

# **The Use of ICTs in Teaching at the Normal Superior School “Profr. Moisés Sáenz Garza”: An Exploratory Study**

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*The use of ICTs in the classroom is studied in a descriptive exploratory way to favor the professional training process in the Normal Superior School “Profr. Moisés Sáenz Garza” based on the 2018 study plan. A survey was applied to teachers of eight specialties from different semesters. The questionnaire evaluated the frequency dimensions of the use of ICTs, the use of technological resources in teaching, the teacher’s communication process with students, and the usefulness of ICTs in class for teachers. The main results express that the use of ICTs is systematic and conceived as permanent support for the training path. The main means of teacher-student communication are email and the Moodle educational platform, while the most common activities carried out on the platform are exams, guidelines and forums. The established teachers agree in accepting and recognizing the need for ICTs to make the teaching-learning process more efficient. In general, the use of ICTs in the school studied is satisfactory, which is explained by the fact that the institution has the necessary technological infrastructure for academic activity.*

*Keywords: ICTs, teaching-learning process, teachers*

## **INTRODUCTION**

According to Marcelo (2013) we live in an era of accelerated changes because new technologies have modified the way we relate, communicate, work, shop, inform ourselves and learn; they have also generated new types of social behavior and social insertion. With the multiplication of ways of accessing information and knowledge, there is a great impact on global educational systems and also in Mexico. The curricula of

normal schools for teachers have changed, especially to promote a greater and better incorporation of ICTs from the 2018 curriculum, which is why conducting a study on how teachers appreciate new technologies and the use they make of them in the Normal Superior School “Profr. Moisés Sáenz Garza” is necessary to continue to progressively improve the training quality of this important educational institution. This approach has been carried out through a quantitative descriptive exploratory study, by means of a survey, regarding the use and valuations that teachers make of ICTs, with the purpose of continuing to develop the teaching-learning process mediated by technology, required in the global knowledge society.

## **DEVELOPMENT**

This section specifies the development of the research in a normal school in the period between August 2019 - June 2020.

### **Theoretical Framework**

Currently, Information and Communication Technologies (ICTs) have been characterized by their permanent inclusion in the teaching-learning processes at all levels of education, both elementary, middle and high school, where emphasis has been placed on their use in the classroom. The teacher has a great participation along with the contents to be covered in their classes as mentioned by Gutiérrez and Tyner “ICTs as a tool to promote the teaching of curricular contents, and almost always in the hands of the teacher, is usually the first step of integration of this medium in the curricular development of educational centers” (2012, p. 6).

In past times education was generated in the classroom where the teacher’s role was to teach students content at the time and with the same resources that the classroom had, in this century the pace in the classroom has changed to environments where teachers propose a series of tasks and make available to students a range of resources for the achievement of better learning, including more individualized service to the cognitive needs of students.

At the educational level over time there have been different changes that have generated several alternatives in the curriculum of the study plans, this leads to a renewal in the application of ICTs both in the classroom and outside the classroom. Salinas (2010) states that these changes are made in three moments: first conceptual, classroom function, contextualizing didactic processes, the teacher as trainer among others, the second change is related to content referring to access to networks, the open use of technological resources and that these are operated by both the teacher and the students and the last one referring to the dual practice between teacher-student.

For the processing of the contents in the new 2018 plan, the teachers of the Normal Superior School “Profr. Moisés Sáenz Garza” make the use of ICTs a tool for the teaching-learning process to be developed from a combination of face-to-face and online activities, with a prevalence of face-to-face work. For classes, the teachers should consider the needs and characteristics of the students, the optimal means for the most effective technological communication or the interests planned by the teachers, so the student can have a choice of how and when is the best time to study since he/she can consider different paths and materials for the completion of the assigned tasks (Ferro, Martínez, & Otero, 2010).

In the classroom, the exposure of the contents with the incorporation of ICTs allows them to stop being just reception and memorization of the contents taught by the teacher, activating other instructions: search, analyze, rework, select and not just copy and paste the requested contents. But the information must be selected from the network (Ferro, Martínez, & Otero, 2010) for a better understanding of the activities both inside and outside the classroom.

