

ATTITUDES TO OPEN EDUCATIONAL RESOURCES IN THE UNIVERSITY
ACADEMIC COMMUNITY

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Abstract

This study seeks to understand the attitudes of teachers and students from nine public and private universities in Lima regarding open educational resources from their own speeches and responses to a questionnaire. The approach used was mixed: descriptive and hermeneutical phenomenological, it used a standardized questionnaire and semi-structured interview with a quantitative sample of 155 teachers and the qualitative sample of 11 teachers, 10 students and 5 experts; the quantitative data was processed with statistics and the qualitative data with Heidegger's interpretive method; the results are presented in tables and figures; The reliability for the quantitative data was 0.933 in the McDonald's Omega coefficient and for the qualitative data it was the triangulation and contrast of results with similar research.

The results show that the attitude towards open educational resources presents a favorable perspective in the qualitative and quantitative fields, as they indicate that there is a high level of acceptance, as well as their great credibility, satisfaction and use due to their importance in the dynamization of learning that requires teaching advice and monitoring.

Keywords: open educational resources, university, university academic community, teachers, students

1. Introduction

Information and communication technologies have generated an impact on various aspects of human life and have transformed life in society; In this context, open educational resources (OER) emerge; Santos-Hermosa and Abadal Falgueras (2022) define it as those teaching, learning and research materials in digital support with free access for recording, reuse, review, combination and redistribution; include full courses, modules, magazine articles, books, course materials, videos, software, tests, games, digital libraries, or other openly licensed tools or techniques. However, the lack of effective dissemination and promotion of open educational resources (OER) prevents their optimal use among both teachers and university students. This situation is due to divergent conceptions among the promoting organizations, limiting the open interaction of users and wasting the vast wealth of knowledge they offer (Novoa-Novoa, 2022). In short, open educational resources are those media of free, unrestricted use used to promote teaching, learning and research, but their use has not been prioritized and their benefits are wasted.

It is true that universities offer their teachers and students access to free-to-use educational platforms; However, these have limitations, since they require authentication that is associated with the work or academic relationship to use them without limitations; Furthermore, its use is not promoted despite its great usefulness. Guijosa (2018) indicates that the use of open educational resources in university students is relevant because they reduce the costs of their university degrees, improve academic performance and reduce dropout rates. On the other hand, the importance of OER for teachers lies in the fact that they develop the skills that allow them to achieve quality teaching-learning processes and strengthen individual competencies for learning on the Web, a situation that is achieved progressively and that It requires the investment of economic resources to implement laboratories within universities (Pincay Piza, 2020).

Open educational resources demand mastery of digital competence, meanwhile, it is a set of skills that allows and facilitates teamwork, directed learning, critical thinking, creativity and communication (Isela Aguilar and Otuyemi Rondero, 2020);However, the results are not so encouraging, since the Global Skills Index (2020), cited by Coursera (2020) in its latest report, indicates that Peru ranks 53rd in the level of technological skill; with a domain of 3% in computer networks, 17% in databases, 22% in human-computer interaction, 12% in operating systems, 47% in software engineering and 31% in security engineering. This reality is transferred to university students who, according to Huerta Soto et al. (2022) perceive that teachers have sufficient digital skills, but their use is restricted in virtual and in-person programs due to the lack of a good internet connection and modern computer equipment. For Mancha Pineda (2022), the problem increases when he concludes that the digital competencies of teachers are significantly related to the learning achievements of the students. Therefore, it is necessary to reduce the digital gaps that provide freedom of access to open educational resources.

The research is relevant because open educational resources present a series of favorable characteristics for university education, such as their speed of incorporation, free use, easy

level of aggregation, wide accessibility, openness in the inclusion of metadata, availability in the exchange of information, educational innovation, skill in its inclusion and sustainability (Santos-Hermosa and Abadal Falgueras, 2022). Its importance lies in the appropriate use given to open educational resources in universities and teachers, which respond to external factors such as institutional policies and quality measures, in addition to internal factors such as professional development and provision of incentives (Marín et al., 2022). Thus, the results obtained in this field are available to the community of researchers to be considered in new research and at the same time allow the generation of new lines of research linked to the attitude towards open educational resources (Rodríguez Paredes and Ledesma Pérez, 2023).

Chiecher (2022) concluded that there were changes in attitude regarding information technology and communication technologies, in times of pandemic and post-pandemic, since an optimistic and positive perception of the use of technology and virtual teaching was observed, which made possible the Pedagogical continuity, promotes self-regulation and has improved time management in students.

