

**INSTRUMENT TO EVALUATE GOOGLE CLASSROOM IN THE TEACHING-LEARNING PROCESS
OF THE TECHNOLOGICAL INSTITUTES OF THE STATE OF VERACRUZ.**

**INSTRUMENT TO ASSESS GOOGLE CLASSROOM IN THE TEACHING-LEARNING
PROCESS OF THE TECHNOLOGICAL INSTITUTES OF THE STATE OF VERACRUZ**

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Abstract -- The proposal presented below consists of the design and elaboration of an instrument to evaluate the impact of the Google Classroom tool in the Teaching-Learning process. The methodology of the instrument consists of a questionnaire designed under the Likert scale and is structured in five pedagogical dimensions of a virtual classroom (Informative, Praxical, Communicative, Tutorial and evaluative, Aspects related to the virtual environment). The type of research used was qualitative. A pilot test was applied with 63 students to validate the reliability of the instrument for measuring satisfaction with the Google Classroom tool by determining Cronbach's Alpha coefficient, using SPSS software version 20 and its statistical interpretation. The results of the test yielded a value of .992 of Cronbach's Alpha coefficient, which proves the validity and reliability of the instrument.

Keywords: Measurement instrument, Google Classroom, virtual classroom, reliability, Cronbach's alpha.

Abstract -- The proposal presented below consists of the design and elaboration of an instrument to evaluate the impact of the Google Classroom tool in the Teaching-Learning process. The methodology of the instrument consists of a questionnaire designed under the Likert-type scale and is structured in five pedagogical dimensions of a virtual classroom (Informational, Practical, Communicative, Tutorial and evaluative, Aspects related to the virtual environment). The type of research used was qualitative. A pilot test was applied with 63 students to validate the reliability of the satisfaction measurement instrument of the Google Classroom tool by determining the Cronbach's Alpha coefficient, using the SPSS version 20 software and its statistical interpretation. The results of the test yielded a value of .992 of the Cronbach's alpha coefficient, with which the validity and reliability of the instrument is verified.

Key words - Measuring instrument, Google Classroom, virtual Classroom, reliability, Cronbach's alpha.

INTRODUCTION

Education "has three challenges: a technological challenge, a pedagogical challenge and a social challenge. Never before has the past impeded our progress as a nation" [1]. Therefore, it is necessary for teachers to update themselves in order to implement ICT in their didactic planning, since there is no point in introducing new technologies if there are no other changes in teaching.

Currently, teachers have implemented new technological tools in their teaching work, but there are not enough studies on the diagnosis of the impact of these tools in the Teaching-Learning process (E-L) nor the appreciation of students about this implementation.

Among the aforementioned tools we can include the virtual classroom. [2] Describes the virtual classroom as a teaching and learning environment located within a computer-mediated communication system and mentions that among the objectives of a virtual classroom are to improve access to advanced educational experiences by allowing students and instructors to participate in remote learning communities using personal computers at home or at work; and to improve the quality and effectiveness of education by using the computer to support a collaborative learning process.

The Google Classroom platform was launched in 2014 and is part of the Google Apps suite for education, which includes Google Docs, Google slides, Google forms, Gmail, Drive and Google Calendar. These tools allow activities such as text files, spreadsheets, presentations, storage, among others [3].

Among the advantages of Google Classroom is that it allows simplifying and distributing tasks, as well as evaluating content, facilitating the creation of virtual classrooms and serving as a nexus for interaction between teachers and students [4]. In addition, it allows the creation of closed groups where there is only communication between the students and the teacher, being able to create and receive the students' assignments without the need to use printed documents.

allows students to save time and collaborate in real time with each other, as well as receive immediate feedback on their progress, questions or assigned activities [3].

[5] describe the Google Classroom application as a tool to facilitate teaching and learning, where the teacher creates the structure of the class and organizes it by adapting the topics and time in a way that is conducive to those involved. In addition, they mention that it is a great help to complement classes, achieving collaborative work, especially when not physically in a classroom.