Marqués (2012) states that: “Teaching-learning processes are basically communicative acts in which students or groups, guided by teachers, perform different cognitive processes with the information they receive or must search for, and the knowledge previously acquired” (p.14), so that from this criterion it is easy to understand the great potential of ICTs to make these processes more efficient.

The use of the Internet opens up new opportunities for teachers and students at local, national and global levels, to obtain information at any time and to communicate with colleagues of other nationalities in order

to exchange ideas, plans, materials and means for the proper functioning inside and outside the classroom. With this we face a new teaching paradigm focused on the student, more personalized and related to pedagogical constructivism. However, this is the “ought to be”, because according to Area (2010), teachers use ICTs to support existing pedagogies, without making significant changes in teaching principles and methods, a state of affairs that, in our view, must be reversed, since it is not only a matter of incorporating technology, but of changing the substance of the learning processes, giving more and more protagonism to the learner.

According to Marqués, quoted in Montero, Morales and Valenzuela (2014), there are basic and specific competences in teachers in relation to ICTs, the former are divided into four dimensions: technical competences, professional updating, teaching methodology and attitudes, and the specific ones are: having a positive attitude towards ICTs, knowing the use of ICTs in the educational environment and in the area of their knowledge, using e-mail, text editor and Internet browsing proficiently, planning their own activities integrating ICTs for their students’ tasks both inside and outside the classroom, and evaluating the role of ICTs. It is necessary that teachers know them and acquire them for the successful operation of the contents to be developed in the teaching-learning process.

Using ICTs in the classroom in the teaching-learning process has advantages and disadvantages for the teacher; Diaz (2014) states that the teacher is able to access different sources, the most recent publications, he/she can assign activities to students to be performed outside the classroom without any inconvenience, have communication by technological means such as: email, Skype and platforms. Disadvantages include internet failure, no electric light, teachers are very dependent on technology and if something fails, they cannot teach the class, some videos and / or slideshows do not work.

### **Problem Statement**

This research has the objective of analyzing the use of ICTs that teachers use in the classroom as a tool to improve the teaching of the contents of the 2018 curriculum in the Normal Superior School “Profr. Moisés Sáenz Garza”, given that in these times the Information and Communication Technologies (ICTs) are of great importance in education since through them they have developed new teaching-learning strategies.

### **Method**

An exploratory descriptive study was carried out by means of a questionnaire, in order to obtain information regarding the use of ICTs by teachers both in the classroom and online at the Normal Superior School “Profr. Moisés Sáenz Garza”. Thirty-two teachers were selected, 16 men and 16 women from different specialties. The questions in the questionnaire were Likert-type.

The dimensions covered in the questionnaire were:

- ✓ Frequency of ICTs use
- ✓ Technological resources available in classrooms
- ✓ Use of technological resources
- ✓ Technologies used for teacher communication with students
- ✓ Benefits of ICTs in the classroom

The data collected through the survey were analyzed quantitatively using descriptive statistics and allowed the preparation of frequency distribution tables with their corresponding figures.

### **Results**

This section contains the results of the survey applied to the 32 teachers of different specialties of the 2019-2020 school year of the Normal Superior School “Profr. Moisés Sáenz Garza”.

**TABLE 1**  
**SPECIALTY OF TEACHERS SURVEYED**

<b>Specialty</b>	<b>Frequency</b>	<b>Percentage</b>
Social Sciences	5	16
Biology	4	13
Spanish	4	13
Physics and Chemistry	4	13
Foreign Language (English)	4	13
Mathematics	4	13
Pedagogy	4	13
Educational Psychology	3	9
Technological education	0	0
Artistic expression (workshop)	0	0
<b>Total</b>	<b>32</b>	<b>100%</b>