Arispe Alburqueque and Yangali Vicente (2022) mention that personal factors in the perception of information and communication technologies do influence the digital competencies of teachers and, consequently, the use of open educational resources. Nipa and Kermanshachi (2020) state that the impact of usefulness on students with economic limitations regarding open educational resources responds to a significantly positive perception because it resolves the lack of access to books and other texts due to their high costs and difficulties in acquiring them. and thus prevent their education from being compromised. Lin (2019) points out that there is a positive perception regarding the use of open educational resources, because they allow saving money due to their free nature, dynamism, and abundance; support mobile learning; and, they encourage the development of self-directed skills. Marin et al. (2022) indicate that there was an impact of positive attitude on individual adoption, supported by institutional policies and quality controls by the institution; It also facilitates the professional development of teachers and the higher education institution that promotes its use.

Dudek (2022) points out that open educational resources are part of the sustainable development trend to close the knowledge gap, actively support lifelong learning, and promote educational unity; He considers that participation in the creation of open educational resources contributes to the development of sustainable education. Majon et al. (2022) state that open educational resources require constant teacher advice and monitoring in order to promote collaborative dialogue based on five central themes: content, design, usability, commitment and readability; They allow the teacher to acquire knowledge and a practical attitude based on the development of visual organizers of their employability and become valuable elements for associative learning. Ramírez Terán et al. (2022) indicate that open educational resources facilitate teaching-learning processes in various subjects of knowledge. Tang et al. (2020) expressed that open educational resources are easy to use in science and humanities courses, they promote creativity and imagination and become a mediating variable of learning, as they significantly increase the diverse capabilities of students and teachers.

The attitude as a theoretical object of this research is based on symbolic interactionism which indicates that the subject is located in a context where he determines, generates possibilities, has freedom and contributes with creativity; That is, it is a subject who constructs his space and meanings with others and reproduces his own reality thanks to his interactions (Posada

Zapata and Carmona Parra, 2021). Thus, attitude is a system of positive or negative evaluations formed from beliefs, feelings and actions, which can be objective or remain subjective and is supported by the relationships of freedom and creativity of the subject (Gadea, 2018). Rodríguez-Chávez and Martins (2022) point out that attitudes are the evaluations that people make of the material objects or actions in the world and have three components: the cognitive one, which is linked to the beliefs of the properties/attributes of the object or action, the affective that is based on the emotions and evaluations given to the object or action; and behavioral, which is based on behaviors towards the object or action.

The substantive theory of the empirical object open educational resources is based on connectivism which indicates that knowledge is generated through external networks based on the digital context, it originates from a fabric composed of connectors and nodes linked to a domain known as ecology, which generates diverse learning (Siemens, 2010); points out that learning for the digital age requires the support of texts, searching for information on the Internet, sharing information among Internet users and participating in forums which allow the development of technological skills, promote autonomous learning and the identification of useful connections. for learning (Reyna Ledesma et al., 2022). Open educational resources are virtual elements that are freely available, with free and unrestricted licenses, a product of the progress of computing and communication technology that postulates knowledge as a system that resides in networks or databases (Santos-Hermosa and Abadal Falgueras , 2022); are educational materials in the public domain or open license (Creative Common) made up of complete courses, conferences, course materials, modules, textbooks, videos, audios, tests, animations, repositories, websites, images, interactive games, software and applications cell phones or techniques that support access to information (Santos-Hermosa and Abadal Falgueras, 2022; Santos-Hermosa et al., 2020; Unesco, 2021), they are teaching-learning and research resources in the public domain with free use, reuse, modification and sharing of online courses, textbooks, documents, images, videos and evaluation elements (Abd Rabo et al., 2022).

Open educational resources, according to the University of Regina (2022), focus on teaching, learning and research and give users permission to apply the 5 Rs proposed by David Wiley, which are retain, reuse, remix, revise and redistribute. Due to its usefulness, it requires integration in the university and non-university educational field; This process, according to Anbalagan and Jeyalakshmi (2022), responds to eight phases: examine its authenticity and reliability, fit it into the curriculum, verify that its license is compatible with virtual systems, eliminate any unnecessary elements, identify possible localization regions, combine it with additional teaching resources, establish the mechanics of incorporation into the lessons and determine if a new assessment technique is needed or if it needs to be modified.

This study seeks to understand the attitudes of teachers and students from nine public and private universities in Lima regarding open educational resources from their own discourse and a questionnaire and answers the question. How are attitudes towards the use of open educational resources built in the university academic community of Lima in the period 2023?

2. METHODOLOGICAL PROCESS

This research has a pragmatic approach, Campos de Olivera (2020) specifies that it appeals to the ability to integrate data collection, analysis and composition procedures, both quantitative and qualitative, whose integration logic responds to the difficulty that the research has to be explained from a quantitative or qualitative approach.

The type of research is descriptive and analytical. According to the quantitative approach, the research is descriptive since information was collected that served for statistical analysis; Due to the qualitative approach, the study is analytical since the evaluation of the data and information obtained requires critical thinking (Nuñez Moscoso, 2017).