Currently there are not enough studies related to diagnose the impact of the Google Classroom tool in the E-A process, so the results of this project will be useful to make a diagnosis from the perspective of students about implementation of the Google Classroom tool in the E-A process of the Technological Institutes of the state of Veracruz, in order to promote the use of this tool in the teaching of the subjects taught in the Technological Institutes of the state of Veracruz and enrich the educational practice of the teacher, improve the technological skills of students using this technological tool, facilitate student learning by reinforcing the content seen in class, among others.

Therefore, the objective of this research work was to validate a measurement instrument designed to diagnose the impact of the Google Classroom tool in the Teaching-Learning process of the Technological Institutes of the state of Veracruz. For the purpose of this publication, the proposal for the design and development of this instrument is presented.

The instrument was designed using a Likert scale and was **structured** in five pedagogical dimensions of a virtual classroom (Informative, Praxical, Communicative, Tutorial and evaluative, Aspects related to the virtual environment). The type of research was qualitative. A pilot test was applied with 63 students to validate the reliability of the measurement instrument by determining the coefficient Alpha of

Cronbach, by means of SPSS software version 20 and the interpretation of the statistical results obtained.

DEVELOPMENT

The instrument to evaluate the Google Classroom tool in the teaching-learning process of the technological institutes of the state of Veracruz with the purpose of promoting the use of ICT in the classroom, from here on we will name it as "Google Classroom instrument"; this was developed to be used by the students of the Tecnológico Nacional de México (TecNM), specifically from the state of Veracruz, but it can be used as a reference for other studies.

The universe of the study considered the students of the Technological Institutes of the State of Veracruz who had already made use of the Google Classroom tool in at least one subject of their career. The type of study sample is of convenience, and consisted of 63 students who were in their 4th semester of Industrial Engineering, enrolled at TecNM Campus Alvarado, all of them had previous knowledge of the Google Classroom tool having used it on at least one occasion in the subjects studied so far. This sample was used to validate the reliability of the instrument determining Cronbach's Alpha coefficient using SPSS software version 20 and its subsequent statistical interpretation.

This study uses a qualitative type of research, as it allows us to assess the opinion that students have about the practical experience the Google Classroom tool.

Likewise, "Qualitative research is useful when one wishes to know the reasons why individuals (in isolation or in groups...) act the way they do, both on a day-to-day basis and when an event occurs in such a way that it may lead to changes in their perception of things" [6].

The instrument, being based on a Likert scale, is defined as "a method of field research on an individual's opinion on a topic. It generates a questionnaire that identifies the degree of agreement or disagreement of each question and, regularly, employs 5 levels" [7].

Likert scales are very popular because they are one of the most reliable ways to measure opinions, perceptions and behaviors.

The Likert scale used in the survey used the following value intervals:

- 1: Strongly disagree.
- 2: Disagree.
- 3: Neither agree nor disagree.
- 4: Agree.
- 5: Totally .

The Google Classroom instrument was designed through a methodology consisting of five pedagogical dimensions of a virtual classroom [8], as illustrated in Figure 1.

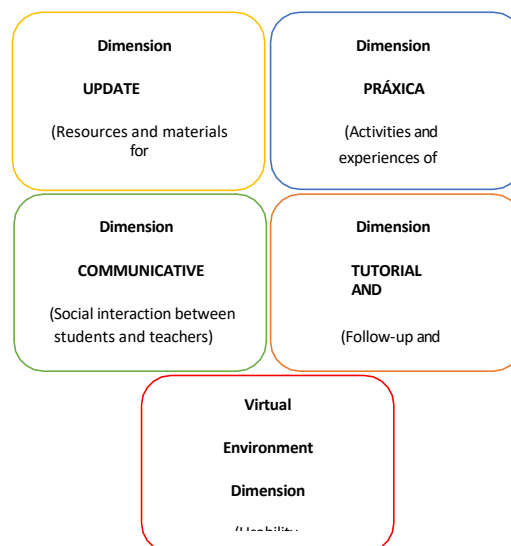


Figure 1. Pedagogical dimensions of a virtual classroom used in the instrument.