Source: Question 4

**FIGURE 1**  
**SPECIALTIES OF SURVEYED TEACHERS**

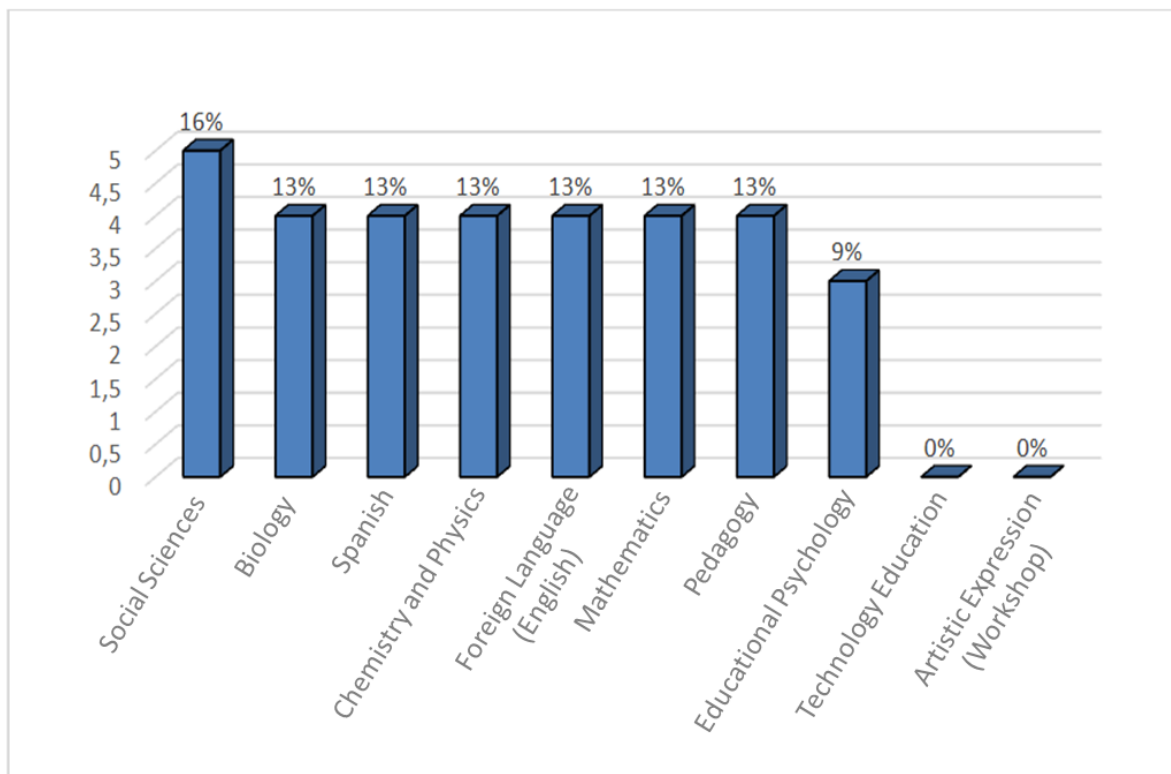


Table 2 shows the frequency of ICTs use in the classroom to optimize the teaching-learning process; more than half of the teachers surveyed always use ICTs.

**TABLE 2**  
**FREQUENCY OF ICTS USE**

<b>Frequency of ICTs use</b>	<b>Frequency</b>	<b>Percentage</b>
Always	18	56
Almost always	12	38
Almost never	2	6
Never	0	0
<b>Total</b>	<b>32</b>	<b>100%</b>