The research design is hybrid: non-experimental-descriptive and comprehensive-phenomenological hermeneutic given that its main purpose is to analyze, describe and understand the experiences of the perceptions and attitudes of teachers and university students regarding open educational resources. According to Fuster Guillén (2019), the phenomenological design seeks to understand the meaning of the experiences lived by the subjects studied as they are shown.

The target population was made up of teachers and students from 9 universities in Lima: 3 public management and 6 private management. The quantitative sample was 150 teachers and the qualitative sample was 11 teachers, 10 students and 5 experts.

The quantitative sampling was non-probabilistic for convenience. Hernández and Carpio point out that this type of sampling is characterized by intentionally identifying and selecting respondents and informants who have the particularities of interest that are easily accessible to the researcher (2019). Regarding the selection criteria for qualitative informants, their knowledge of the subject and predisposition to participate in the research was considered.

The reliability for the quantitative data was 0.933 in the McDonald's Omega coefficient and for the qualitative data it was obtained by triangulation and contrast, since comparisons and parallel studies were carried out with similar investigations related to the object of investigation, attitude to open educational resources.

3. RESULTS

The results obtained, both quantitative and qualitative, are presented in this section in tables and graphs with their respective descriptions and are organized, on the one hand, through the variable attitudes to open educational resources and their respective categories: beliefs or knowledge, feelings or affective and actions or procedures. On the other hand, a distribution is presented in which age, sex, university management and origin of the university are considered.

3.1. Quantitative results

The quantitative data indicates the distribution of the sample by age, 155 teachers, has a greater grouping in the range of 41 to 50 years whose percentage is 53.5%; while the lowest concentration is recorded in teachers under 30 years of age with a percentage of 1.9%, as seen in table 1.

Table 1 Sample distribution by age

		Frequen cy	Percentag e	Valid percentage	Accumulated percentage
Valid	Under 30	3	1.9	1.9	1.9
	from 31 to 40 years	35	22.6	22.6	24.5
	41 to 50 years	83	53.5	53.5	78.1
	51 or more	3.4	21.9	21.9	100.0
	Total	155	100.0	100.0	

In the distribution of the sample by university management, it is seen that the highest percentage, 72.9%, of respondents come from private management with a total of 113 teachers; while teachers from public management universities only participated 42, which generates a percentage of 27.1%, as seen in table 2.

Table 2 *Sample distribution by university management*

		Frequenc y	Percentag e	Valid percentage	Accumulated percentage
Valid	Public Management	42	27.1	27.1	27.1
	Private management	113	72.9	72.9	100.0
	Total	155	100.0	100.0	

Attitudes to open educational resources according to sex obtained a slightly greater distribution in females who reached 85.9% at the high level with a number of 73 participants, while males achieved 80.6% with only 56. Furthermore, at the middle level, the female sex obtained 14.1% and the male sex 20.0%. This is seen in table 3.

Table 3 *Distribution of REA attitudes by sex*

		Sex			
		Male		Female	
		Count	% of N columns	Count	% of N columns
V_Attitudes_REA (Grouped)	Low	0	0.0%	0	0.0%
	Half	14	20.0%	12	14.1%
	High	56	80.0%	73	85.9%
	Total	70	100.0%	85	100.0%

Regarding the ordinal measurement level, depending on the attributes of the variable attitude to open educational resources, the results show that 83.2% achieved a high level, while 16.8% obtained a medium level. Likewise, for the beliefs dimension it was 87.7% high and 11.6% low; the feeling dimension, 78.7% high and 20.6% low; and, the actions dimension, 54.2% high and 41.9% low. This is observed, more precisely, in table 4.

Table 4 Variable and dimensions of attitudes towards open educational resources

	Variable/ Dimensions		Frequen cy	Percentag e	Valid percent age	Accumul ated percentag e	
Variable	Attitudes to open educational resources (OER)	Low	0	0.00	0.00	0.00	
		Half	26	16.8	16.8	16.8	
		High	129	83.2	83.2	100.0	
Dimensi ons	Beliefs or knowledge of OER	Total	155	100.0	100.0		
		Low	1	0.6	0.6	0.6	
		Half	18	11.6	11.6	12.3	
	Feelings or affective to OER	High	136	87.7	87.7	100.0	
		Total	155	100.0	100.0		
		Actions or procedures to OER	Low	1	0.6	0.6	0.6
			Half	32	20.6	20.6	21.3
			High	122	78.7	78.7	100.0
			Total	155	100.0	100.0	
			Low	6	3.9	3.9	3.9
			Half	65	41.9	41.9	45.8
			High	84	54.2	54.2	100.0
		Total	155	100.0	100.0		

