of academic, administrative and library personnel, as opposed to top-down leadership. The results will thereby imply that proximity to open education practice might be more relevant in the formation of awareness based on hierarchical position. In comparison, the awareness was statistically significantly related to experience in Open Education. The longer respondents had been involved with OE, the more they were willing to report a higher familiarity, whereas those not involved with OE were more concentrated in the lower categories. This trend shows that consciousness is not merely an abstract policy state; instead, it seems to be created in the course of active interaction, involvement, and exposure to the open education processes. In real life, the knowledge of the UNESCO OER Recommendation appears to be supported when practitioners engage in the activities related to OER directly, but not simply because they are institutionally affiliated.

Such results are in line with the fact that the UNESCO OER Recommendation has progressed the global advocacy despite being met with unequal institutional adoption and knowledge. The Recommendation provides a common strategic framework, but converting that framework into day-to-day institutional awareness has yet to be accomplished, especially when implementation is based on scattered communities of professionals as opposed to a single policy actor (Ossiannilsson et al., 2023). The high correlation between experience and awareness also coincides with the general literature on OER impact that highlights that meaningful institutional change is frequently connected with active involvement, practical interest, and active engagement and not mere policy access. In this meaning, awareness may be seen as a single layer of influence that builds up in institutional activity and experience over a period of time (Ebner et al., 2022). The findings also echo the global evidence that institutions of higher learning facilitate OER by taking various initiatives, such as training, advocacy, repositories, and collaborative systems, though these initiatives are not distributed equally across settings. In institutions with more supportive structures, professionals tend to experience open education in practice, which could be the reason why experience seems to have a greater influence than role in the development of awareness (Marín et al., 2022).

A similar interpretation can be made based on the studies of OER certification, where structured recognition and capacity-building are emphasized in the enhancement of institutional awareness of openness. The formal positions are not sufficient to ensure familiarity; more often, it is a question of whether individuals and organizations are effectively involved in open practices and other developmental processes (Schon et al., 2021). The current results also reflect the previous experience that the knowledge and utilization of OER are closely related but not uniformly spread in the educational environment. This awareness can be in principle, but uneven in the depth and application, especially in those cases when professionals are varied in their engagement in OE-related work (Blomgren, 2018). Policy-wise, the absence of role-based distinctions strengthens the argument that the open education policy cannot be considered as a leadership-only agenda. Policy frameworks can be best integrated with institutional practice and multi-stakeholder support in the system (Bossu and Stagg, 2018). This applies especially in situations where the enabling environments are defined by institutional terms, staff encouragement, and feasible implementation pathways, rather than the fact that there is a formal policy language (Aluko, 2017). In a broader sense, the findings are in line with the broader OER literature that has reported perennial gaps in advocacy, implementation and empirical knowledge. The results of adoption have often been studied, whereas more fundamental aspects like awareness, preparation, and professional involvement are relatively unexplored (Otto et al., 2021).

These findings have several implications. To begin with, organizations which want to promote the UNESCO OER Recommendation might have to approach awareness-building as a process of an institution instead of a personal task associated with leadership positions. Second, the robust correlation between experience and awareness implies that one of the best methods to enhance policy knowledge is practical engagement in OE activities. The capacity-building activities, personnel development, and involvement in the OER-related projects could be more effective than the formal presentation of the policy documents alone. Third, greater visibility of open education within the daily professional practice of institutions of higher learning may be a means to establish awareness of open education that is not merely conceptual but developed through involvement.

There are various limitations that are to be considered. The study relied on secondary, cross-sectional data and thus, it is unable to determine causal associations. There was also a tendency of the sample towards those higher education professionals who operate in an open education-associated setting, which can contribute to generalization. Moreover, the measurement of awareness was in self-reported categories, which are perceived familiarity, not proven knowledge of the Recommendation. Future studies could build on this study by addressing the question of how awareness is transferred into the practice of actual implementation, development of policy, or institutional change. Comparison of institutional types or national location could also be useful to explain contextual influence on policy awareness. A qualitative study would particularly be beneficial in understanding the way professionals perceive the application of the UNESCO OER Recommendation in practice and how institutional factors facilitate or inhibit its implementation.

5. Conclusion

The general knowledge of the UNESCO OER Recommendation among professionals in higher education seems to be spread but not uniform. Although the majority of the respondents identified middle and high levels of familiarity, the results show that the awareness is related to experience in Open Education rather than the formal institutional role. This

indicates that open education practice engagement can be more effective than the position hierarchy in familiarity with policy frameworks. Another significant implication of the policy visibility is that the results indicate that policy visibility may not be enough to facilitate meaningful implementation. The awareness will probably extend as open education becomes integrated into everyday professional practice, which is facilitated by collaboration and capacity-building, as well as long-term engagement. Enhancing institutional participation in Open Education can also enhance policy adoption. The results illustrate the necessity to consider awareness as the bigger process in which the open education policies shift between the guidance in the form of formal guidelines and the practice in the form of institutional. More effort is required to comprehend how awareness is converted into action and how institutions can help facilitate that change.

