

# Attitudes towards Research in Higher Education Students

Julissa Camacho Torres<sup>1</sup>, Gaby Balcázar Medina<sup>2</sup>, María Zoila Chumpitaz Cáceres<sup>3</sup>, Karla Robalino Sánchez<sup>4</sup>, Jessica Paola Palacios Garay<sup>5</sup>

<sup>1</sup>Universidad Norbert Wiener, Orcid: 0000-0002-3219-2487, E-mail: a2021900546@uwiener.edu.pe

<sup>2</sup>Universidad Norbert Wiener, Orcid: 0000-0002-5543-9710, E-mail: gaby.balcazar@uwiener.edu.pe

<sup>3</sup>Universidad Tecnológica Del Perú, Orcid: 0000-0002-7029-0846, E-mail: mchumpitac@utp.edu.pe

<sup>4</sup>Universidad César Vallejo, Orcid: 0000-0002-2467-6457, E-mail: krobolino@ucvvirtual.edu.pe

<sup>5</sup>Universidad Nacional Mayor de San Marcos, Orcid: 0000-0002-2315-1683, E-mail: jpalaciosg@unmsm.edu.pe

## Abstract

In recent years, there have been positive changes in teaching and research; however, these are insufficient. The responsibility falls on the university, the undeniable center of knowledge, since it must embrace teaching and research, and transform it so that it results in the greatest economic, political and social development of the country. The objective was to know the attitude towards research in Education students of a national university in Metropolitan Lima 2022. The sample consisted of 110 students from the Faculty of Education during the year 2022. The information was collected through the version revised scale of attitudes towards research (EACIN). The results indicated that 70% had a bad attitude towards research; 21.8%, regular level and 8.2%, good attitude. Interest in research was similar between the fair and poor levels, 45.5% and 42.7%, respectively; only 11.8% presented a good level. 68.2% showed a poor vocation for research; 25.5%, regular level and 6.4%, good. The evaluation of the investigation had the highest percentage in the bad level, 81.8%; regular level with 14.5% and good valuation 3.6%.

**Keywords:** Attitudes, Pedagogical Career, Research Skills, Higher Education, Research.

**DOI:** 10.47750/pnr.2022.13.S03.042

## INTRODUCTION

It is undeniable that the pandemic caused by covid-19 has slowed down investigative activities as a result of biosafety measures such as social distancing, established by governments to prevent the spread of the virus. Given this, it demands, in universities, a change of vision, to consider research as a transversal activity and not as an isolated and independent course of university education. Even more so with the technological opportunities that facilitate access to information; All this must be linked with the appropriate methodologies for the motivation and promotion of research; in this way, achieve a better social development in the current globalized world [1]. The problem around scientific production is due to several factors, among them, the distance between teaching and research, which is perceived and transmitted to the student; therefore, the importance of knowing the attitudes towards research of university students, even more so in future teachers [2].

At the international level, an investigation was carried out in Taiwan, whose objective was to present concrete information on how *ranking positions influence* universities [3]. The findings suggest that the desire to improve university rankings has produced incentives that have fostered research

by education professors, going from an average number of papers published per professor from 1 in 1993 to 4 in 2013. On the other hand, in Mexico, a study was carried out whose purpose was to know the attitude towards research shown by university students [4]. The results were that the attitudes of the respondents towards the investigation is fair to unfavorable. In addition, the influence of the teaching staff on the students was found, which is why the authors consider it necessary for teachers to have good equipment; in this way, the perception that their students have contributes to the investigative activities of the university students. The research highlighted the importance of fostering motivation in students through their own research work by their teachers. Other authors presented the results of the International Association of Universities (IAU) survey that aims to show a general approach to the situation of higher education during the pandemic [5]. 80% of institutions state that research has been affected by the cancellation of scientific conferences and international travel; In addition, 52% of institutions run the risk of not completing their research projects. This situation provides the opportunity to create scientific knowledge both to understand and respond to the pandemic and, in the future, to face any crisis situation. There are higher education institutions that have not stopped their scientific

production and taking advantage of telecommunications and free access to electronic publications, continue to create science [1]. On the other hand, in a study carried out in Paraguay, it was identified that 90% of those surveyed consider that research training will contribute to their professional development; In addition, 80% show interest in participating in research meetings. Regarding their self-perception of the ability to present research projects, only 27% consider themselves capable and more than 40% say they do not feel prepared. In addition, 42% of the respondents state that they have participated in scientific events and in relation to their teachers, more than 37% maintain that their teachers encourage research activities [6].