Source: Question 5

**FIGURE 2**  
**FREQUENCY OF ICT USE**

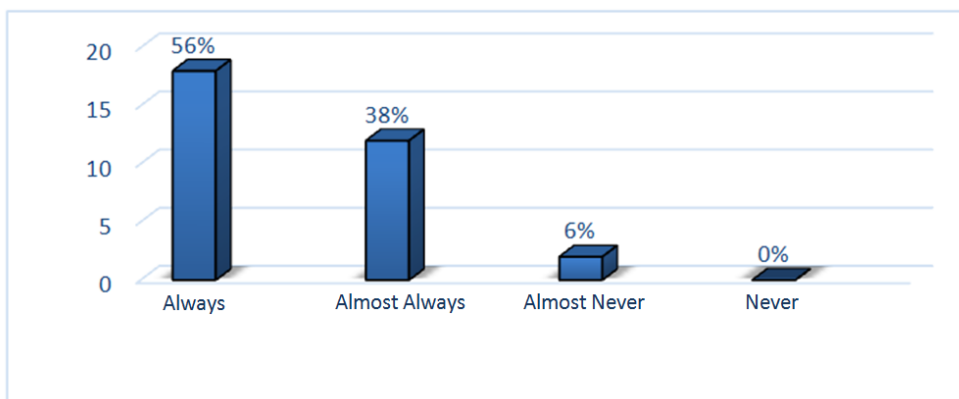


Table 3 shows the technologies available at Normal Superior School “Profr. Moisés Sáenz Garza”, some classrooms are equipped with these technologies because not all resources are equally available, since the digital blackboard is present in all classrooms in the old building and not in the modern building.

**TABLE 3**  
**TECHNOLOGIES AVAILABLE AT THE NORMAL SUPERIOR SCHOOL**  
**“PROFR. MOISÉS SÁENZ GARZA”**

<b>Technologies</b>	<b>Frequency</b>	<b>Percentage</b>
Computer	32	100
Moodle Platform	29	91
Multimedia projector	27	84
Internet	26	81
Sound system	24	75
Cell phone	22	69
Digital blackboard	8	25
Photographic camera	5	16

Source: Question 6

**FIGURE 3  
TECHNOLOGIES**

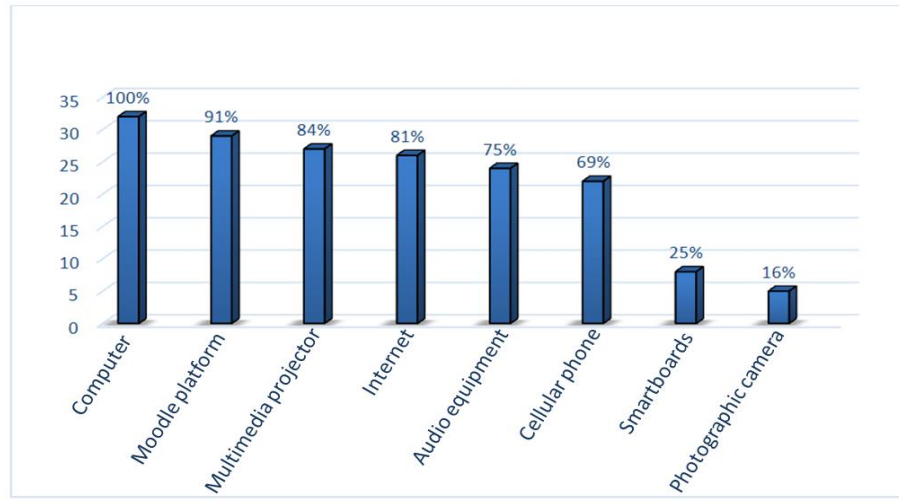


Table 4 shows the results of the teachers' opinion regarding the relevance of using technological resources: most of them accept the need to incorporate them into the teaching-learning process.

**TABLE 4  
USE OF TECHNOLOGICAL RESOURCES TO SUPPORT THE  
TEACHING-LEARNING PROCESS**

<b>Opinion</b>	<b>Frequency</b>	<b>Percentage</b>
Necessary	30	94
Optional	2	6
Unnecessary	0	0
<b>Total</b>	<b>32</b>	<b>100%</b>

