RICHTMANN
P U B L I S H I N G

Research Article

Nursing Teaching-Learning Process in Virtual Environments-Perspective of Teachers and Students

Mary Luz Solorzano-Aparicio[1]*

Irene Mercedes Zapata-Silva[1]

Monica Elisa Meneses-La-Riva[1,2]

Wilter C. Morales-García[3]

Ana Da Costa Poland[4]

Maria Teresa Cabanillas-Chavez[1]

[1]*Postgraduate Unit of Health Sciences,*
Graduate School,
Peruvian Union University,
Lima, Peru
[2]*César Vallejo University,*
Lima, Peru
[3]*School of Human Medicine,*
Faculty of Health Sciences,
Universidad Peruana Unión,
Lima, Peru
[4]*Centro Universitário Euro,*
St. de Grandes Áreas Norte 916,
North Wing, Brasilia,
Federal District,
70790-160,
Brazil
*Corresponding Author

Abstract

The Teaching-Learning Process (PEA) in virtual environments requires permanent adaptation to change. Objective: to analyze the perception of the quality of the PEA in virtual environments and propose alternatives for improvement. Method: study with a qualitative approach of ethnomethodological design, through semi-structured interviews and dialogue/debate in focus groups. The sampling was non-probabilistic for convenience according to the saturation point. Results: seven categories emerged: 1) Quality of the PEA in virtual environments: motivation, active methodology and collaborative learning; 2). Limiting; 3). Strengthening of the active methodology: equipment and teacher-student interaction; 4). The tutorial processes strengthen both; 5). The value of practice; 6). Roles focused on theory-practice interaction; 7). Challenges and opportunities. Conclusion: The quality of the PEA in nursing in virtual environments is a process under construction, the challenges and opportunities concern everyone in logistical aspects and academic effort; viable thanks to the commitment of the participants and the resilience of the students.

Keywords: Teaching learning process, quality, challenges, opportunities, perception, teachers, students

1. Introduction

The professional practice of nursing is rooted in social life in order to promote health and respond to the multiplicity of situations with the potential for loss or abrupt interruption of human well-being. Taking care of the person with a holistic sense, deserves planned academic training, supported by updated and flexible curricular design, according to the demands of the desirable social transformation(Cross, 2020).

Since the 1990s, the Peruvian State has implemented strategies to achieve educational quality in higher education. Consequently, managers and teachers promote actions that lead to the development of the student's potential, seeking horizontality in interaction, participation, critical sense and the right to disagree, considered the path to become an agent of their own transformation and future labor insertion.(Montenegro, 2020).

However, due to the SAR COV2 Pandemic, university training entities, which already used the face-to-face-virtual modality, generalized virtual teaching, since the Internet is one of the facilitating tools to carry out training processes. Challenging situation for the nursing discipline, due to its emphasis on the use of face-to-face experiences as a guarantee in the acquisition of praxis competencies. Caring implies proximity, communication, trust and specific support according to the individual context of the person in need of care(Cedeño et al., 2021)

In Mexico,Melendez et al., (2021), refers to the persistence of traditional methodology, low motivation, communication and feedback; in rural areas, economic restrictions and the lack of technological resources are common denominators for students;Jimenez et al. (2021)for their part, they specify that students achieve less learning, due to the poor development of self-taught capacity, with online assessment being the learning area that requires significant improvement demands. Among the impressions favorable to virtual teaching,in Cuba, Vialart & Medina, (2018)argue that while students do not present difficulties because they are digital natives, teachers in a good proportion need to be empowered. Other authors in Brazil,daSilva et al. (2020), advocate blended learning, since it allows the construction of knowledge, with freedom of expression, increased reading and relationship between students and between students and tutors.

These differences, together with the absence of previous studies in the scenario selected for the investigation, motivate the convenience and opportunity to assess the impressions of teachers and students about the perceived educational quality during the Teaching-Learning process in which they participate. It is kept in mind that it pursues the purpose of guaranteeing an inclusive, equitable and socially relevant education; In addition, the participation of social actors immersed in the construction of meanings resulting from their experience, allow discovering and understanding how the teacher-student relationship is carried out; if there is adequacy in the methods used in the learning experiences, in terms of participation, construction of learning and autonomous development of the student; the role of teacher accompaniment. These and other elements that constitute inputs for the advancement of specific improvements in favor of the student, the teaching function and institutional accreditation, among others; being crucial in a culture that tends to quality, allow to be evaluated by other social actors responsible for higher education. The interest of the study is focused on analyzing the perception of the educational quality of nursing training in virtual environments, specifying challenges, opportunities and alternatives for improvement from the perspective of teachers-students. allow to be evaluated by other social actors responsible for higher education. The interest of the study is focused on analyzing the perception of the educational quality of nursing training in virtual environments, specifying challenges, opportunities and alternatives for improvement from the perspective of teachers-students. allow to be evaluated by other social actors responsible for higher education. The interest of the study is focused on analyzing the perception of the educational quality of nursing training in virtual environments, specifying challenges, opportunities and alternatives for improvement from the perspective of teachers-students.