At the national level, few studies were observed that study attitudes towards research in university students in the pedagogical field, most of which focus on the health sector, since research not only combats and prevents diseases, but is also a crucial activity in education. medical career [7]. In Madre de Dios, a study was carried out with students from a pedagogical institute whose results show that almost 57% show an attitude that is not very favorable to research and only almost 19% have a favorable attitude [8]. The instrument used evaluated dimensions such as self-assessment, incidence of teachers and institutional incidence, for which it recommends that the competent institutional authorities promote programs with a view to strengthening investigative competences and in teachers, a more efficient didactics to favor the attitudes of the students. students.

Consequently, there must necessarily be investigative skills in teachers, since one of the main problems is that teachers have not received the necessary training nor do they have the experience to carry out research [9]. Therefore, it is recommended to establish criteria to encourage research activities in teachers, since they are responsible for training people for the future. It is not conceivable to think of a teacher who teaches research without doing research [10].

### Attitudes towards Research

The attitude towards research is the inclination influenced by psychological and affective states for or against research and is linked to academic training because it involves reflection and critical analysis [11]. It is the person's position before the investigation, which can be rejection, indifference or acceptance, strongly linked to the motivational component [12,13]. Attitudes can have an impact on learning research methodology [14], since they play an essential role within society in relation to the disposition that students show towards science and in general towards new knowledge [12].

When students enter the university, they show different attitudes that change throughout their training; however, they have in common the desire to obtain their professional degree without imagining the close relationship with the research activities that must be developed within the university. It is referred that the psychological characteristics represented by sensations of liking or disliking may or may not favor

investigative skills and thus the attitude towards research [2,13].

A favorable attitude towards research is very important in all university students, since it allows them to approach reality, study it, analyze it and propose scientific solutions [11] ; in the same way, it contributes to one's own academic and professional performance [15].

The negative attitude of students towards research is influenced by institutional conditions and by the opinion they have of their teachers, since they are the ones who motivate students to carry out certain activities, fostering confidence and security [10]. The image of the teacher is fundamental in the training of the future teacher because he is considered a model or reference to replicate his future pedagogical exercise. In addition, it should be noted that institutional practices, strategic planning, curricular content and lines of research that respond to the needs of society play an important role in the training of future professionals [2,16].

An essential element in the initial teacher training is the development of attitudes for research because, through them, teaching is exercised in an innovative, critical and reflective way [8]. On the other hand, some authors analyze factors related to attitudes towards research such as sociodemographic factors, including age, gender, school of origin, place of residence [11]. In one study, no significant relationship was found between them and attitude towards research [17]. Others did find a significant relationship between the attitude towards research and the variables of sex and age, with the female gender and the older age group showing the best attitude towards research [7,8]. In the same way, a favorable attitude was found mainly in the female sex and in correspondence to the emotional and cognitive component [18]. In relation to the variable degree of research studies, it was pointed out that, in the first years, there is a better attitude towards research and that, as the years continue, research decreases [19].

### Role of the University

The statistics prove that the number of investigations carried out in the country is scarce. The problem arises from basic education schools, teachers do not encourage the search for information, reading habits and critical analysis; a situation that is aggravated in higher education, since the completion of theses, research projects, essays is not adequately promoted, nor is research activity coordinated with other courses [11]. From teacher training, the importance of learning and using science for students should be reinforced [20] ; as it is noted that this lack occurs both in teaching and in research training and not only in universities in Peru, but also in Latin America [21]. In this regard, in Mexico, the degree rates by thesis are low, both undergraduate and postgraduate students opt for other modalities. This situation not only influences the image of the university, but also the relevance of the graduate, who enters the labor field with great training deficiencies. However, interventions have been

carried out with favorable results that seek to reduce the syndrome, except for research and thesis [10].