Source: Question 8

**FIGURE 4  
USE OF TECHNOLOGICAL RESOURCES**

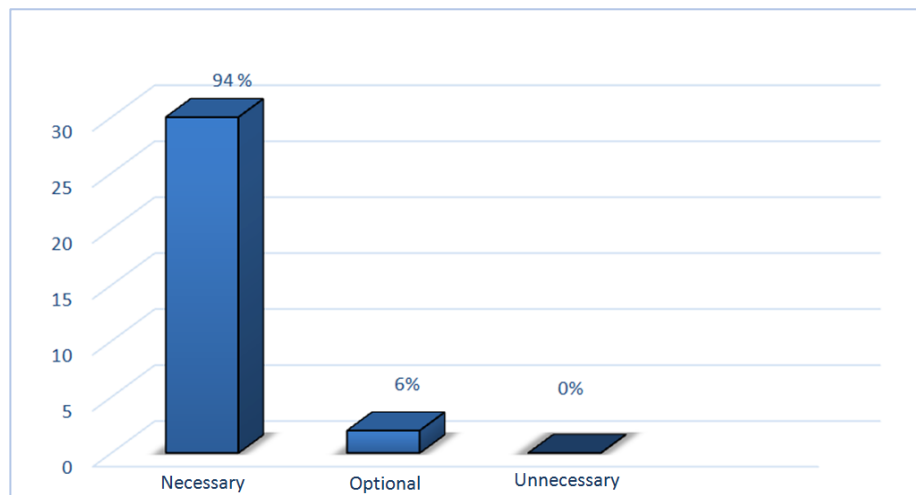


Table 5 shows the use of the Moodle platform, a majority frequency can be seen, gathered in the categories of most of the times and always.

**TABLE 5**  
**FREQUENCY OF USE OF THE MOODLE PLATFORM**

Use of Moodle Platform	Frequency	Percentage
Almost always	16	50
Always	11	34
Almost never	5	16
Never	0	0
<b>Total</b>	<b>32</b>	<b>100%</b>

Source: Question 12

**FIGURE 5**  
**MOODLE PLATFORM USAGE FREQUENCY**

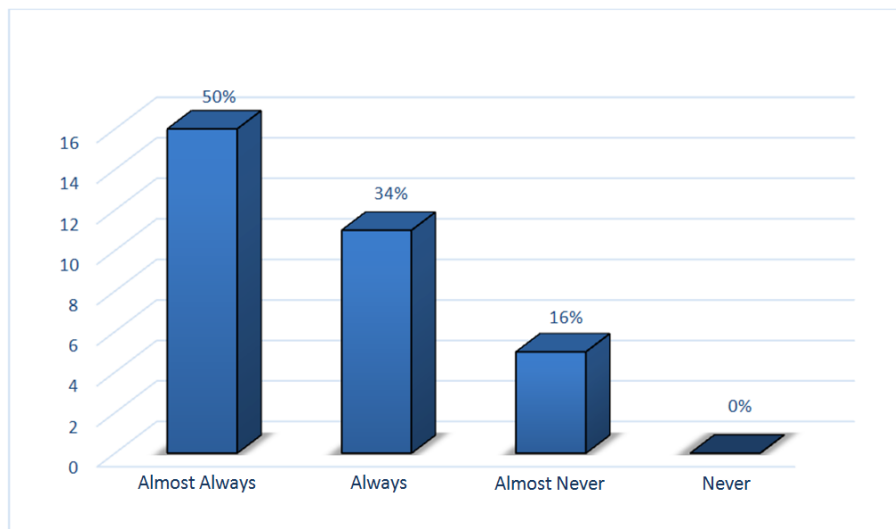


Table 6 shows the tools used by teachers on the platform, and it can be seen that most of them are used for tests and guidelines.

**TABLE 6**  
**TOOLS**

Tools	Frequency	Percentage
Tests	27	84
Guidelines	25	78
Forums	25	78
Slideshows	24	75
Videos	17	53
Chat	12	38
Surveys	11	34
Games	8	25

Source: Question 15

Table 7 shows that teachers use several technologies to communicate with their students, e-mail being the most frequent for this digital dialogue.