Source: Own elaboration.

The descriptions of the five dimensions are detailed below.

Dimension 1. Informative.

8] define the informative dimension of virtual environments as "the set of resources, materials or elements that present diverse information or content for autonomous study by students", i.e., general information, digital didactic resources are made available to students as complementary or support material to understand the contents of the subject, such as: "(lecture notes or documents, multimedia presentations, representations, etc.)" [9].

graphs, maps or conceptual networks, videos or animations, bibliographic documentation, websites that the teacher offers to the students through hyperlinks, etc.)" [9].

The informative dimension refers to materials of different nature "(textual, multimedia, graphic, audiovisual) that show or help students to access autonomously to the knowledge object of study" [8].

The informational dimension of the Google Classroom instrument uses 8 items (1.1 to 1.8) which are described below:

- The teacher includes in the Classroom platform the framework (objectives, agenda, syllabus, evaluation criteria, welcome message, calendar with evaluation criteria per unit, among others) of the subject.
- The course includes a forum for questions, comments or suggestions.
- The distribution of the course within the Classroom platform is considered adequate, i.e., sections are included within the platform to separate or differentiate the thematic units, partial units or assignments to be delivered.
- Considers the content of the material provided (readings, website material, videos and linkography or hyperlinks, among others) to be adequate as support for the completion of their course activities.
- The didactic materials elaborated by the teacher as support for the realization of the course activities, such as slides, videos and graphic representations (graphs, maps, tables, among others), are considered adequate.
- Considers the design of the didactic material prepared by the teacher to be adequate (font type and size, use of color, arrangement of elements according to their meaning, etc.).
- It considers updated and valid the contents provided by the teacher through the Classroom platform.
- It considers the amount of information presented in each of the corresponding sections to be adequate.

Praxical or experiential dimension 2.

[8] describe that the praxical or experimental dimension contemplates the set of actions, tasks or activities planned by the teacher, which students must perform in the virtual classroom as active learning experiences in the construction of knowledge.

[10] groups the practical work of scientific learning according to the type of procedures that prevail: experimental (handling of instruments and techniques), intellectual (knowledge production processes) and communicative (for the development of oral and written competence).

Likewise, these tasks or activities can be of different types: participate in discussion forums, read and write essays, present and analyze case studies, search for information on a specific topic, create a database, develop group projects, solve problems and/or exercises, plan and develop a research project, develop collaborative work, etc. The praxical or experimental dimension of the Google Classroom instrument uses 7 items (2.1 to 2.7), which are described below:

- The activities requested in the Classroom by the teacher include team work (minimum two members per team).
- The activities requested in the Classroom by the teacher include individual work.
- The activities carried out in Classroom promote collaborative work through shared documents in Google, such as: Google (docs, slides, spreadsheets and forms).
- Consider that the activities requested in the Classroom by the teacher include experimental procedures such as: practice reports, case studies, virtual laboratory practices, conceptual networks, comparative tables, among others.
- Consider that the activities requested in the Classroom by the teacher include intellectual procedures such as: research, essays, glossaries, summaries, infographics, among others.
- Considers that the activities requested in the Classroom by the teacher include.

communicative procedures such as: monographs, reviews, reports, monographs, oral presentations, questions, among others.

- Consider the schedule for the delivery of the activities requested in the Classroom by the teacher to be adequate.

Dimension 3. Communicative.

