Behavior guidelines of university academics during the pandemic

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ABSTRACT
The objective of this descriptive study aimed to identify the behavioral patterns of academics from a research institute in Mexico during the COVID-19 pandemic. The instrument used was a questionnaire validated before its application, and once corrections were made to the instrument, it was applied by digital means to a convenience sample made up of 22 academics from a research institute of the Universidad Veracruzana in Mexico. Some of the results found were: the academics highlighted some positive situations of their academic activity in the digital channel such as time savings, remote work, and the...
development of technological teaching-learning skills. Significant portion of academics felt sufficiently trained for digital interaction with their students, despite the fact that the majority of them did not receive emerging training to be able to face the needs of digital teaching. On the other hand, it was found that there were difficulties with online work, more time was spent at work and there was a greater workload, technological and interaction problems. Furthermore, the teachers identified that the students' decline in student performance.

**Keywords:** Conduct, Descriptive Study, Information and Communication Technologies, Technological Skills, University Teachers.

1 INTRODUCTION

Relevant social phenomena are the subject of scientific research for academia in universities, such is the case of the consequences of the surprise COVID-19 epidemic, which is the first major pandemic of the postmodern era of human civilization.

The pandemic brought many disruptions to society, in the workplace, educational, social, and economic, among others. In Universities, teachers and their academic performance were affected during isolation, since they were not prepared or trained for this change, and they did not have the necessary technological support to continue their academic work from home.

Faced with this situation, the urge arose to carry out different academic work, while still being efficient and of quality. In-person education became virtual as Cabero and Valencia (2021) mention:

> Education quickly changed from being a model of information transmission by the teacher, of direct interaction with the student, to a model focused on and mediated by technologies. This generated a challenge for educational agents and systems, since Distance education leaves aside three classic variables of face-to-face education, which are the unity of time, space and action. (p. 219)

Problems arose regarding the efficiency and accessibility of the technology and doubts regarding the methodology that should be used, in addition to the adaptation of the content to digital means.

That is why the interest arises in developing this research that investigates the effect of confinement in an academic community of the Universidad Veracruzana in relation to its academic teaching activity, analyzing the favorable aspects and obstacles encountered.

1.1 RESEARCH QUESTION

What was the behavior of the academics of the Institute of Psychology and Education (IPyE) of the Universidad Veracruzana (UV) in the academic aspect during the confinement derived from COVID-19?
1.2 GENERAL OBJECTIVE

Analyze the behavior of academics from the Institute of Psychology and Education of the Universidad Veracruzana, in the academic aspect during the COVID-19 pandemic.

1.3 SPECIFIC OBJECTIVES

- identify the development of teachers' academic activities during the pandemic;
- identify the Information and Communication Technologies used by academics during confinement;
- identify the favorable aspects and obstacles encountered by teachers when developing their activity.

1.4 JUSTIFICATION

Derived from confinement due to the COVID 19 Pandemic, problems were reported for both students and academics in the performance of their activities. The identification of problem areas in the contexts has always been useful for providing proposals for improvements. Derived from COVID-19, interest arose in knowing how academics developed their teaching activity, as well as identifying the strengths and difficulties they faced in the new teaching modality.

1.5 CONTEXTUAL FRAMEWORK

The Universidad Veracruzana (UV) is a leading Public Higher Education Institution in the state of Veracruz, Mexico. Founded since 1944 and autonomous since 1996, “It has five regional headquarters: Xalapa, Veracruz, Orizaba-Córdoba, Poza Rica-Tuxpan and Coatzacoalcos-Minatitlán, with a presence in 27 municipalities. Due to its enrollment, it is among the five largest state public universities of higher education in Mexico” (UniversidadVeracruzana, 2024). It serves an enrollment of more than 80 thousand students. In formal education it offers more than 300 educational programs at the technical, higher technical university, undergraduate and postgraduate levels; Its educational offer covers all areas of knowledge, organized into six academic areas: Arts, Biological-Agricultural Sciences, Health Sciences, Economic-Administrative, Humanities and Technology. (Veracruzana University, 2021).
1.6 BACKGROUND OF THE INSTITUTE OF PSYCHOLOGY AND EDUCATION (IPyE)