**TABLE 7**  
**TECHNOLOGIES USED BY TEACHERS TO COMMUNICATE WITH STUDENTS**

<b>Technologies</b>	<b>Frequency</b>	<b>Percentage</b>
E-mail address	30	94
Educational platforms	28	88
WhatsApp	23	72
Mobile devices	18	56
Facebook	13	41
Twitter	6	19
Skype	3	9
Blogs	2	6
Instagram	1	3

Source: Question 18

**FIGURE 7**  
**TECHNOLOGIES USED BY TEACHERS TO COMMUNICATE WITH STUDENTS**

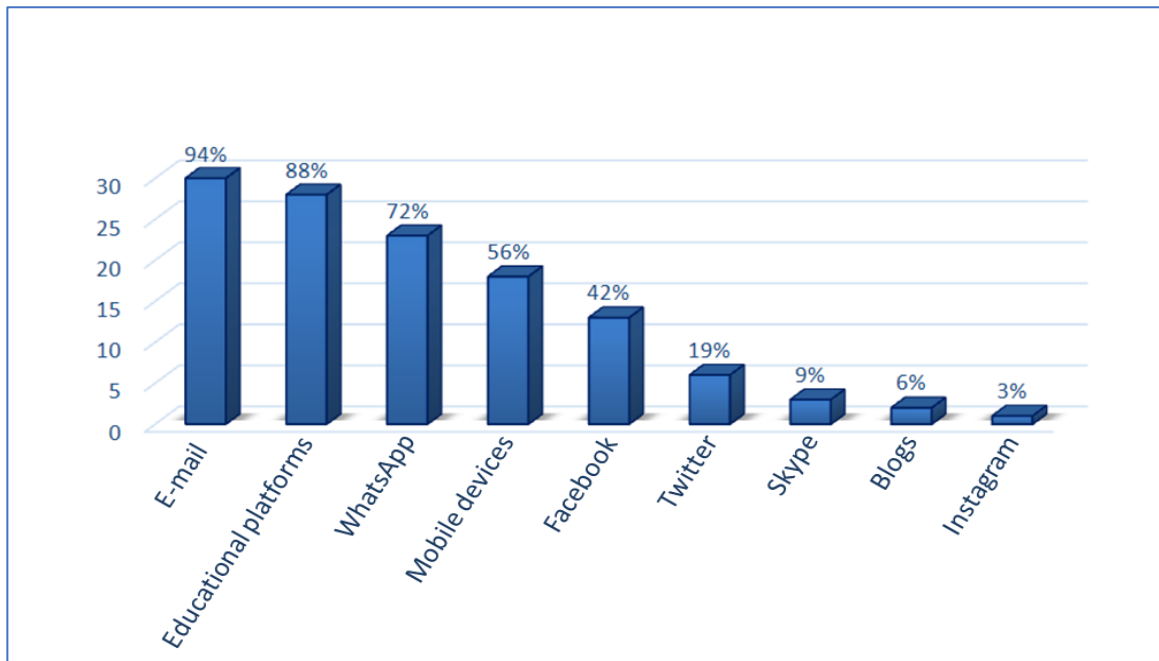


Table 8 shows more than half of the teachers surveyed use ICTs, as shown below:

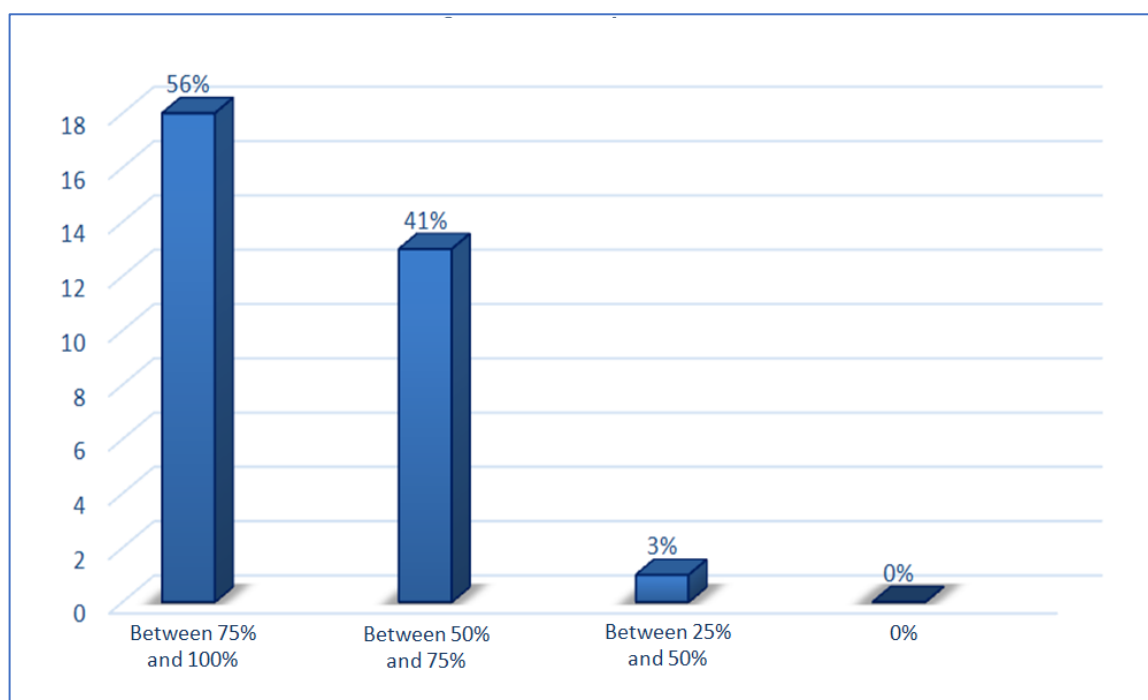


**TABLE 8**  
**USE OF ICTS IN THE CLASSROOM**

<b>Use of ICTs in the classroom</b>	<b>Frequency</b>	<b>Percentage</b>
Between 75% and 100%.	18	56
Between 50% and 75%.	13	41
Between 25% and 50%.	1	3
0%	0	0
<b>Total</b>	<b>32</b>	<b>100%</b>

Source: Question 20

**FIGURE 8**  
**USE OF ICTS IN CLASSROOM**



**Comments**

The results obtained from this research reflect the most common uses of ICT in the teaching-learning process. It includes technological resources in a fixed way such as multimedia projector, sound system, digital blackboard, computer and the explicit use of internet and Moodle platform (Hernández, Acevedo, Martínez and Cruz 2014). But the Normal Superior School “Profr. Moisés Sáenz Garza” has them available for students and teachers to use in the delivery of content and completion of assigned tasks.

The main communication channels of the teacher with his/her students are related to e-mail and the educational platform, which is in line with the criteria of Cardemil and Carrasco, (2011) when stating the need to use and solve the different learning situations designed by the teacher using these communicative channels, so the teacher systematically uses ICT in his/her classes, as a tool to optimize the teaching-learning process in the 2018 curriculum. For this to be achieved, teachers must have the necessary ICTs skills and receive training in the use of ICTs in all subjects.

## CONCLUSIONS

The use of ICTs in the Normal Superior School “Profr. Moisés Sáenz Garza” is systematic as a permanent support to the academic activities of the 2018 curriculum. More than half of the teachers use them regularly. The surveyed teachers use e-mail and the Moodle educational platform as their main means of communication with students. On the platform, the most frequently performed activities are tests, guidelines and forums. The surveyed teachers agree in accepting and recognizing the need for ICTs to make the training process of teacher training students more efficient.

In general, the use of ICTs in the analyzed school is satisfactory, which can be explained by the fact that the institution has the necessary technological infrastructure for academic activities, especially highlighting the broadband Internet facilities that optimize the use of the Platform in and out of class. Success will depend on whether teachers of all specialties make use of tangible and intangible ICTs materials and will be able to develop a quality education for teacher training students.

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