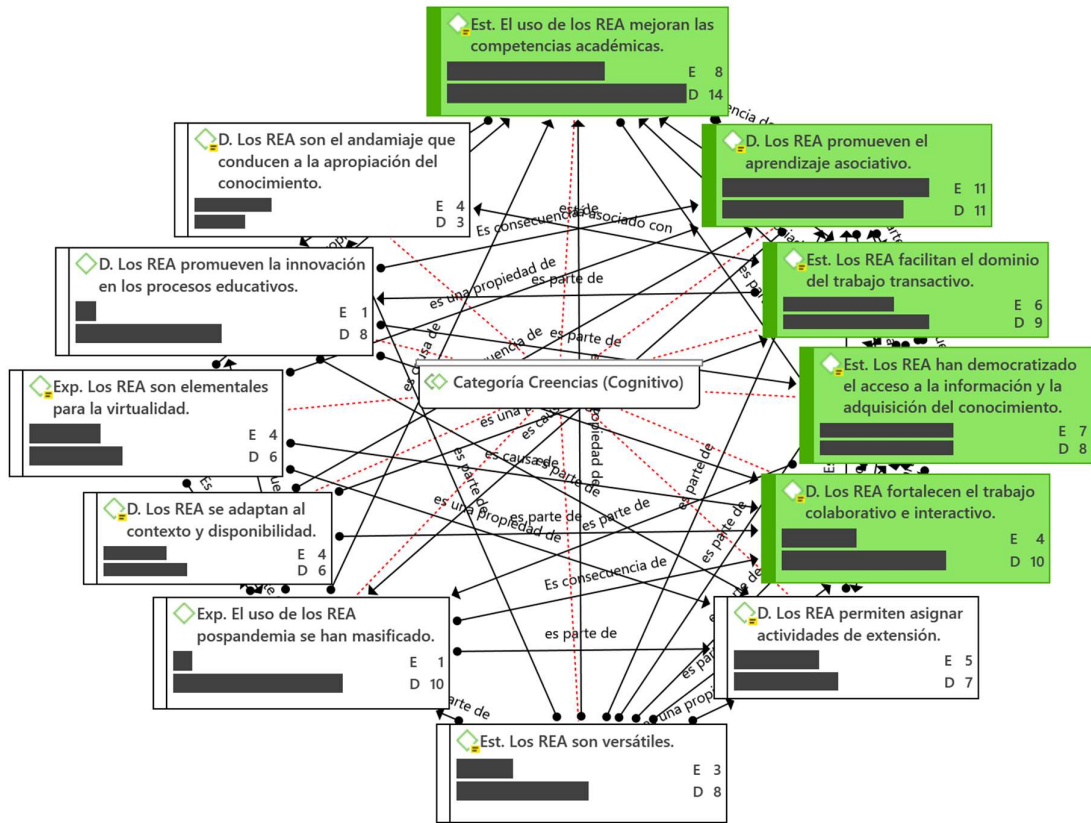
The distribution of attitudes to open educational resources shows that teachers from the Scientific University of the South, University of Sciences and Humanities and Enrique Guzmán y Valle University obtained the highest levels with a percentage of 100%. However, it is worth clarifying that the variability of the results responds to the number of participants surveyed, in which the greater the number of respondents, the lower the level of attitude, while the lower the number of respondents, the level of attitude to resources. open educational institutions, increases, as seen in table 5.

Table 5 Distribution of OER attitudes by universities

University									
Peruvian					National				
Cayetano Heredia	Cesar Vallejo	Technological of Peru	Southern Scientific	Mayor of San Marcos	North of Private	Callao National	UNE Enrique Guzmán y Valle	Science and Humanities	
% of students	% of students	% of students	% of students	% of students	% of students	% of students	% of students	% of students	% of students

The results for the beliefs-cognitive category show that the university academic community believes that open educational resources improve academic skills and associative learning from transactive work in which it is feasible to involve all students in accessing information and acquiring knowledge. knowledge to strengthen collaborative and interactive work due to its democratizing characteristic. Furthermore, they believe that OER allow extension activities to be assigned due to their versatility, post-pandemic massification, their adaptation to the context, their availability and their virtual nature; They also promote innovation in educational processes and have become a scaffolding to lead to the appropriation of knowledge. (See figure 1).