[8] describe that the communicative dimension "refers to the set of resources and actions of social interaction between students and the teacher". This includes the use telematic tools such as forums, chats, internal messaging, email, videoconferencing or audioconferencing, etc. [9]. The communicative dimension of the Google Classroom instrument uses 7 items (3.1 to 3.9) described below:

- It considers asynchronous communication (forums, e-mail, Google Calendar, public and private announcements, among others) through the Classroom platform between the teacher and the student to be optimal.
- Considers that asynchronous communication (forums, e-mail, Google Calendar, public announcements, among others) through Classroom among students is adequate.
- It considers synchronous communication (video call) through the Classroom platform between the teacher and the student to be adequate.
- It considers adequate the recording of the class via video call in synchronous communication with "Google meet" of the Classroom platform.
- Consider adequate the language used in written communication between teacher and student through the Classroom platform.
- Considers the language used in written communication between students through the Classroom platform to be adequate.
- Considers the instructions given by the teacher about the activities to be performed in Classroom to be adequate.
- It is intuitive to send and receive messages in the various sections of Classroom.
- Considers the description of evaluation criteria (rubric, guide, checklist, etc.) to be adequate.

The following are some of the activities in the Classroom.

Tutorial and evaluative dimension 4.

[9] describe that in the tutorial and evaluative dimension, tutors lead the development processes of practical work through the virtual and face-to-face environment. Following the dynamizing role of learning activities, the chair has taken into account some of its indicators [8]:

- Habituation to telematic work environments.
- Motivational skills, reinforcement, and guidance on study habits.
- Organizational skills and dynamization of group activities.
- Control and monitoring through statistics of access and time of use of the virtual classroom by students.

The tutorial and evaluative dimension of the Google Classroom instrument uses 5 items (4.1 to 4.5) described below:

- The evaluation carried out by the teacher in the Classroom activities is considered adequate, making observations on the work and justifying the grade obtained by means of a rubric.
- The teacher provided support material for the understanding of the Classroom platform activities.
- It considers adequate the control and follow-up of the course activities by the professor.
- Considers adequate the use of the grading system of the Classroom platform (grading of assignments, date of delivery, time of delivery).
- It considers appropriate the use of questionnaires, questions, quizzes, questionnaires in Google forms, among others.

Dimension 5. Aspects related to the virtual environment

The dimension on aspects related to the virtual environment, was designed so that the student who has had the experience of working with the Google Classroom tool can give his or her

opinion about it, considering aspects of: usability, navigability, aesthetics of the environment, response time before sending and response actions, graphic design, etc. The Google Classroom instrument uses 6 items (5.1 to 5.6) which are described below:

- It is easy to navigate between the different sections and to understand how the platform works in a simple and intuitive way.
- He believes that the virtual environment has facilitated contact with his professors.
- He considers that the platform made it easier for him to carry out his academic work.
- It considers the aesthetics of the environment (size and type of letters, colors...) as well as the different elements of the platform (texts, images, graphics, among others) to be adequate.
- It considers the response times of the platform to be adequate (waiting to access a link, access to videos, documents, presentations, access to different tools, among others).
- I would recommend the Google Classroom platform to other users.

DISCUSSION AND ANALYSIS OF RESULTS

The instrument used to apply the survey to students who have had the experience of using the Google Classroom tool in order to assess its impact on the Teaching-Learning process within their technology to promote the use of ICT in the classroom is shown in Table 1.

Table 1. Google Classroom assessment instrument.

Item	QUESTIONS	1	2	3	4	5
1	UPDATE					
1.1	The teacher includes in the Classroom platform the framework (objectives, syllabus, , evaluation criteria, welcome message, timetable with evaluation criteria) per unit, among others).					
1.2	The course includes a forum for doubts, comments or suggestions.					
1.3	Consider adequate the distribution of the course within the Classroom platform,					