Thus, universities are responsible for training professionals, but also for training researchers, for this they must develop a series of actions aimed at promoting attitudes and skills; in this way, students can efficiently carry out research activities [22,23,24] and, on the other hand, achieve professional success, because research cannot be separated from university education. Even more so in the pedagogical career, research becomes inherent both for the development of critical thinking, the scientific understanding of the educational reality and the link between pedagogical theory and practice; in this way, future teachers are able to work in a committed and continuous way to improve education [25] since the excellence and prestige of the university is based on the quality of its teachers and the quality of its scientific production [10]. What has been described forms a transformative duality, since teaching and research are basic functions of all university institutions and are, in turn, functions inseparable from teaching [26].

It is required that the study plans are linked to the subjects and influenced in such a way that the university training activities direct the student to enter the world of research so that, through its application, he or she can solve multiple problems with the in order to increase educational quality [27,28,29]. Likewise, for Medina (2018), the university develops research from two aspects. The first, formative research, that is, certain investigative activities are included in the curriculum, discerning the area of knowledge, since greater priority is given to professionalization [30]. The second, training for research, whose purpose is to train professional researchers. An example cited by the author is the Pontifical Catholic University of Peru, which encourages the development of research activities and supports students and advisory teachers with the necessary resources.

In addition to what has already been described, a deficiency is found in that there is little scientific production that is mainly due to the attitudes of the students and that is that in the universities they are encouraged to carry out research, and the fact of publishing [23]; however, these two actions must be associated because only in this way can the research process be completed and, consequently, the spread of knowledge [31]. We can cite as a response to the problem, the University Law No. 30220 that although it was approved and enacted in 2014, from there it has been opening the way towards a higher education of excellence based on research, as indicated in the articles 48° to 54° that corresponds to the investigative activity, in an entire chapter of the aforementioned law. In addition, it is the first difference between the current law and the extinct Law No. 23733, orientation towards research and orientation towards teaching, respectively [27].

Although the regulatory changes have contributed to the increase in scientific production, work must still be done to increase the quality of this production, which is limited due

to a lack of budget and qualified teachers. A deficient aspect in the universities that do not achieve their licensing is related to the investigative activities [27].

In virtual to the aforementioned, universities, especially public ones, only provide the space to carry out research, but do not provide equipment, tools or any type of financing to develop these processes, which leads the student to give up research [1]. On the other hand, not only teaching science and restructuring the curriculum giving more time to science training will be enough, it is also necessary to work on attitudes towards science and research to work on them [20].

### Dimensions of the Variable Attitudes towards Research

The instrument considers two dimensions for the attitude towards research: positive attitude and negative attitude [19]; however, the present study evaluates the variable considering 3 dimensions [15]:

1) Interest in research. The interest in investigative activities is proactivity; that is, how the student acts in front of the investigation [2]. In this regard, it is considered that motivation allows proactivity in the investigation and search for new knowledge to strengthen the investigative activity [2]. In addition, it includes the component called exclusivity of research activities, which denotes the erroneous belief of the student that only some can carry out research, and therefore lack of interest in science.

2) Vocation for research. It is the desire for knowledge, it is the passion for new knowledge [32]. The vocation has its origin in the religious, because to serve God one had to wait for the call [2]. It is mentioned that this call is the response or a gift, not something we do, but something of our own that is embodied deep within [32]. 3) Evaluation of the investigation. It is the importance given to research for personal and professional development [12].