2. Material and Method

Study with qualitative method and approach according to ethnomethodology. 15 teachers and 19 nursing students from a private university participated in the context of the COVID -19 pandemic. The sample size was determined by the saturation point. Nursing teachers who are currently working and students who are studying regularly were included; both voluntarily accepted their participation. Teachers who, having expressed their consent, withdrew from academic activity, were excluded. The data was obtained through the virtual platforms Meet/Zoom; the interviews lasting 30 minutes and the discussion in focus groups between 60-90 minutes on average, were carried out during the months of March-April 2021 in the asynchronous phase.

The qualitative method facilitated the comprehensive and in-depth analysis of aspects of educational relevance immersed in subjectivity and intersubjectivity, with the researcher maintaining a respectful role in the language expressed by the participants.(Baptist, 2021). The ethnomethodology from sociological science made it possible to know the impressions related to the practices immersed in the Teaching-Learning process, in a naturalistic, simple and common sense reflection.(Souza Minayo, 2013).

The instruments used were validated from pilot tests, until obtaining a sufficient response to the questions asked. The analysis of the data was carried out immediately after obtaining it, in order to preserve the fidelity of the information provided. Subsequently, the information was organized in detail in meaning units and pre-categories with their respective codes; then the reduction of the data was processed, grouping the nuclei of meaning by similarity, in categories that contained the results classified and ordered according to thematic structure for their interpretation.(Pineiro et al., 2019).

Due to the rigor and quality of the study, it was approved by the Ethics Committee of the training entity, respecting the principles of autonomy by having the informed acceptance of the participants after explaining the risks and benefits and the confidentiality guaranteed through the use codes, similar to anonymity strategies(Hernández-Sampieri & Mendoza, 2018).

Among the quality principles, it was taken into account according toFlick (2018)In the first place, the credibility criterion seeking the return of the material obtained to the participants, in order to identify the veracity of the statements captured by the researcher. In the same way, comparing the information with the behavior observed and recorded in the field journal. Secondly, in order to achieve the auditability criteria, care was taken to execute the procedures in an orderly manner and the recorded and transcribed information is optimally preserved, since it is the emic language or the subject investigated, maintaining its availability at any request by other researchers or interested persons.

Finally, the transferability criterion was respected, considering that the method, instruments and procedures used may be applicable to the study of similar contexts by other researchers.

3. Results

The teachers have ages corresponding in 40% to the group between 42-44 years; female in 93.3%; 86.7% come from the interior of the country, service time of 10 years on average in 80%; 80% have a postgraduate degree between a master's degree and a doctorate. The students with 20 years of age constitute 31.6%; a female predominance in 94.7%; coming from the interior of the country, in 73.7%; from abroad, 26% and from Lima capital, only 0.3%.

According to the process followed and the coding and thematic categorization processes concluded, the following structure of categories was obtained, a priori and built on the teacher-student interaction. Four themes or macro categories were identified, defined based on the objectives of the study or "a priori"; where 7 emerging categories and 20 subcategories were located, described below. (Table 1) Annexes.
1. Identified quality components:
    Subcategories:

- – Training in the use of the Patmos Platform.
- – Quality in the PEA: in theoretical aspects, not in practice.
- – The use of ICT tools enhanced the quality of the PEA.
- – Collaborative learning. Sum of student responsibility and teacher support.

2. Limitations for the quality of the PEA in virtual environments
   Subcategories:
   - – Family does not know academic discipline.
   - – Barrier 1: insufficient connectivity for students from the interior.
   - – Barrier 2: restrictions on equipment-use of mobile telephony.

3. Strengthening of the triad: active methodology, equipment, teacher-student interaction.
   Subcategories:
   - – Use of Camera on - synchronous sessions.
   - – Have basic computer equipment: requirement
   - – Increased production and use of virtual laboratories.