The Institute of Psychology and Education (IPyE) is attached to the General Directorate of Research of the Universidad Veracruzana (UV), located in the Xalapa Region, Veracruz, Mexico. This Institute has Training and Special Education Centers (CEEEUV) in the University Regions of Córdoba-Orizaba, Poza Rica-Tuxpan and Xalapa. In addition to offering two Master's Degrees: one in Research in Psychology Applied to Education (MIPAE), one in Human Development and a Specialty in Psychology in Comprehensive Health Care.

The academic staff consists of 25 academics (10 researchers, 15 academic technicians). The activities carried out are Research, Teaching, Extension of Services and Dissemination of Knowledge.

2 THEORETICAL FRAMEWORK

Educational quality is an essential element to improve education in Mexico. Higher Education Institutions as trainers of human resources adhere to national and international policies, focusing on educational processes, specifically on the training of students so that they perform effectively and efficiently as future professionals.

The Organization for Economic Cooperation and Development (OECD) defines educational quality as:

Factor that provides each student with security regarding the acquisition of learning skills and competencies that allow professional development in their adulthood, as well as an element that focuses on the constant search for excellence and improvement of educational work. (Marciniak, 2016, as cited in García, García and Lozano, 2020, p. 3, 4)

The member states of the OECD collaborate with this organization and work together to develop public and citizen policies to propose solutions based on empirical data to the social, economic and environmental challenges of each member country (OECD s/f). Mexico has remained in the OECD since 1946 and since then its educational policies have been based on the recommendations of this International Organization. In 2018, the OECD carried out a study together with three international experts on Higher Education in Mexico called “The future of higher education in Mexico: strengthening quality and equity” among the recommendations that this study provided to ensure quality. The following are found:

- Hold strong institutions accountable to promote quality improvements in programs
- Expand external quality assurance at other higher education institutions, including through processes better suited to professional programs.
• Raise the bar: guarantee better protection for students by applying minimum quality standards in the private sector in a more rigorous manner
• Refocus external quality assurance of graduate education
• Make institutional adaptations for external quality assurance and apply the above. (OECD 2019, p. 34-38).

In this sense, the Education Sector Program (PSE) 2020-2024 derived from the National Development Plan 2019-2024, also seeks quality in education and defines six priority objectives, among which are:

6.2 Guarantee the right of the population in Mexico to an excellent, pertinent and relevant education in the different types, levels and modalities of the National Educational System.
6.4 Generate favorable environments for the teaching-learning process in the different types, levels and modalities of the National Educational System (Official Gazette of the Federation 2020, p. 194)

Quality in education is also one of the central elements in the 2021-2025 Work Program. For a comprehensive transformation of the Universidad Veracruzana and among its Institutional Policies are:

• Promote inclusive, relevant and quality higher education, as well as the appreciation, recognition and respect for the cultural diversity of indigenous peoples, Afro-descendants and comparable communities, promoting dialogue between traditional and scientific knowledge.
• Promote the creation, design and redesign of study plans and programs in virtual mode in order to facilitate access and availability of quality higher education.
• Train students with ethics, critical capacity and social awareness, who generate quality scientific, technological and artistic knowledge, socially committed and innovative.
• Ensure the quality and relevance of research and postgraduate studies, favoring their balanced development in all university regions and areas of knowledge, as well as the generation of multi, inter and transdisciplinary projects, oriented towards the resolution of local, regional and national problems. (UV, 2022, pp. 42, 43)

Zeithaml, Parasuraman and Berry (as cited in Pesáñez, 2011, p. 41) mention some quality of service references that are applicable to Higher Education Institutions, these are:

1. Tangible elements. It refers to physical facilities, equipment, personnel and communication materials (technology).
2. Reliability. It refers to the ability to execute the service reliably and carefully.
3. Responsiveness. Willingness on the part of the Institution to help clients or users and provide them with quick service.
4. Security. Knowledge and attention shown by employees and their ability to inspire trust and credibility; absence of dangers, risks and doubts.
5. Empathy. Individualized attention that institutions offer to their competitors; ability of employees to put themselves in the shoes of the customer or user.