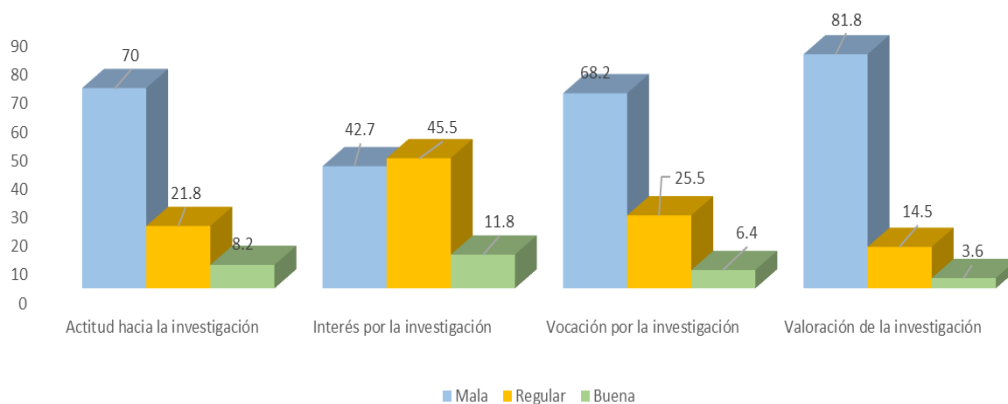
### METHODOLOGY

The sample consisted of 110 students from the Faculty of Education of a national university in metropolitan Lima during the year 2022. To measure the attitudes towards research variable, the revised version of the scale of attitudes towards research (EACIN) was used, which was applied to a Colombian sample. The instrument consists of 28 items organized in 3 dimensions scored on a Likert-type scale. It has been previously validated by the judgment of 8 experts and good internal consistency was evidenced with a value of 0.87 in its Cronbach's Alpha coefficient [15].

## RESULTS

**Table 1:** Distribution of levels of the variable attitude towards research and its dimensions

levels	Bad		Regular		Good		Total	
	F	%	F	%	F	%	F	%
Attitude towards research	77	70	24	21.8	9	8.2	110	100
Interest in research	47	42.7	fifty	45.5	13	11.8	110	100
Vocation for research	75	68.2	28	25.5	7	6.4	110	100
Research assessment	90	81.8	16	14.5	4	3.6	110	100



**Figure 1:** Distribution in levels of the variable attitude towards research and its dimensions

Table 1 and figure 1, in relation to the attitude towards research, 70% showed a bad attitude; 21.8%, regular level and 8.2%, good attitude. In the interest in research, 42.7% had a poor level; 45.5%, regular level and 11.8%, good level. In the vocation for research, 68.2% had a bad level; 25.5%, regular level and 6.4%, good. In the evaluation of the investigation, 81.8% had a bad level; 14.5%, regular level and 3.6%, of good evaluation.

## DISCUSSION

There are many needs that a good level of scientific research entails in universities, so it is important to know what the attitudes of future education professionals are with respect to research, since, for Paulo Freire, "research is inherent to teaching practice, that is, only by teaching is research done and while doing research is learning to teach" (p.112) [33].

Regarding the results on the attitude towards research, it was shown that the vast majority, 70%, had a bad attitude towards research. In accordance with this, a low attitude was found in university students from different university careers [34]. Likewise, the students presented a low attitude in the affective and behavioral categories. Additionally, these results coincided, in a certain way, with others who determined that the attitude is unfavorable in students of a pedagogical institute, because they perceive that they are not strengthening the necessary skills for scientific development

[22].

Other studies with different university populations show similar results. In psychology students, it was identified that the attitude towards research was regular to unfavorable [4], and differs from those who point out that students have favorable attitudes towards research [14].

On the contrary, it was found in Nursing students, a high and moderately favorable positive attitude [11,17]. In the case of Stomatology students, a regular attitude towards research prevails [24]. A relevant aspect is to note the weaknesses regarding the development of capacities to present research projects to calls, which would encourage greater participation in this type of event because "the attitude is not innate in the student, it depends on various aspects, such as intrinsic motivation" (p.108) [6].

### Interest in Research

The results show that the interest in research is bad for 42.7% and regular for 45.5% of the respondents. In contrast to this, in a study carried out in Paraguay, it was determined that 80% of the respondents show interest in participating in research meetings; however, they state that there are no frequent calls to engage in research work in their faculties, thus losing a valuable opportunity to train new researchers [6]. The lack of interest poses a problem for science and can be considered cause as well as effect; because as a cause it hinders attitudes; while, as an effect, it may not be a guarantee of motivation [35].