4. Tutorial processes strengthen the PEA in virtual environments.
   Subcategories:
   - – Include psychological support in the face of the covid-19 impact and in the face of lesser development of social skills in students.
   - – Greater pedagogical accompaniment in production and management of ICTs.

5. The value of practice in the PEA
   Subcategories:
   - – Clinical and community practice management.
   - – Periodic evaluation of student satisfaction.

6. Roles focused on theory-practice integration in the PEA.
   - – Option for the hybrid modality: face-to-face-virtual.
   - – Formation of mixed learning teams in competitions.
   - – Evaluative strategies consistent with the nature of the subjects.

7. Challenges and opportunities in the PEA-virtual environments.
   Subcategories:
   - – University implementation of Software with low internet consumption.
   - – Autonomous learning experiences of greater applicability.
   - – Leadership from interdisciplinary learning.

4. Discussion

The findings obtained from the study make visible that training nursing professionals involves preparing people willing to give the best of themselves throughout their professional career. They (you) will take care of the human being in individual and collective planes that deserve teaching-learning processes imbued with quality.

This is referred to in category 1. Where the most significant components of quality perceived by the participants are highlighted: the stimulus and the use of ICTs through playful strategies. However, they find in the sincerity of their thought and feeling, the affirmation that quality is not achieved in all areas of the educational process, but mainly in theoretical training:

"there is stimulation, entertainment when the teacher uses Kahoot or Quizizz; everyone wants to have extra points." P3 and another recognize support elements:

"The PEA in the nursing school is good; ICTs have been used for a long time and have been enhanced with the options of the Patmos platform to receive and send jobs, share suggestions and be evaluated". P26. Even though the motivation emphasizes the need for scientific inquiry,(Cedeño et al., 2021)

Therefore, it is essential that even though the construction of knowledge is the route to care effectively and safely, care is carried out in a communicative encounter, with an empathic attitude in order to satisfy basic human needs in a timely and comprehensive manner, a behavior that must be apprehended(Waldow & Pereira, 2020). Components that adequately integrated through teacher accompaniment, strengthen collaborative learning.

Regarding the limitations for the achievement of educational quality, category 2. Synthesizes the essential elements identified by students and teachers. Upon returning to their homes due to the effects of the covid-19 pandemic, along with the joy of having them close, they faced the need to respect the discipline of academic training, leading to an adaptation process. However, the greatest weight falls on the lack of conditions for connectivity and optimization of learning experiences, the students did not have computer equipment and there is no broadband internet in the interior of the country. The participants highlight:

"There were many external distractors at the beginning, it was very difficult to adapt." P9. "Submitting papers required a laptop, but I only had a mobile device." P7.

In this line of experience,Kohan et al. (2017)they advocate for the essentials of the indicated resources for an excellent learning; pointing out similarities(Melendez et al., 2021), state that, in Chihuahua, less than half of the students have Internet access and only 43% have a computer. Similarly, in Peru, only 42% of the population accesses the Internet and connectivity in rural areas is only 18%.(Cano et al., 2020).

On the other hand, in category 3, it highlights the irreplaceable role of strengthening the active methodology, equipment and student-teacher interaction. Particularly in virtual environments, it requires knowledge and skill in handling the tools intended to create spaces for problematization, open dialogue, participation, prior review of the learning materials and felt by them:

"It is better to reduce the exposure time in class and in front of the computer; a good selection of materials that are pillars of learning and complete with questions, videos and other participatory activities, always with the camera on and the support of the Patmos platform". P2.

About,Garcia (2002)it records some similarities with the results of the analysis, arguing the need to minimally satisfy the provision of a computer with an adequate video card to produce educational material coherent with virtual environments; aspects of management processes.

The contribution of the participants who express in category 4, the tutorial processes strengthen the development of the PEA, allude to the inclusion of psychology professionals in order to provide specific support to those who lost loved ones during the pandemic and also to groups of students who They show less development of social skills. Subcategory evidenced in:

"Having the help of a psychologist is essential to overcome the unfavorable impact of the covid-19 experience" P24.