Quality in educational environments is represented as: “the efficiency of the processes and their congruence with their results; which allow it to meet the expectations of those who are reconsidered clients of education” (Fernández, 2004, as cited in García, García and Lozano, 2020, p. 3).
The suspension of face-to-face classes in the month of March 2020 caused many effects on the actors of the educational process, among them it made visible the needs and deficiencies that institutions have in aspects such as infrastructure, training and connectivity (Chávez- Sánchez, Hernández García and González Basilio, 2020).

Teachers who developed face-to-face classes were forced to carry out online education and create virtual learning environments, design multimedia and hypermedia content, and manage learning management systems, with students in different social and pedagogical conditions and characteristics. This complicated the activities of students and teachers in the teaching-learning processes. In addition to the pressures of confinement, economic, affective, emotional and health implications were added. Cabero & Valencia (2021) mention that educational systems went from face-to-face classes to virtual ones, from the use of printed media to digital resources, and from direct student-teacher interaction to an indirect one mediated by technology.

Moving from face-to-face education to another that uses the internet and Information and Communication Technologies (ICT) in the educational process is complicated, especially when it occurs suddenly and without the required training.

Chávez-Sánchez, Hernández García and González Basilio (2020) mention that suddenly the house became a classroom, meeting room, virtual training center, psycho-pedagogical care office, and space to provide remote advice and tutoring. At that time, administrative work was prioritized, because work days were prolonged excessively, due to the demands of teacher training and updating.

In the study by Escudero, Luna, & Lendechy (2022, P. 2) it was found that "The teachers established communication with their students and designed virtual work strategies to continue with the professional training work" which shows the responsibility of the teachers during the pandemic. However, for teaching-learning to be carried out, responsibility is needed on the part of the students and that they have the necessary requirements and scenarios so that the purposes of their training are met.

Virtual education was presented as an opportunity to provide education to the underserved population and those from distant geographical locations.

The educational system used various information and communication technologies such as Zoom, WhatsApp, email, and videoconferencing, among others; in the pandemic, the poor conditions of technological infrastructure, poor connectivity and poor management of technologies for education were evident. Electronic devices had a formative, reflective, technical and social function in the home. The transfer of courses and experiences to digital platforms revealed many of the problems present in the National Educational System and Higher Education, among them, not all students were in a position to access technology to fulfill their tasks and activities academics.
3 METHOD

This is a descriptive research, which according to Hernández, Fernández and Baptista (2010) are studies that seek:

Specify the properties, characteristics and profiles of people, groups, communities, processes, objects or any other phenomenon that is subject to analysis...they intend to measure or collect information independently or jointly about concepts or variables to which they are analyzed refer. (p. 80)

3.1 POPULATION

The Institute of Psychology and Education (IPyE) has a staff of 26 academics assigned to the Universidad Veracruzana.

3.2 SAMPLE

The questionnaire was sent to the 26 academics from the Institute of Psychology and Education (IPyE) of the Universidad Veracruzana, of which only 22 academics who constituted the sample responded.

3.3 INSTRUMENT

A questionnaire was developed that was divided into seven sections: academic context, health, medical care, consumption, waste and garbage (waste), economy and daily life during the COVID-19 pandemic; with closed and open questions, with a total of 70 items. In this paper the results of the academic context section are presented. The instrument was sent through the Google forms platform: https://docs.google.com/forms/u/0/.