## Vocation for Research

In relation to the vocation for research, 68.2% of the students showed a bad vocation for research and only in 6.4% of students, it is good. Two authors agree that factors external to the individual influence the construction of knowledge, therefore, it can be inferred that investigative skills can be acquired [36,37]. The studies cited show how scientific research can be promoted. Didactic strategies are essential for scientific training, arouse the concern of potential researchers, develop communication skills, teamwork and tolerance towards other researchers [36]. A research training model is proposed for initial teacher training that includes 3 strategies: active and collaborative learning, a cross-cutting model, and research hotbeds [37]. What is sought is not only to provide the necessary conditions that allow, to a large extent, the maximum development of investigative skills, but also to improve didactic experiences for use in schools [10,20]. Additionally, the investigative journey requires patience and dedication, as well as internal conviction, without this being decisive, since research demands mastery of superior methods and skills that can be acquired [32]. Approaches refer that there is a link between the vocation for research and the lack of interest in research; as well as the relationship between vocation and appreciation for research [4].

## Research Assessment

In the evaluation of the investigation, 81.8% had a bad level; 14.5%, regular level and 3.6%, of good evaluation. Similar to this, it is suggested that students mostly have a medium and low self-assessment regarding their abilities for research [10]. Although many students reject research, they recognize its value in their professional training. In this regard, according to a study carried out in Paraguay, 90% of those surveyed consider that research training will contribute to their professional development, however, in terms of their self-perception of the ability to present research projects, only 27% considered capable and more than 40% stated that they did not feel prepared [6]. Similar results were found that, regarding the image towards science, Primary and Early Childhood Education students showed favorable positions, especially when considering it important for the country; In addition, around 90% express that it is relevant to learn science at school age, for which 66% of participants agreed or strongly agreed with working science in a practical way; but they recognize limitations for their teaching [20].

## CONCLUSIONS

Higher education institutions, inclined to meet the current educational demands, have been incorporating activities conducive to promoting research, as well as directing their gaze to adapt their academic programs to integrate science in the development of the entire university career; however, the

attitudes that students show from their initial teacher training must be taken into account and timely intervention with strategies that arouse interest and motivation towards scientific production.

The interest in and appreciation for research must be worked from the schools, encouraging the profile of the research teacher; In this way, upon reaching university classrooms, the future professional will have the necessary conditions to innovate and contribute scientifically to society and, later, upon graduation, can replicate it through didactic strategies in schools.

This study provides relevant information regarding the attitudinal aspect regarding research activity; however, it is also necessary to know the cognitive aspect of the university student, their skills, domains and competencies that they have. This provides advantageous information for teachers and higher education institutions to focus their efforts on developing the procedural aspect; in this way, achieve the profile of research professor that our country demands.

## REFERENCES

- Alvarado, L., Amaya, R., Sansores, E., Rafael, A. (2021). Reality and perspectives of the University Research Centers in Latin America in the face of Covid-19. *Telos: Journal of Interdisciplinary Studies in the Social Sciences*, 23 (2), 435-449. <https://doi.org/10.36390/telos232.14>
- Ramos, L. (2019). Psychometric analysis of a scale of attitudes towards scientific research. *Psychology Magazine*. 9 (2), 35 – 52. <https://revistas.ucsp.edu.pe/index.php/psicologia/article/view/513>
- Chou, Ch. (2020). Academic Culture in Transition: Measuring Up for What in Taiwan? In Stack, M. (ed.), *Global University rankings and the politics of knowledge*. (pp.95-107). University of Toronto Press. [https://www.researchgate.net/publication/351918894\\_Global\\_University\\_rankings\\_and\\_the\\_politics\\_of\\_knowledge](https://www.researchgate.net/publication/351918894_Global_University_rankings_and_the_politics_of_knowledge)
- Rojas-Solis, J., Espinoza-Guzmán, D., Espíndola-Larios, M., Hernández-Rosas, S. (2021). Attitude towards research in Mexican university students: An exploratory analysis. *Contemporary Dilemmas: Education, Politics, and Values*. <https://doi.org/10.46377/dilemmas.v8i.2747>
- Marinoni, G., Van't Land, H., Jensen, T. (2020). The Impact of COVID-19 on Higher Education Around the World. *IAU Global Survey Report*. [https://www.iau-aiu.net/IMG/pdf/iau\\_covid19\\_and\\_he\\_survey\\_report\\_final\\_may\\_2020.pdf](https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf)
- Ortega, R., Veloso, R., Hansen, O. (2018). Perception and attitudes towards scientific research. *Journal of Research in Social Sciences and Humanities ACADEMO*. 5 (2), 101–109. <http://dx.doi.org/10.30545/academo>
- Kyaw H, Than N Lwin, H Nu M, Phyu K, Abas A (2018). Knowledge, attitudes, and barriers toward research: The perspectives of undergraduate medical and dental students. *Journal of Education and Health Promotion*. 7 (23). <https://pubmed.ncbi.nlm.nih.gov/29629384/>
- Estrada, E., Cordova, F., Gallegos, N., Mamani H. (2021). Attitude towards scientific research in Peruvian students of higher pedagogical education. *University Notes*. 11 (3). <https://doi.org/10.17162/au.v11i3.691>
- Baron, L. (2019). Early training in research: A need in Colombia and Latin America. *Oratores Magazine*, 7 (10), 28–45. <http://dx.doi.org/10.37594/oratores.n10.312>
- Obermeier, M. (2019). Students' Attitudes Towards Research and Dissertations in a Mexican Southeastern University. *Iberoamerican magazine for educational research and development*. 10(19). <http://www.scielo.org.mx/pdf/ride/v10n19/2007-7467-ride-10-19->