A second subcategory emphasizes the convenience of pedagogical support in the production and management of audiovisual material and ICTs in general, in virtual teaching. Expressed in the speeches: "It would be convenient to reduce the teaching load and spend more time preparing materials for virtual use and tutoring with case studies." P24. In the same way: "Knowing the needs of students, their economy and culture, to organize them into accessible groups with timetables and resources in the synchronous phase" P28. In this educational context, virtual tutoring exceeds temporal-spatial limits; it is about promoting autonomous learning. Situation that shows coincidences with the results of Espinoza & Ricaldi (2018)By asserting that nothing more propitious than accompanying the student in their training process, greater participation and the timely clarification of doubts are achieved.

One of the transcendental aspects for professional training, elucidate teachers and students in category 5, the value they attach to practice, given the generalization of the teaching-learning process in virtuality. They express:

"It is necessary to manage spaces for practice, because the profession demands it. Only with the use of simulators, I would not be convinced to intervene on a human being or his family ". P2.

These statements made byTejada et al. (2019), show differences with the results obtained. While the authors found interpersonal relationships of little trust, little proximity and minimization of student talent by teachers; In the present study, teachers and students showed esteem, respect and trust, as well as interest and effort to have practice spaces.

Regarding the fulfillment of roles focused on theory-practice integration, these emerge when contrasting the quality attributes identified by the participants, the limitations and the ideal of the teaching-learning process. To achieve the necessary integration, they propose three subcategories whose practice has an impact on the desired impact and teachers express themselves preferably in speeches:

"The adaptation was rapid to the use of ICTs... the goal was always to allow the student the leading development of autonomous learning" P11-P29; P31, P33 and P36.

"Integrating theory-practice means up to twice the time invested in face-to-face teaching, progress is made in achieving self-taught learning capacity." "The learning evaluation is pending; some students found improvements in their grades due to the research carried out and their active participation". P30

They are speeches that speak for themselves.Zarate et al. (2020)show coincidences with the option chosen in this study, about focusing the PEA on the hybrid modality. Both have strengths that favor adaptability to curricular requirements, innovate and ensure the best use of ICTs, creating conditions for evaluations without fear by abolishing the digital divide.

Finally, in category 7, the challenges and opportunities emerge in the PEA in the virtual environments that are the subject of research. The discourses expressed at the individual level, are articulated to converge in methodological and practical consequences, expressed in three subcategories, such as software innovation, prioritization of autonomous learning experiences and strengthening of leadership from interdisciplinary training work. The challenge of implementing academic software and those intended for greater interaction between teacher-student such as the Blackboard Collaboration, constitute important fields for management and permanent monitoring, given the present technological disruption and is facilitated by the opportunity to have the stimulus and support from those responsible for academic management, in terms of training, specialized technical support for the preparation of dynamic audiovisual material and the use of interactive material; "The development of virtual spaces is the basis for learning from practice." P12, P15.

To promote autonomous learning and the self-taught capacity of the student, the teachers have extensive experience and commitment, as well as the personal disposition to structure the times, depending on the students who most deserve it. From the interaction in focus groups, teachers consider it essential to incorporate the needs in the educational planning stage, increasingly strengthening the teaching capacity and confidence in students until they achieve their full participation in the construction of their learning. The way in which "integrating into groups with different abilities can make it possible for everyone to learn from everyone" constitutes a relevant opportunity. P12 P13 P16 P17.

Investment logistics in software and the use of digital platforms is permanently recognized and is updated in parallel with technological innovation. The learning needs and scientific theoretical development are supported by this wide field of resources.(Bastos et al., 2020). The subcategory that promotes autonomous learning as a priority in subjects of greater scope and applicability, opts for a critical sense and postpones the excess of activities that only generate fatigue and little coherence

with the curricular design.(Callís et al., 2020).(Morales, 2021)For its part, it insists on the way in which students linked to interdisciplinary teams during the teaching-learning process revalue their leadership potential and develop multiple skills, achieving a greater sense of achievement and self-realization.

In short, the research carried out from the qualitative paradigm and approach according to ethnomethodology, reveals the attributes perceived by the participants from their experience as participants in the teaching-learning process, regarding educational quality in virtual environments. The perception of teachers and students, although it is based on sensitization processes and previous training regarding the Patmos interactive platform, describes and analyzes the experience framed from March 2020 to the end of 2021, corresponding for almost 18 months to the COVID-19 context, time of great restrictions due to social confinement and fear of contagion.