3.4 RESOURCES

3.4.1 Humans

Five academics from the Universidad Veracruzana, two from the Institute of Psychology and Education and three from the Open Education System Pedagogy degree, with studies in Psychology, Pedagogy and a Doctorate in Education.
3.4.2 Equipment

Computers, cell phones, USB, projector, internet.

3.4.3 Materials

Google platform, Teams, Zoom, WhatsApp, Email, SPSS, Excel, Word computer programs.

3.4.4 Procedure

3.4.4.1 Step 1

- preparation of the research protocol;
- research registration in the Research Registration and Evaluation System Platform (SIREI) of the Universidad Veracruzana.

3.4.4.2 Step 2

- preparation of the questionnaire;
- the questionnaire was based on the review of conferences, research, webinars, personal communication, books and research articles.

3.4.4.3 Step 3

- validation of the content of the questionnaire;
- the questionnaire was sent to expert academics for analysis and correction. Corrections to the instrument were made based on what was suggested by the experts. The questionnaire was uploaded to the Google Forms platform;
- the questionnaire was sent to the research participants via institutional email and WhatsApp.

3.4.4.4 Step 4

- data capture from questionnaires;
• the data obtained through the Google platform was captured in Excel and the results were categorized.

3.4.4.5 Step 5

• data analysis;
• those responsible for the research carried out the statistical analysis and interpretation of the data.

3.4.4.6 Step 6

• writing results and conclusions;
• the results were written within the framework of the objective of the study and the conclusions were drawn.

4 RESULTS AND DISCUSSIONS

Below are the results of the Academic Context category during the COVID-19 pandemic. In relation to the development of academic activities during the pandemic, 82% carried them out online and 18% in a mixed manner. See Figure 1.

In relation to the obstacles to report, unusual incidents in academic activities, 41% did not present any obstacles, 36% did not have technological problems, 18% presented excessive workload and 5% stated that they had had teaching-learning problems. See Figure 2.
50% of the participants in this research reported remote work and time saving as positive situations, 36% the development of technological teaching-learning skills, 5% considered isolation beneficial for health and 9% did not respond. See Figure 3.

The Information and Communication Technologies (ICT) that academics used during the pandemic to carry out their activities were the following: Zoom UV 22%, Teams and WhatsApp 20% each, email with 19%, Eminus with 16% and Zoom Telmex with 3%. See Figure 4.
The experience with the use of ICT when developing their academic activities, 59% of the participants stated that they had developed skills, 50% stated that they had had good experiences, 36% stated that they had had bad experiences and 9% said that they had had more Workload. See Table 1.

Table 1. Experience with the use of ICT when developing your academic experiences

<table>
<thead>
<tr>
<th>Experiences</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Skill development</td>
<td>13</td>
<td>59</td>
</tr>
<tr>
<td>2. Good</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>3. Bad experience</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>4. More work</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: in this question the academics gave more than one answer so it does not give 100%. Own elaboration.

Regarding the differences in their academic activities before and during the pandemic, the most frequent responses were: online work difficulties 82%, longer work time 18%, none 9% and work difficulties 9%. See Table 2

Table 2. Differences in their academic activities before and during the pandemic

<table>
<thead>
<tr>
<th>Academic activities</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online work difficulties</td>
<td>18</td>
<td>82</td>
</tr>
<tr>
<td>2. Longer working time</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>3. None</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>4. Work difficulties</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: in this question the academics gave more than one answer so it does not give 100%. Own elaboration.

The main favorable aspects when developing their academic activities were: new forms of online work 50%, better time management 45%, greater coverage 27%, health care 9%, greater involvement of parents or guardians 9% and none 5%. See Table 3.
Table 3. Three favorable aspects that they have found when developing their activities

<table>
<thead>
<tr>
<th>Favorable aspects</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New ways of working online</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>2. Better time management</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>3. More coverage</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>4. Health care</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>5. Greater involvement of parents or guardians</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>6. None</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: in this question the academics gave more than one answer so it does not give 100%. Own elaboration.