e031.pdf

- Chara-Saavedra, P., Olortegui-Luna, A. (2018). Factors associated with the attitude towards research in university nursing students. *Journal of research and cases in health*, 3 (2), 83-88. <https://dialnet.unirioja.es/servlet/articulo?codigo=6536892>
- Cruz, J., Pinedo, G., Lescano, Y. (2021). Attitude towards research: an affective, cognitive and behavioral analysis in university students. *Ibero-American Journal of Technology in Education and Education in Technology*, 29, 20-26. <https://doi.org/10.24215/18509959.29.e2>
- Palacios, L. (2021). A systematic review: Attitude towards research in Latin American universities. *Journal of Development Communication Research*, 12 (3), 195-205. <https://doi.org/10.33595/2226-1478.12.3.533>
- Loayza, J. (2021). Attitudes towards scientific and statistical research in Psychology students. *academic*, 8 (2), 165-177. <https://doi.org/10.30545/academo.2021.jul-dec.6>
- Aldana, G., Babativa, D., Caraballo, G., Rey, C. (2020). Scale of attitudes towards research (EACIN): evaluation of its psychometric properties in a Colombian sample. *CES Psychology Journal*, 13 (1), 89-103. <https://revistas.ces.edu.co/index.php/psicologia/article/view/4828/3121>
- Palencia, V., Villagr a, S., Rubia, B. (2022). Gaps in initial teacher training in educational research: a case study. *Faculty*. 26(1). <https://doi.org/10.30827/faculty.v26i1.13743>
- Abad, J., Molina, N., Portero, S. (2021). Nursing students' attitude and perception about research training. *Nure Research*, 18 (112). <https://www.nureinvestigacion.es/OJS/index.php/nure/article/view/2068/968>
- Paredes, F., Moreta, R. (2020). Attitudes towards research and self-regulation of learning in university students. *CienciaAmerica*, 9 (3). <http://dx.doi.org/10.33210/ca.v9i3.263>
- Barrios, E., Delgado, U. (2020). Design and validation of the questionnaire "Attitude towards research in university students. *Innova Education Magazine*, 2 (2), 280 – 302. <https://doi.org/10.35622/j.rie.2020.02.004>
- Mazas, B., Bravo, B. (2018). Teacher attitudes towards science in early childhood education and primary education. *Teachers Journal of curriculum and teacher training*. 22 (2). 329 – 348. <https://recyt.fecyt.es/index.php/profesorado/article/view/66376/0>
- Olivera, E. (2020). Attitudes towards research of bachelors in Administration and Psychology from a Peruvian university. *Journal of Social Sciences and Humanities Chakiñan*, 11, 70 – 81. <http://scielo.senescyt.gob.ec/pdf/rchakin/n11/2550-6722-rchakin-11-00070.pdf>
- Estrada, L. (2019). Evaluation of the development of investigative competences: A study in the initial training of teachers. *Paradigm Journal of Educational Research*. 26 (41). <https://doi.org/10.5377/paradigm.v26i41.7976>
- Ramos, L., Escobar G. (2020). Undergraduate research training: The current state and considerations for the future. *Journal of Psychology*, 20(1), 101-116. <https://doi.org/10.36901/psychology.v10i1.757>
- Arellano, C., Hermoza, R., El as, M., Ram rez, M. (2017). Attitude towards research of university students in Lima, Peru. *Journal of the Medical Education Foundation*, 20(4), 191 – 197. <https://scielo.isciii.es/pdf/fem/v20n4/2014-9832-fem-20-4-191.pdf>