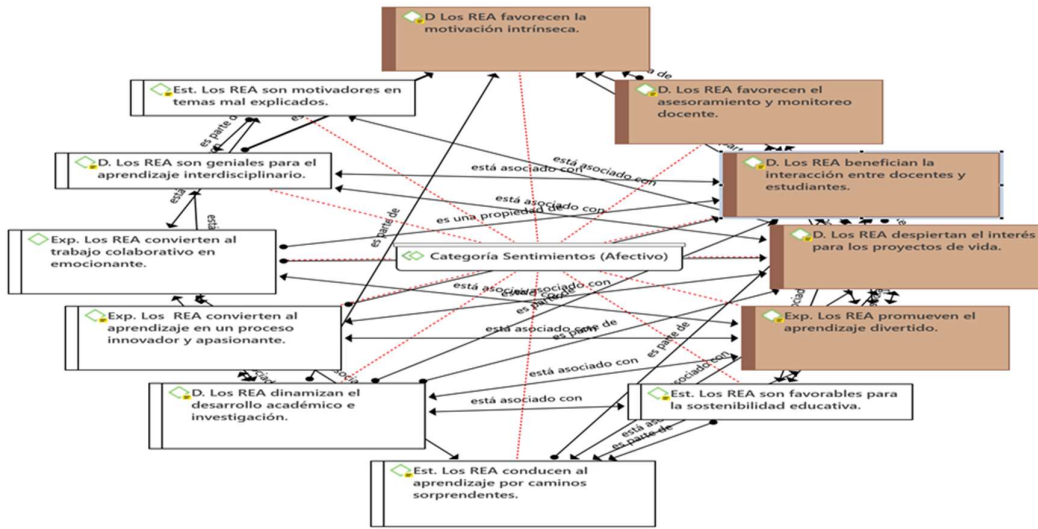
Figure 1 Semantic network of the cognitive-beliefs category



3.2.2. Semantic network of the feelings-affective category

The results obtained in the feelings-affective category demonstrate that the university educational community feels satisfaction and well-being when they use open educational resources, because they favor intrinsic motivation, since teachers constantly monitor and advise students, generating an interaction between the two, a situation that It arouses interest in their life projects, since learning is fun. Also, OER are favorable for educational sustainability, given that they lead along surprising paths, energize academic development and research, and turn learning into an innovative and exciting process; They are also great at interdisciplinary learning and extremely motivating to understand topics in case they are not well explained within class hours.

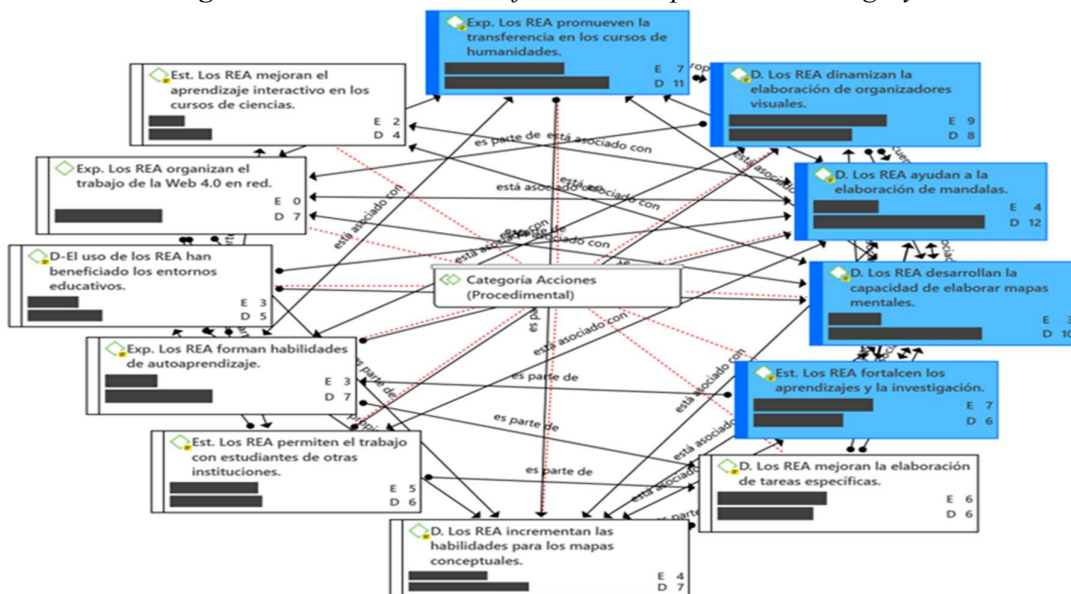
Figure 2 Semantic network of the feelings-affective category



3.2.3. Semantic network of the beliefs-procedural category

According to the results of the procedural-actions category, the university academic community uses open educational resources, because they promote transfer in humanities subjects to energize the development of visual organizers such as mental maps designed with imagination and creativity, characteristic of mandalas. , which strengthen learning and research. Likewise, they improve and increase skills in the development of specific tasks such as concept maps, they facilitate collaborative work with students from other universities, which allows the formation of self-learning skills with a great benefit from educational environments given that they organize the work of Web 4.0 on the network from the university laboratories or with their electronic devices outside of it to enrich interactive learning in science courses. (See figure 3).