The main unfavorable aspects when developing their academic activities were: greater time and workload 41%, technological problems 41%, interaction problems 32%, none 14% and operational and administrative problems 9%. See Table 4.

Table 4. Unfavorable aspects you have encountered when developing your academic activities.

<table>
<thead>
<tr>
<th>Unfavorable aspects</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increased time and workload</td>
<td>9</td>
<td>41</td>
</tr>
<tr>
<td>2. Technological problems</td>
<td>9</td>
<td>41</td>
</tr>
<tr>
<td>Interaction problems</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>5. Operational and administrative problems</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: in this question the academics gave more than one answer so it does not give 100%. Own elaboration.

In relation to the most significant learning that teachers had during confinement: 55% mentioned technological skills, 36% organization at work, 27% new possibilities, 18% empathy with students and 5% importance of face-to-face teaching. See Table 5.

Table 5. Most significant learnings you have had as a teacher.

<table>
<thead>
<tr>
<th>Significant learning</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technological skills</td>
<td>12</td>
<td>55</td>
</tr>
<tr>
<td>2. Organization at work</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>3. New possibilities</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>4. Empathy with students</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>5. Importance of face-to-face teaching</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: Own elaboration.

The teachers considered that 64% of the students did not develop any improvement in academic performance through digital means, however 14% improved in technological use, 9% in academic achievement, 9% in responsibility, 9% in participation and 9% in creativity and organization. See Table 6.

Table 6. Academic aspects that students developed digitally

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>14</td>
</tr>
<tr>
<td>2. Technological use</td>
<td>3</td>
</tr>
<tr>
<td>3. Academic achievement</td>
<td>2</td>
</tr>
<tr>
<td>4. Responsibility</td>
<td>2</td>
</tr>
<tr>
<td>5. Participation</td>
<td>2</td>
</tr>
<tr>
<td>6. Creativity and organization</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: in this question the academics gave more than one answer so it does not give 100%. Own elaboration.
73% of academics felt sufficiently trained for digital interaction with their students and 27% did not. See Figure 5.

![Figure 5. Teacher training for digital interaction with students.](image)

32% of academics felt qualified for digital interaction with their students due to self-training, 27% due to prior knowledge, 18% due to institutional training, 18% due to no cause, and 5% due to the response and disposition of the students. See Table 7.

![Table 7. Training of academics for digital interaction with their students](image)

55% of academics did not receive emerging training to be able to face the needs of digital teaching and 45% did receive training. See Figure 6.

![Figure 6. Emerging training to address the needs of digital teaching](image)
5 CONCLUSIONS

The objective of the study was achieved, since the behavior of the Academics of the Institute of Psychology and Education in the academic aspect during the COVID-19 pandemic was identified. It was observed how the academic activities of the teachers were developed, identifying the use of Information and Communication Technologies, as well as the advantages and disadvantages of online work.

Although the teacher was not trained to offer online education (the teachers only received training in the use of the platforms), the academics reported feeling qualified to perform their teaching function, since they solved the problems that were presented to them and adapted their teaching activity to online work.

Among the information and communication technologies that teachers used the most, the following stand out: Zoom UV, Teams, WhatsApp, Email and EminusTeachers mentioned the development of skills in managing technology, organization and new possibilities at work, and empathy with students as significant learning.

Some of the advantages they found in working online were that they had greater coverage, better time management, and new ways of working online.

As disadvantages, they identified more time in their activity, in addition to excessive workload, they also experienced technological problems and expressed having had interaction problems with students.

On the other hand, Chávez-Sánchez, Hernández García and González Basilio (2020, p. 23) state “we must pay attention to the psychological aspect of teachers, students and the general population. Many of them have been in a situation of panic, stress, anxiety, derived from fear of contagion or due to so much information on the subject", which was not found in this research, since the IPyE academics did not present high indicators of these emotional problems.

The teachers considered that the majority of their students did not develop any improvement in academic performance through digital means and they did develop the use of technology.
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