- Gonzalez, E., Duarte, M., Cruz, C. (2021). The scientific training of the graduate in preschool education. Challenges and trends in educational research in the current era, 21(58), 53 - 59. <http://www.revistavarela.uclv.edu.cu/index.php/rv/article/view/107/246>
- Mater n C., Mendoza, Z. (2018). University teaching and research as a transformative duality. *Daena: International Journal of Good Conscience*, 13(2), 313 – 329. [http://www.spentamexico.org/v13-n2/A19.13\(2\)313-329.pdf](http://www.spentamexico.org/v13-n2/A19.13(2)313-329.pdf)
- Gonzalez, M., Right hand, V. (2021). The university law No. 30220 and research in Peruvian universities. *ESAL Journal of Higher Education in Latin America*, 34 – 39. <https://rcientificas.uninorte.edu.co/index.php/esal/article/view/14108>
- Hernandez, C., Gamboa, A., Avenda o, W. (2021). Validation of a scale to assess investigative skills in teachers of Basic and Middle. *Redipe Bulletin Magazine*, 10 (6), 393 – 406. <https://revista.redipe.org/index.php/1/article/view/1335/1250>
- Bautista, J., Duarte, M., Hernandez, R., Espigares, M. (2020). Research at the University today. Notes for educational leadership and social change. *UCSA Scientific Journal*, 7(1), 39-48. <https://revista.ucesa-ct.edu.py/ojs/index.php/ucsa/article/view/25>
- Medina, D. (2018). The role of Peruvian universities in the face of research and technological development- Prop sitos y Representaciones, 6(2), 703-737. <http://dx.doi.org/10.20511/pyr2018.v6n2.244>
- Castro-Rodr guez, Y. (2017). Contributing factors is student scientific production. The case of Dentistry at the National University of San Marcos, Peru. *Medical Education*, 49 – 58. <https://doi.org/10.1016/j.edumed.2017.10.002>
- Garcia, C. (2018). Research as a vocation. *Historic Folia of the Northeast*. 32, 223-227. <http://dx.doi.org/10.30972/fhn.0323504>
- Malagon, R., Rincon, H. (2018). Pedagogy of autonomy: demands in the teaching of the critical teacher. In R. P ez, G. Rond n, and J. Trejo (eds.), *Teacher training and critical thinking in Paulo Freire* (pp. 107-127). Clacso. <https://es.scribd.com/document/521364633/Malagon-y-Rincon-2018-Pedagogia-de-la-autonomia-exigencias-en-la-ensenanza-del-docente-critico>
- Serje, V., Prieto, L., Riveros, F. (2021). Attitudes towards science and research in members of higher education institutions in Bogot : differences due to demographic variables and academic role. *Education and Educators*, 24(3).
- Quezada-Berumen, L., Moral, J., Landero-Hern ndez, R. (2019). Validation of the Research Attitude Scale in Mexican Psychology Students. *Evaluate Magazine*. 19(1), 1 – 16. <https://doi.org/10.35670/1667-4545.v19.n1.23874>
- Reynosa, E., Serrano, E., Ortega, A., Navarro, O., Cruz, J., Salazar, E. (2020). Didactic strategies for scientific research: relevance in the training of researchers. *University and Society*, 12(1), 259-266. <https://rus.ucf.edu.cu/index.php/rus/article/view/1445>. <https://doi.org/10.5294/edu.2021.24.3.1>
- Obermeier, M. (2018). Index of attitude towards research and disposition to the degree by thesis. *Methodological Perspectives*. 18 (21), 113 – 134. <http://revistas.unla.edu.ar/epistemologia/article/view/1900>