NEW DIDACTIC GESTURES ON EMERGENCY REMOTE TEACHING: LESSONS LEARNED IN EDUCATION AT COVID-19 PANDEMIC TIMES

NOVOS GESTOS DIDÁTICOS NO ENSINO REMOTO EMERGENCIAL: LIÇÕES APRENDIDAS NA DOCÊNCIA EM TEMPOS DE COVID-19

NUEVOS GESTOS DIDÁCTICOS EN EDUCACIÓN REMOTA DE EMERGENCIA: LECCIONES APRENDIDAS EN LA DOCENCIA EN TIEMPOS DEL COVID-19

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ABSTRACT: The aim of this research was to understand the teacher`s perceptions of his didactic gestures on Emergency Remote Teaching (ERT). The study was classified as an exploratory and cross-sectional type, and data were collected through an online questionnaire (using a Likert scale), with statements to be judged by 108 Higher Education professors of a University at ABC of São Paulo. The data were analyzed by the Chi-square test (X2). The main findings were that the participants: a) still do not realizes if the students are really learning in this new scenario; b) they value the interaction with students through dialogue and questioning; c) they had to study hard to help students how to learn on ERT; d) they still need to develop the regulation founder gesture, which allows them to diagnose students difficulties and obstacles in relation to stages of the learning process and, from that, to establish goals for the development of capacities. In conclusion, it is necessary to include technologies in teacher training courses, as tools for interaction and pedagogical mediation in order to develop new pedagogical skills in the participating teacher.

KEYWORDS: Professional gestures. Teacher training. ERT. Digital technologies.

RESUMO: *Esta pesquisa teve por objetivo geral compreender como o professor percebe seus gestos didáticos no Ensino Remoto Emergencial (ERE). O estudo foi caracterizado como exploratório e transversal, com os dados coletados por questionário online (com escala de Likert), com afirmações a serem julgadas por 108 professores de Ensino Superior de uma Universidade do ABC paulista. O tratamento de dados foi pelo teste do Qui-quadrado (X2). Os principais achados foram que os participantes: a) ainda não percebem se realmente os alunos estão aprendendo nesta nova situação; b) valorizam a interação com os alunos por meio do*

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diálogo e do questionamento; c) precisaram estudar intensamente para auxiliar a aprendizagem dos alunos no ERE; d) precisam ainda desenvolver o gesto fundador de regulação, que os permita diagnosticar nos alunos dificuldades e obstáculos em relação a etapas do processo de aprendizagem e, a partir disso, estabelecer metas para o desenvolvimento de capacidades. Como considerações finais, é necessário que os cursos de formação docente usem as tecnologias no próprio processo de formação, como ferramentas de interação e mediação pedagógica, numa perspectiva de desenvolver no professor participante novas competências pedagógicas.

***PALAVRAS-CHAVE**: Gestos profissionais. Formação de professores. ERE. Tecnologias digitais.*

***RESUMEN**: Esta investigación tuvo por objetivo comprender cómo el docente percibe sus gestos didácticos en la Educación Remota de Emergencia (ERE). El estudio se caracterizó como exploratorio y transversal, con datos recolectados a través de un cuestionario en línea (usando una escala Likert), con afirmaciones para ser juzgadas por 108 profesores de Educación Superior en una Universidad en ABC paulista. El tratamiento de los datos fue mediante la prueba de Chi-cuadrado (X2). Los principales hallazgos fueron que los participantes: a) aún no se dan cuenta de si los estudiantes realmente están aprendiendo en esta nueva situación; b) valorar la interacción con los estudiantes a través del diálogo y del cuestionamiento; c) necesitan estudiar intensivamente para ayudar a los estudiantes a aprender en ERE; d) aún necesitan desarrollar el gesto fundador de la regulación, que les permita diagnosticar dificultades y obstáculos en los estudiantes en relación con las etapas del proceso de aprendizaje y, a partir de ello, establecer metas para el desarrollo de capacidades. Como consideraciones finales, es necesario que los cursos de formación docente utilicen tecnologías en el propio proceso formativo, como herramientas de interacción y mediación pedagógica para desarrollar nuevas habilidades pedagógicas en el docente participante.*

***PALABRAS CHAVE:** Gestos profesionales. Formación de professores. ERE. Tecnologías digitales.*

Introduction

The teaching and learning processes in the context of the COVID-19 pandemic have proved challenging from the point of view of pedagogical practice in higher education, since both teachers and students have had to adapt to the new situations present in everyday educational life

From the teachers' perspective, working in Higher Education has become more complex with the implementation of remote practice, since they have had to develop competencies and skills to face the difficulties and develop teaching in a context of social isolation and physical distance from the students.

Emergency Remote Teaching (ERT), as this type of teaching practice became known in academia during the COVID-19 pandemic, is characterized by the absence of physical contact

between teachers and students. Although it has aspects similar to face-to-face education, such as defined class times, established content, and synchronous learning moments, as well as specific tasks performed in class and by the student's self-study at home based on the teacher's indications and guidance, the ERT is totally different from face-to-face education from the relational point of view, which requires new forms of mediation and new didactic gestures.

In ERT, the classes are held through digital transmission, synchronously. This transmission can be done in a massive way, in the format of lives, and can also allow everyone to collaborate simultaneously. One particular fact concerns the possibility of the synchronous class being recorded and made possible for the students, by means of videos. Thus, the class recordings can be revisited and, in addition, the content can be accessed by students who were not present, allowing the retrieval of information at any time by the learner (BERGMAN; SAMS, 2016).