Stage that, however, entails considerable recognition to teachers who show dedication, creativity and commitment to adapt to the demands in the use of tools and strategies typical of virtual teaching, also to the overtime spent in tutorial accompaniment to students with fewer resources and great shock for the loss of loved ones. It is premature to talk about certainties in the discourses shared by the participants, it is only the analysis of the impressions contained in their language, the way in which they assume in their daily life, the training process in which they are immersed.

The outline of the deficiencies raised in terms of equipment and connectivity, makes us participants in a space of chronic knowledge and postponed solutions with a view to development posed by the Sustainable Development Goals(UNESCO, 2020)and that motivates the continuity of face-to-face and virtual efforts, as it is an inseparable part of the commitment aimed at creating conditions for the achievement of social transformation.

They constitute important proposals where there are teacher-student convergences, having the decisive support of the University in its role as a social promoter of the improvement of broadband internet, a limitation that compromises connectivity, the pillar of knowledge development of a significant number of students. and general population.

It is essential in the pedagogical development, the improvement of evaluation strategies in its various modalities, so as to facilitate real and timely progress related to student learning and development. In the virtual field, the participants have reported that the design of the tests can be improved depending on the time available and the type of work of greatest development, it can be structured around the aspects that respond to main academic axes.

Based on experiences shared worldwide and of an interchangeable nature, comprehensive contingency plans must be in place to meet the demands of practical training, considering that nursing is a discipline with a strong practical component in professional practice.

In accordance with what was expressed in the different categories, they propose that: "Pathophysiology classes in key courses be recorded, devoting more time to learning care" P12. In addition, they consider it very beneficial to "Participate in regional inter-university meetings on virtual teaching, in order to identify new opportunities for improvement." P18.

There are, therefore, important consequences for the strengthening of the theory that supports the participatory pedagogical model.(Freire, 2014)and applicability in educational practice. The challenges for the teacher and the university represent dedication in order to continue implementing strategies to overcome the barriers and optimize the opportunities contained in the opening and institutional positioning in teaching using virtual platforms, in addition to having a proactive faculty and administration. Critically, the breadth of information obtained slows down further in-depth study, being, on the other hand, a source of inputs for lines of research relevant to face-to-face and virtual teaching-learning modalities. The students are the center of the enormous pending agenda that will undoubtedly be welcomed with firmness and generosity.

The limitations of the study are related to the fact that there is little information on the subject, in addition to not being able to generalize, so it is recommended to carry out another type of study approach.

5. Final Considerations

The findings obtained in the qualitative study establish analytical categories that allow us to understand that the quality of the nursing teaching-learning process, in virtual environments, behaves as an adaptive force of rapid response, evident in the generalization of the use of the active methodology and skill in the use of ICTs. The recognized progress is supported by the Patmos interactive platform of mastery by teachers and students. It is satisfactory to perceive the interest and commitment of the teacher, the responsibility and autonomous development of the student, showing deep conviction for the integration of practical theory and an unwavering attitude to get space for practice, nursing as a science of human care is expressed in interaction with the person in need of care, Therefore, the best training option is and will continue to be the hybrid alternative: face-to-face-virtual learning. It is advisable to continue the mission undertaken and participatively delve into the impact of the improvements suggested by the participants.

References

Bastos, MDC, Canavarro, D. de A., Campos, LM, Schukz, RDS, dos Santos, JB, & dos Santos, CF (2020). Emergency remote teaching in nursing graduation: Experience report during covid-19. Mineira de Enfermagem Magazine, 24 (e-1335). https://doi.org/10.5935/1415.2762.20200072

Baptist, NP (2021). Qualitative research process: Epistemology, methodology and applications (2 da). The Modern Handbook. https://books.google.es/books?hl=en&lr=&id=yr2CEAAAQBAJ&oi=fnd&pg=PT13&dq=Qualitativ e+research,+categories,+methodology&ots=1yN4nXQRCu&sig=KUzp2yXZUfoZortvnuEcsDUEO9M#v=onep age&q=Qualitative research%2C categories %2C methodology&f =false

Callís, S., Madrazo, M. del C., Guarton, O., Cruz, V., Armas, AM, & Ruiz, I. (2020). The virtual classroom as a virtual learning environment during the COVID-19 pandemic. V Virtual Congress of Morphological Sciences, 10(1), 1–15.