	i.e., sections are included within the platform to separate or differentiate the units. subjects, partial or papers to be handed in.					
1.4	Considers appropriate the content of the material provided (readings, website material, videos and linkography or hyperlinks, among others) as support for the completion of their course activities.					
1.5	Consider adequate the didactic materials elaborated by the teacher as support for the course activities, such as: slides didactic materials elaborated by the teacher as support for the realization of the course activities, such : slides, videos and graphical representations (graphs, maps, tables, among others).					
1.6	Considers appropriate the design of the didactic material elaborated by the teacher (font type and size, use of color, arrangement of the elements according to his or her meaning, etc.).					
1.7	Considers updated and valid the contents provided by el teacher through the Classroom platform.					
1.8	Consider appropriate the amount of information that is presented in each of the sections. sections corresponding					
2	PRÁXICA					
2.1	The activities requested in the Classroom by the teacher include teamwork (minimum two members per team).					
2.2	The activities requested in the Classroom by the teacher include individual work.					
2.3	The activities carried out in Classroom promote collaborative work by means of shared documents in Google, such as: Google (docs, slides, sheets de calculation and forms).					
	Considers that the activities requested in the Classroom by the teacher include					

	case studies, virtual lab practicals, conceptual networks, tables, case studies, virtual lab practicals, conceptual networks, tables comparative studies, among others.					
2.5	Consider that the activities requested in the Classroom by the teacher include intellectual procedures such as: researches, essays, glossaries, glossaries, etc. such as: research, essays, glossaries, summaries, infographics, among others.					
2.6	Considers that the activities requested in the Classroom by the teacher include communicative procedures such as: monographs, reviews, reports, monographs, presentations oral presentations, questions, among others.					
2.7	Considers the timetable for the delivery of the requested activities to be adequate in the Classroom by the teacher.					
3	COMMUNICATIVE					
3.1	Consider optimal the asynchronous communication (forums, e-mail, calendaring, etc.) "Google Calendar", public and private announcements, among others) through the Classroom platform between the teacher and the student.					
3.2	Considers asynchronous communication (forums, e-mail, calendar, etc.) to be the best way to communicate. "Google Calendar, public announcements, among others) through the Classroom between students is adequate.					
3.3	Consider appropriate the communication synchronous communication (video call) using the Classroom platform between teacher and student.					
3.4	It considers adequate the recording of the class via video call in the communication synchronous with "Google meet" from the Classroom platform.					
	Considers appropriate the language used in the written					

3.7	Considers adequate the instructions given by the teacher about the activities to be carried out in Classroom.					
3.8	Considers it intuitive send and receive messages in the various sections of Classroom.					
3.9	The description of the evaluation criteria (rubric, guide, checklist, etc.) is considered adequate. of the activities in Classroom.					
4	TUTORIAL A ND EVALUATIVE					
4.1	Considers adequate the evaluation carried out by the teacher in Classroom activities, making observations on the work and justifying through the grade obtained.					
4.2	The professor provided support material for the understanding of the Classroom platform activities.					
4.3	Considers appropriate the control and monitoring of the course activities the teacher.					
4.4	Considers appropriate the use of of the grading system of the Classroom platform (grading of assignments), delivery date, delivery time).					
4.5	It considers the use of questionnaires, questions, etc. to be appropriate, quizzes, questionnaires in Google forms, among others.					
5	ASPECTS RELATED TO THE ENVIRONMENT VIRTUAL					
5.1	It is easy to navigate between the different sections and to understand how they work. of the operation of the platform in a simple and intuitive way.					
5.2	Considers that the environment virtual has facilitated contact with their professors.					
5.3	Considers that the platform facilitated the completion of the academic work.					
5.4	Considers appropriate the aesthetics of the environment					

	(texts, images, graphics, among others).					
5.5	Consider appropriate the platform response times (waiting to access a link, access videos, documents, presentations, access a different tools, among others).					
5.6	I would recommend the platform Google Classroom to other users.					

Source: Own elaboration.

To test the reliability of the questionnaire, Cronbach's Alpha coefficient was used, which "requires a single administration of the measuring instrument and produces values ranging from 0 to 1" [11]. The minimum acceptable value for the coefficient is 0.7; below that value the internal consistency (correlation between each of the questions) of the scale used is low, a value above 0.7 reveals a strong relationship between the questions [12].