Figure 3 Semantic network of the actions-procedural category



3.2.4. Triangulation of codes on attitudes towards open resources

The qualitative data show, according to the university academic community, that attitudes towards open educational resources are built from their beliefs, satisfaction, well-being and use of students and teachers, given that they favor their intrinsic motivation, 11.79%; promote associative learning, 10.38%; They improve academic skills to achieve learning and good academic performance, 10.38%; They promote transfer in humanities courses, 8.49%, they stimulate the development of visual organizers of the different scientific disciplines, 8.2%; they favor teaching advice and monitoring constantly diachronically and synchronically, 8.2%; They help to make mandalas in order to change the emotions of the subjects involved, 7.55%; they benefit the interaction between teachers and students, 7.55%; they awaken interest in the life projects of university students, 7.08%; they facilitate the mastery of transactive work, 7.08%; they democratize access to information and the acquisition of knowledge, 7.08%; as well as strengthening collaborative and interactive work, 6.60%. (See table 6).

Table 6 *Triangulation of codes on attitudes towards open resources*

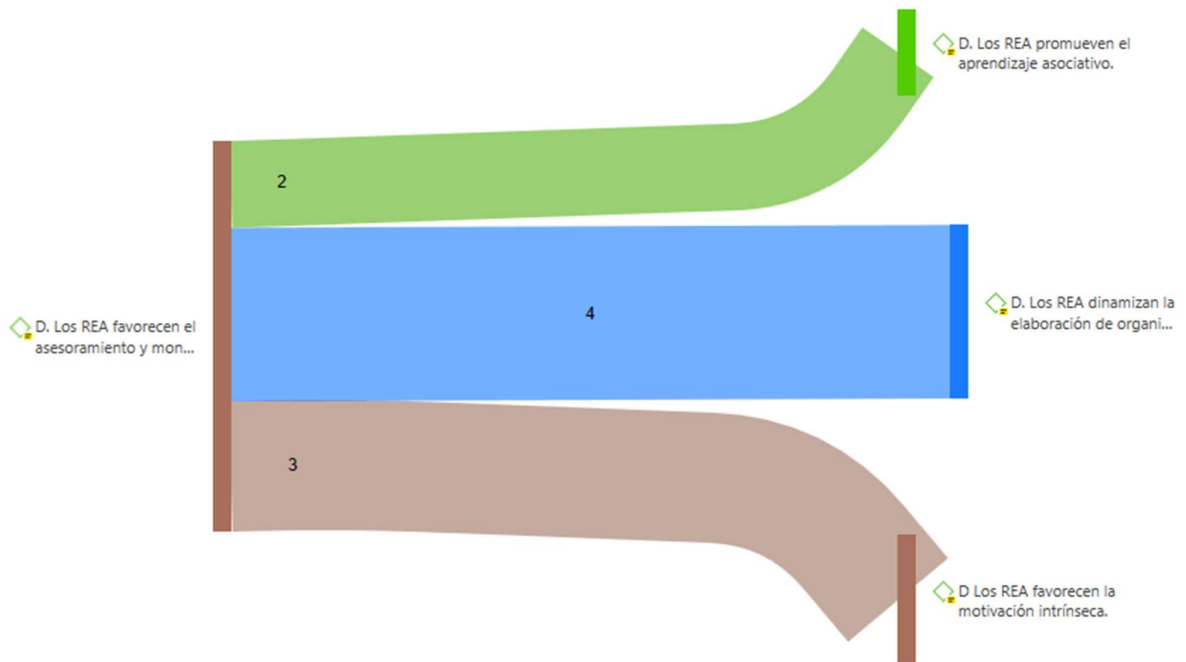
Code	Rooting	Density	Rooting index	Percent age
D OER promote intrinsic motivation.	9	16	25	11.79%
D. OER promote associative learning.	eleven	eleven	22	10.38%
Est. The use of OER improves academic skills.	8	14	22	10.38%
Exp. OER promote transfer in humanities courses.	7	eleven	18	8.49%
D. OER energize the development of visual organizers.	9	8	17	8.02%
D. OER favor teacher advice and monitoring.	14	3	17	8.02%
D. OER help in the creation of mandalas.	4	12	16	7.55%
D. OER benefit the interaction between teachers and students.	7	9	16	7.55%
D. OER awaken interest in life projects.	2	13	fifteen	7.08%
Est. OER facilitate the mastery of transactive work.	6	9	fifteen	7.08%
Est. OER have democratized access to information and the acquisition of knowledge.	7	8	fifteen	7.08%

D. OER strengthen collaborative and interactive work.	4	10	14	6.60%
			212	100.0%

3.2.5. Co-occurrence

In the co-occurrence, it is seen that the greatest flow of energy is found in the code “OER promotes teaching advice and monitoring”, as it is repeated 4 times within the code “OER stimulates the development of visual organizers”, 3 co-occurrences with “OER promote intrinsic motivation” and 2 repetitions with “OER promote associative learning”, which demonstrates the importance of teacher monitoring and advice in their use. Furthermore, “OER promotes teaching advice and monitoring” shares more information with “OER stimulates the development of visual organizers” “OER promotes intrinsic motivation” and “OER promotes associative learning”, which indicates that Attitudes to open educational resources are built from monitoring and teaching advice to energize the development of visual organizers, favoring intrinsic motivation and promoting associative learning, due to the strong relationship they present, as seen in Figure 4. Sankey diagram.