Cano, S., Collazos, CA, Flórez-Aristizabal, L., Moreira, F., & Ramírez, M. (2020). Learning experience of Higher Education in the face of changes worldwide due to CoVId-19. Virtual Campus, 9(2), 51–59. www.revistacampusvirtuales.es

Cedeño, S., Villalobos, M., Rodríguez, J., & Fontal, P. (2021). Nursing education in Latin America and virtual learning environments in times of pandemic. CuidArte, 10(20), 19–30. http://dx.doi.org/10.22201/fesi.2395 8979e.2021.10.20.79919

Cruz, C. (2020). The nature of humanized care. Nursing: Humanized Care, 9(1), 19–30. https://doi.org/10.22 235/ech.v9i1.2146

da Silva, MAL, Silva, SV, Da Silva, JCB, Da Silva, WB, de Lucena, MWC, Mota, SMA, de Carvalho, MVG, & de Sousa, VJ (2020). The evaluation of blended teaching on ethics of the academic of enfermagem. Electronic Magazine Acervo Saúde, 47(e3080), 1–7. https://doi.org/10.25248/reas.e3080.2020

Espinoza, EE, & Ricaldi, ML (2018). The tutor in virtual learning environments. University and Society Magazine, 10(3), 201–210.http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2218-36202018000300201&lng=es&nrm =iso&tlng=en

Flick, U. (2018). Introduction to qualitative research. Morata SL https://www.torrossa.com/it/resources/an/5391309

Freire, P. (2014). Pedagogy of autonomy: necessary knowledge for educational practice (Paz e Terra SA (ed.); 53rd ed.). https://www.buenosaires.gob.ar/areas/salud/dircap/mat/matbiblio/freire.pdf

Garcia, M. (2002). The historical-cultural conception of LS Vigotsky in special education. Cuban Journal of Psychology, 19(2), 95–98. http://pepsic.bvsalud.org/pdf/rcp/v19n2/01.pdf

Hernández-Sampieri, R., & Mendoza, CP (2018). Research methodology: quantitative, qualitative and mixed routes (McGRAW-HILL INTERAMERICANA (ed.)).

Jiménez, YI, Hernández Jaime, J., & Rodríguez Flores, E. (2021). Online education and learning assessment: from face-to-face to virtual. RIDE Ibero-American Magazine for Educational Research and Development, 12(23). https://doi.org/10.23913/ride.v12i23.1005

Kohan, N., Soltani, K., Mojtahedzadeh, R., Abbaszadeh, A., Rakhshani, T., & Emami, A. (2017). Self-directed learning barriers in a virtual environment: a qualitative study. Journal of Advances in Medical Education & Professionalism, 5(3), 116–123. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5522903/

Meléndez, P., Carrera, C., & Midragal, J. (2021). Educational challenges in virtual environments: rural and urban schools. Purposes and Representations, 9(3). https://doi.org/10.20511/pyr2021.v9n3.1333

Montenegro, J. (2020). The quality of university teaching. An approach from the perception of students. Education, 29(56), 116–145. https://doi.org/10.18800/education.202001.006

Morales, J. (2021). Reading from critical pedagogy: a proposal for significant educational intervention. Cuban Journal of Higher Education, 40(2). http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0257-43142021000200006&lng=es&nrm=iso&tlng=es

Pineiro, ML, Rivera, ME, & Esteban, E. (2019). Proceed from the qualitative researcher (Experimental Pedagogical University (UPEL) (ed.)).

Souza Minayo, MC (2013). Craft of Qualitative Research (Publisher Place (ed.); 1st ed.).

Tejada, S., Ramirez, EJ, Diaz, RJ, & Huyhua, SC (2019). Pedagogical practice in training for nursing care. University Nursing, 16(1). https://doi.org/10.22201/eneo.23958421e.2019.1.577

Unesco. (2020). Higher education and Sustainable Development Goals. Https://Es.Unesco.Org/Themes/Educacion-Superior/Ods. https://es.unesco.org/themes/higher-education/ods

Vialart, MN, & Medina, I. (2018). Use of virtual teaching-learning environments by teachers in the courses by meeting of the Nursing career. Higher Medical Education, 32(3), 51–60. http://scielo.sld.cuhttp//scielo.sld.cu

Waldow, VR, & Pereira, E. (2020). Awareness, care and health: contributions to a human and planetary development (CRV (ed.)).

Zárate, RA, Ostiguín Meléndez, RM, Castro, AR, & Valencia Castillo, FB (2020). Nursing and Covid-19: The voice of its protagonists. National Autonomous University of Mexico. http://www.librosoa.unam.mx/handle/123456789/3201