When the questionnaire was subjected to Cronbach's alpha test to validate its reliability, the following results were obtained.

Table 2 shows the total Cronbach's alpha coefficient of the instrument analyzed, obtaining a value of 0.992, higher than the minimum acceptable value for Cronbach's alpha coefficient of 0.7.

Table 2. Reliability statistics

Cronbach's alpha	Cronbach's alpha based on typed items	N of elements
.992	.993	35

Source: Own elaboration.

In Table 3 the first column corresponds to the questions of the instrument, in the second column the mean is the average of the values [13] and indicates the average score for each question, ranging from 3.54 for question thirty-five to 4.25 for question nineteen. The third column contains the deviation, which measures "how much the observations are dispersed around their mean" [11]. Here the values range from 0.959 for question thirty-two to 1.366 for question thirty-five. The fourth column the number of participants in the test.

Table 3. Item statistics

	Media	Standard deviation	N
Includes framing	4.22	1.156	63
Include questions or comments	4.16	1.125	63
Adequate distribution of the course	4.16	1.153	63
Adequate content	4.22	1.069	63
Adequate teaching materials	4.19	1.045	63
Adequate design of didactic material	4.14	1.045	63
Updated contents	4.17	1.056	63
Adequate amount of information	4.11	1.079	63
Includes individual work	4.24	1.058	63
Promotes collaborative work	4.13	1.085	63
Includes experimental procedures	4.19	1.075	63
Includes intellectual procedures	4.19	1.060	63
Includes communicative procedures	3.97	1.107	63
Adequate schedule of activities	4.03	1.077	63
Considers communication to be optimal	4.14	1.060	63
Consider asynchronous communication	4.00	1.078	63
Consider synchronous communication	4.19	1.030	63
Adequate class recording	4.17	1.056	63
Adequate written language A-M	4.25	1.015	63
Adequate written language A-A	4.21	1.003	63
Adequate instructions	4.11	1.002	63
Intuitive message sending	4.03	1.031	63
Adequate description of evaluation	4.14	1.030	63
Adequate evaluation	4.10	1.043	63
Support material - platform understanding	4.21	1.050	63
Adequate course control and follow-up	4.19	1.045	63
Adequate grading system	4.16	1.096	63
Appropriate use of questionnaires	3.98	1.085	63
Ease of navigation	4.10	1.011	63
Virtual environment facilitating contact	4.08	1.005	63
Platform to facilitate work	4.03	.967	63
Aesthetics	4.13	.959	63
Adequate response time	4.10	.962	63
Platform recommendation	4.19	1.045	63
Includes teamwork	3.54	1.366	63

Source: Own elaboration.

The inter-item correlation matrix is a square matrix that indicates the relationship of each question with the others, and itself on the diagonal [15]. The matrix shows the obtained value of Pearson's coefficient (r), which is a measure of the strength of the linear relationship between two variables, it varies from -1 to 1, when it is close to zero it indicates little association, when the value is close to 1 it indicates a direct association and when it is close to -1 it indicates inverse association between the variables [16].

The analysis showed that question 35 has the lowest correlation with the other questions, with the lowest correlation with question 18 with a value of 0.247 and the highest correlation with question 28 with a value of 0.496, except for question 35 with which the correlation is 1.000, as shown in the following table.

Table 4. Matrix of inter-element correlations

Questions	Question 35
Includes framing	.342
Include questions or comments	.258
Adequate distribution of the course	.293
Adequate content	.281
Adequate didactic materials	.401
Adequate design of didactic material	.307
Updated contents	.381
Adequate amount of information	.342
Includes individual work	.289
Promotes collaborative work	.367
Includes experimental procedures	.280
Includes intellectual procedures	.307
Includes communicative procedures	.310
Adequate schedule of activities	.328
Considers communication to be optimal	.369
Consider asynchronous communication	.351
Consider synchronous communication	.316
Adequate class recording	.247
Adequate written language A-M	.400
Adequate written language A-A	.365
Adequate instructions	.344
Intuitive message sending	.331
Adequate description of evaluation	.323
Adequate evaluation	.326
Support material-platform training	.405
Adequate course control and follow-up	.390
Adequate grading system	.330
Appropriate use of questionnaires	.496
Ease of navigation	.324
Virtual environment facilitating contact	.391
Platform to facilitate work	.390
Aesthetics	.378
Adequate response time	.377
Platform recommendation	.368
Includes teamwork	1.000

Source: Own elaboration.