Figure 4 Sankey diagram of co-occurrence of attitudes towards open educational resources



4. Discussion

The qualitative results indicate that the sample was made up of a high percentage of teachers between 41 and 50 years of age and a low percentage of teachers under 30 years of age, whose distribution was mainly focused on teachers from private universities and greater acceptance by gender. feminine against a slight detriment of the masculine sex. Given that, according to

Pincay Piza (2020), the use of OER develops, in teachers, skills that allow them to achieve quality teaching processes and strengthens individual competencies for learning on the Web, a situation that is achieved progressively and that requires investment of economic resources to implement laboratories within universities. In this context, Huerta Soto et al. (2022) point out that teachers have sufficient digital skills, but their use is restricted in virtual and in-person programs due to the lack of a good internet connection and modern computer equipment.

Likewise, due to their attributes, OER obtained high acceptance by all teachers, with knowledge of 87.7%, satisfaction and well-being of 78.7%, and employability or use of 54.2%. Results that are similar to those of Marín et al. (2022) who point out that the importance of the use of open educational resources lies in the positive impact achieved in universities and teachers, which respond to external factors such as institutional policies and quality measures, in addition to internal factors such as professional development and provision of incentives.

The attitude to open educational resources, according to the teachers surveyed from different universities in Metropolitan Lima, is composed with certain variation in the levels of knowledge, satisfaction and use, which shows that the greater the number of respondents, the less acceptance, on the contrary, The smaller the number of respondents, the higher the level of construction of attitudes towards OER. Given this, Novoa-Novoa (2022) points out that open educational resources are not easily displayed nor are their use effectively promoted either by teachers or university students, due to different conceptions of the promoting organizations and that restrict the open interaction of the users; In this way, the wealth of knowledge offered is wasted.

The quantitative results in the construction of attitudes to open educational resources are interpreted from the semantic networks by categories beliefs, feelings and actions; the triangulation of codes of attitude to OER and its co-occurrence index, since the use of open educational resources is based on connectivism, which indicates that knowledge is generated through external networks based on the digital context, it originates from a fabric composed of connectors and nodes linked to a domain known as ecology which generates diverse learning (Siemens, 2010). Furthermore, OER are virtual elements that are freely available, with free and unrestricted licenses, a product of the progress of information and communication technology that postulates knowledge as a system that resides in networks or databases (Santos-Hermosa and Abadal Falgueras , 2022). While Rodríguez-Chávez and Martins (2022) point out that attitudes are the evaluations that people make of the material objects or actions in the world and have three components: the cognitive one, which is linked to the beliefs of the properties/attributes of the object or action, the affective that is based on the emotions and evaluations given to the object or action; and behavioral, which is based on behaviors towards the object or action.

The university academic community believes that OER improve academic competencies and associative learning from transactive work in which it is feasible to involve all students in accessing information and acquiring knowledge to strengthen collaborative and interactive work due to its democratizing characteristic. . As Guijosa (2018) points out, the use of open educational resources in university students is relevant because they reduce the costs of their university degrees, improve academic performance and reduce dropout rates.

He also believes that OER allow extension activities to be assigned due to their versatility, post-pandemic massification, their adaptation to the context, their availability and virtual

nature; They promote innovation in educational processes and have become a scaffolding to lead to the appropriation of knowledge, as stated by Isela Aguilar and Otuyemi Rondero (2020), who affirm that open educational resources require mastery of digital competence, while , is a set of skills that allows and facilitates teamwork, directed learning, critical thinking, creativity and communication. Furthermore, Chiecher (2022) concluded that there were changes in attitude regarding computing and communication technologies post-pandemic, as an optimistic and positive perception of the use of technology and virtual teaching was observed.

Teachers and students feel satisfaction and well-being when they use OER, because they promote intrinsic motivation, since teachers constantly monitor and advise students, which generates an interaction between both, a situation that awakens interest in their life projects, since Your learning is fun. This is pointed out by Arispe Alburqueque and Yangali Vicente (2022), who mention that personal factors in the perception of information and communication technologies do influence the digital competencies of teachers and, consequently, the use of open educational resources.