References

1. Aluko, R. (2017). Applying UNESCO guidelines on mobile learning in the South African context: Creating an enabling environment through policy. *International Review of Research in Open and Distributed Learning*, 18(7).
2. Atenas, J., Havemann, L., Neumann, J., & Stefanelli, C. (2020). Open education policies: Guidelines for co-creation.
3. Blomgren, C. (2018). OER awareness and use: The affinity between higher education and K-12. *The International Review of Research in Open and Distributed Learning*, 19(2).
4. Bossu, C., & Stagg, A. (2018). The potential role of Open Educational Practice policy in transforming Australian higher education. *Open Praxis*, 10(2), 145-157.
5. Bozkurt, A., & Stracke, C. M. (2023). The shift toward openness in education and the implications for learning ecosystems and ecologies. In *Distributed learning ecosystems: Concepts, resources, and repositories* (pp. 31-46). Wiesbaden: Springer Fachmedien Wiesbaden.
6. Carlisle-Johnston, E. (2023). A short history of OER.
7. de Beer, J. (2017). Open innovation in development: Integrating theory and practice across open science, open education, and open data.
8. Ebner, M., Orr, D., & Schön, S. (2022). OER Impact Assessment: A framework for higher education institutions and beyond. Approaches to assess the impact of Open Educational Resources. *Open Education Studies*, 4(1), 296-309.
9. Enders, J., & Naidoo, R. (2022). The rise and work of new professionals in higher education. In *Research handbook on academic careers and managing academics* (pp. 89-98). Edward Elgar Publishing.
10. Huang, R., Liu, D., Tlili, A., Knyazeva, S., Chang, T. W., Zhang, X., ... & Holotescu, C. (2020). Guidance on open educational practices during school closures: Utilizing OER under COVID-19 pandemic in line with UNESCO OER recommendation. Beijing: Smart Learning Institute of Beijing Normal University, 1-80.
11. Marín, V. I., Zawacki-Richter, O., Aydin, C. H., Bedenlier, S., Bond, M., Bozkurt, A., ... & Zhang, J. (2022). Institutional measures for supporting OER in higher education: An international case-based study.
12. McGreal, R., Mackintosh, W., & Lane, D. (2023). OER-based online micro-courses: Supporting UNESCO strategic development goal 4: Education for all. *Journal of Open, Flexible and Distance Learning*, 27(1), 5-13.
13. Ossiannilsson, E. (2019). OER and OEP for access, equity, equality, quality, inclusiveness, and empowering lifelong learning. *The International Journal of Open Educational Resources*, 1(2).
14. Ossiannilsson, E., Leonor Ulloa Cazarez, R., Martins Gomes de Gusmão, C., Zhang, X., Blomgren, C., Chaplin-Cheyne, T., & Burgos, D. (2023). The UNESCO OER Recommendation: Some Observations from the ICDE OER Advocacy Committee. *International Review of Research in Open and Distributed Learning*, 24(2), 229-240.
15. Otto, D., Schroeder, N., Diekmann, D., & Sander, P. (2021). Trends and gaps in empirical research on open educational resources (OER): A systematic mapping of the literature from 2015 to 2019. *Contemporary Educational Technology*, 13(4), ep325.
16. Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R., & Sindhi, S. (2018). Online education: Worldwide status, challenges, trends, and implications. *Journal of global information technology management*, 21(4), 233-241.
17. Ramírez-Montoya, M. S., McGreal, R., & Obiageli Agbu, J. F. (2022). Complex digital horizons in the future of education 4.0: Insights from UNESCO recommendations. *RIED-Revista Iberoamericana de Educación a Distancia*, 25(2), 09-21.
18. Reddy, P. R. S., Bhoga, U., Reddy, A. M., & Rao, P. R. (2017). OER: Open Educational Resources for Effective Content Management and Delivery. *Journal of Engineering Education Transformations*, 322-326.
19. Santos-Hermosa, & Proudman. (2022). DATASET SPARC Europe Open Education in European Libraries of Higher Education Survey 2022 [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.7313632>
20. Schneijderberg, C. (2020). Higher Education Professionals, A Growing Profession. In *The International Encyclopedia of Higher Education Systems and Institutions* (pp. 731-736). Dordrecht: Springer Netherlands.
21. Schon, S., Ebner, M., Berger, E., Brandhofer, G., Groblinger, O., Jadin, T., ... & Zwiauer, C. (2021). OER certification of individuals and organisations in higher education: Implementations worldwide. *Open Praxis*, 13(3), 264-278..