Table 5 shows a summary of the statistics obtained, in the intersection of the line "means of the items" and the column "mean" we observe the average of all the means of all the questions (table 3 in yellow) which yields a value of 4.119, the minimum mean or minimum average is 3.540 and the highest mean or maximum average is 4.254; the range between these values (maximum - minimum) is 0.714; the division between these 2 values is 1.202 and its variance is 0.016.

Table 5. Summary statistics of the elements

	Media	Minimu m	Maximu m	Rang o	Maximu m /minimu m	Var ian za

Averages of the elements	4.119	3.540	4.254	.714	1.202	.016
Variance s of element s	1.130	.919	1.865	.946	2.030	.026
Covarian zas inter- element s	.891	.356	1.118	.762	3.142	.017
Inter- element correlation s	.800	.247	.977	.731	3.960	.017

Source: Own elaboration.

Table 6 shows the Cronbach's Alpha values if one question was eliminated from the questionnaire, proving that the internal consistency of the questionnaire is very robust as there is no decrease in the Cronbach's Alpha value of 0.92, which indicates that the instrument is unidimensional, has validity and reliability, that is, it not only measures what it claims to measure, but also measures it rigorously.

Table 6. Total-element statistics

	Cronbach's alpha if the element is removed
Includes framing	.992
Include questions or comments	.992
Adequate distribution of the course	.992
Adequate content	.992
Adequate teaching materials	.992
Adequate design of didactic material	.992
Updated contents	.992
Adequate amount of information	.992
Includes individual work	.992
Promotes collaborative work	.992
Includes experimental procedures	.992
Includes intellectual procedures	.992
Includes communicative procedures	.992
Adequate schedule of activities	.992
Considers communication to be optimal	.992
Consider asynchronous communication	.992
Consider synchronous communication	.992
Adequate class recording	.992
Adequate written language A-M	.992
Adequate written language A-A	.992
Adequate instructions	.992
Intuitive message sending	.992
Adequate description of evaluation	.992
Adequate evaluation	.992
Support material-platform training	.992
Adequate course control and follow-up	.992
Adequate grading system	.992
Appropriate use of questionnaires	.992
Ease of navigation	.992
Virtual environment facilitating contact	.992
Platform to facilitate work	.992
Aesthetics	.992
Adequate response time	.992
Platform recommendation	.992

Includes teamwork

.994

Source: Own elaboration.

Finally, Table 7 shows the statistics of the analyzed scale.

Table 7. Scale statistics

Media	Varianza	Standard deviation	N of elements
144.17	1099.47	33.158	35

Source: Own elaboration.

CONCLUSIONS

The instrument was designed to evaluate the impact of the Google Classroom tool in the Teaching-Learning process, with the purpose of promoting the use of this tool in the teaching of the subjects of the IT of the state of Veracruz and enrich the teacher's teaching, improve the technological skills of the students by using this technological tool, facilitate the students' learning by reinforcing the contents seen in class, among others. By means of the Cronbach's Alpha coefficient completion test, a coefficient value of 0.992 was obtained, proving that the instrument has validity and is highly reliable to be used in the project.

The future work will consist of using the Google Forms tool to apply the questionnaire and that this can be answered by students who already have experience in the use of the Google Classroom tool in order to obtain information to evaluate the impact of this tool and to answer the following question: What is the assessment of students on the use of the Google Classroom tool in the Teaching-Learning process of the Technological Institutes of the state of Veracruz?

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