Likewise, they feel satisfaction and well-being because OER are favorable for educational sustainability, given that they stimulate academic development and research, turn learning into an innovative and exciting process, are great at interdisciplinary learning and extremely motivating to understand topics in case these are not well explained. It is based on the contributions of Santos-Hermosa and Abadal Falgueras (2022) who express that open educational resources have a series of favorable characteristics for university education, such as their speed of incorporation, free use, easy level of aggregation, broad accessibility, openness in the inclusion of metadata, willingness to exchange information, educational innovation, skill in its inclusion and sustainability. Likewise, Dudek (2022) points out that open educational resources are part of the sustainable development trend to close the knowledge gap, actively support lifelong learning and promote educational unity; He considers that participation in the creation of open educational resources contributes to the development of sustainable education

The university academic community uses open educational resources, because they promote transfer in humanities subjects to stimulate the development of visual organizers designed with imagination and creativity, characteristic of mandalas, which strengthen learning and research. Results that are similar to those of Tang et al. (2020) who expressed that open educational resources are easy to use in science and humanities courses, promote creativity and imagination and become a mediating variable of learning, as it significantly increases the diverse capabilities of students and teachers.

Furthermore, its use improves and increases skills in the development of specific tasks, facilitates collaborative work with students from other universities, allows the formation of self-learning skills for the benefit of educational environments, as they organize the work of Web 4.0 that enriches interactive learning in science. Along these lines, Marín et al. (2022) state that there is a positive attitude towards OER in individual adoption, supported by institutional policies and quality controls; It also facilitates the professional development of teachers and the higher education institution that promotes its use.

Attitudes to open educational resources are built from their beliefs, satisfaction and use of students and teachers, as they favor their intrinsic motivation, promote associative learning,

improve academic skills for the achievement of learning and good academic performance, help in transfer in humanities courses and energize the development of visual organizers. As they point out (Posada Zapata and Carmona Parra (2021), the formation of the attitude responds to symbolic interactionism which indicates that the subject is located in a context where it determines, generates possibilities, has freedom and contributes with creativity; that is, it is a subject that builds its space and meanings with others and reproduces its own reality thanks to its interactions. Thus, attitude is a system of positive or negative evaluations formed from beliefs, feelings and actions, which can be objective or remain subjective. and is supported by the relationships of freedom and creativity of the subject.

OER require teaching advice and monitoring, help in the creation of mandalas, benefit the interaction between teachers and students, awaken interest in the life projects of university students, facilitate the mastery of transactive work, democratize access to information and the acquisition of knowledge and strengthen collaborative and interactive work. Results that are similar to those of Nipa and Kermanshachi (2020), who state that the impact of usefulness on students with economic limitations regarding open educational resources responds to a significantly positive perception because it resolves the lack of access to books and other texts. due to their high costs and difficulties in acquiring them and thus preventing their education from being compromised. Also, Lin (2019) points out that there is a positive perception regarding the use of open educational resources, because they allow saving money due to their free nature, dynamism, and abundance; support mobile learning; and, they encourage the development of self-directed skills.

According to the co-occurrence, it is noted that attitudes towards open educational resources are built from monitoring and teaching advice to energize the development of visual organizers, favoring intrinsic motivation and promoting associative learning, due to the strong relationship they present. Majon et al. (2022) point out that open educational resources require the teacher's advice and constant monitoring in order to promote collaborative dialogue based on five central themes: content, design, usability, commitment and readability; They allow the teacher to acquire knowledge and a practical attitude based on the development of visual organizers of their employability and become valuable elements for associative learning.

5. CONCLUSIONS

The attitude towards open educational resources is built from the discourse of teachers, experts and students from the universities of Lima Peru with a favorable perspective from the qualitative and quantitative results, as they indicate that there is a high level of acceptance whose relationship is to greater participation, lower level of acceptance and lower participation, higher level, as well as its great credibility, satisfaction and use due to its importance in the dynamization and development of visual organizers, favoring intrinsic motivation and the promotion of associative learning with constant advice and teaching monitoring.

The university academic community believes that open educational resources improve academic skills and associative learning from transactive work in which it is feasible to involve all students in accessing information and acquiring knowledge to strengthen collaborative and interactive work for its own sake. democratizing feature

Teachers and students believe that open educational resources allow extension activities to be assigned due to their versatility, post-pandemic massification, their adaptation to the context, their availability and virtual nature; They also promote innovation in educational processes and have become a scaffolding to lead to the appropriation of knowledge.

Teachers and students feel satisfaction and well-being when they use OER, because they promote intrinsic motivation, since teachers constantly monitor and advise students, which generates an interaction between both, a situation that awakens interest in their life projects, since that learning is fun.

The university academic community feels satisfaction and well-being because OER are favorable for educational sustainability, given that they stimulate academic development and research, turn learning into an innovative and exciting process, are great for interdisciplinary learning and extremely motivating to understand. topics in case these are not well explained.

The use of open educational resources promotes transfer in humanities subjects to energize the development of visual organizers designed with imagination and creativity, characteristic of mandalas, which strengthen learning and research.

The use of open educational resources improves and increases skills in the development of specific tasks, facilitates collaborative work with students from other universities, allows the formation of self-learning skills for the benefit of educational environments, as they organize the work of the Web 4.0 that enriches interactive learning in science and humanities courses.

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