ERT has limitations, especially because it is made possible in a synchronous way. However, with the use of digital platforms it is possible to incorporate asynchronous activities to teaching that takes place without physical presence. Thus, the knowledge coming from the area of Distance Education (DE) can be used and the teacher can also work with his students through virtual learning environments (VLE), making available videos, texts and documents that may help the student's learning (SILVA, 2003). However, researchers such as Joye, Moreira and Rocha (2020), alert us to the conceptual differences between them, emphasizing that the ERT is different from DE. The authors conclude in their research that the "[...] emergency remote educational activities have not been configured as DE, for a number of factors ranging from legislation, planning, investments in infrastructure, to the continuous training of teachers for uses of digital technologies in education (p. 2)."

Arruda (2020), aiming to emphasize the exceptionality of the situation in times of COVID-19, brings us to reflect on the issue of social isolation and the actions to be thought of in the ERT, as well as its implications in the different educational levels. One of the relevant points that Arruda (2020, p. 258) considers, in relation to the social isolation that occurred in 2020, is that it "[...] promoted immediate severe economic transformations, with the mandatory stoppage of numerous sectors, modified our relationship with art, due to the absence of face-to-face sharing of fruition experiences and, in the case of education, promoted deconstructions under the way teaching and learning are socially seen [...]".In the particular case of Higher Education there seems to be less resistance in adherence to ERT by teachers when compared to other levels of education. This seems to be explained, in Arruda's (2020, p. 266) perspective, because "[...] they attend adult people who are not in the process of initial formation that

involves physical contact, body movement, and socialization in its most different levels - as is the case of youth education in early childhood education, elementary school, and high school [...]".

The situation faced during the year 2020 introduced new elements into teaching practice, which, in turn, required a re-signification of the whole pedagogical process, including the didactic gestures, even the most rooted and founding ones.

In pedagogical practice, the teacher expresses himself through verbal and non-verbal means. These are the observable forms of teacher expression that guide his didactic actions, attitudes, and emotions. One can say that they are the teacher's working gestures, that is, the didactic gestures, with which the teacher carries out his or her teaching. In the semiotic systems of teachers, using certain gestures or choosing not to use gestures in the classroom environment, introducing spaces of silence, are productive ways to teach and enhance in students the activity of learning (NASCIMENTO, 2011)

Verbal didactic gestures include: tone, timbre, intonation, and rhythm, while non-verbal gestures include body expression, hand movements, arms, facial contractions, the way of moving around the room, the way of pointing to texts, schemes, figures, and other signs on the blackboard to support learning. These are used to help students signify the objects of knowledge. The gestures, and their absence in teaching practice, relate to pedagogical intentionality, for example, introducing spaces for internalization, thinking, analysis, and reflection for students.

The didactic gestures arise in context, that is, during pedagogical practice, in the interaction with the students, and come from the teacher's professional knowledge as well as from his attitudes and decision making to face situational problem situations.

Based on Nascimento's studies, we consider didactic gestures to be constituted by two domains: the founding and the specific ones.

The founding didactic gestures, according to Schneuwly (2000 apud NASCIMENTO, 2011), arise from the elements mobilized to materialize the teacher's knowledge delimited in the common space created between teacher and learners. They are part of the adaptive schemes of individuals and are used in various teaching situations to evoke memories, symbolic representations, and put into action concepts and procedural schemes already learned. On the other hand, the specific gestures are those that emerge in the individual practice, allocated in the characteristics of the particular knowledge to teach when the teacher develops his didactic sequences and is in action. Thus, the specific gestures, in our view, are a component linked to the interaction between teacher and student.

The founding didactic gestures are explained in chart 1:

Chart 1 – Founding didactic gestures

Name	Description
Presentification	It consists of presenting the teaching object to the learners in different media and supports.
Elementalization	It means to dimension in a particular way the object, which implies a deconstruction and highlighting of certain teachable dimensions in a given context.
Task formulation	It is the presentation of the work consignments/commands for the entry of the teaching object. It is the gesture by which the teacher presents the object.
Materialization	It consists in putting into play the didactic devices in the framework of a school activity, by making available supports (support texts, exercises, corpus of sentences for analysis, various objects, etc.)
Appeal to memory	They are the gestures to rescue objects already worked on to allow the articulation with the new object of knowledge.
Regulation	These are gestures to diagnose difficulties and obstacles in relation to a stage of the ongoing process aimed at establishing goals for capacity development
Institutionalization	It consists of gestures directed at fixing the knowledge (external) that must be used by the learners in the new circumstances (internal) in which they will be required. The teacher tries to put in evidence the aspects of the object that the learners must internalize to be (re) contextualized in the task presented by the teacher.

Source: Prepared by the authors, adapted from Aeby-Daghé and Dolz (2008, p. 426-427)

The specific gestures, in turn, are tools that the teacher makes available to mediate the movement of internalization of the concepts by the students. They are the specific drawings and schemes for the particular knowledge that is being taught, in order to support the explanations; they are then the written consignments, the tables, graphs and schemes to regulate the written production, the posters, the hand-outs, the texts, the e-mails, the scripts of the tasks to be done, the class memories, the support texts, the slides, the exercises, the content syntheses for the memory of the learning.

The specific gestures are constituted by verbal and bodily movements addressed to the "other" and have the function of decomposing, detailing, and pointing out certain dimensions of the teaching object; monitoring the student's tasks in individual or group work practices and modulating the intonation of reading aloud (AEBY-DAGHÉ; DOLZ, 2008).

General and specific objectives

This research aimed at understanding how teachers perceive their teaching gestures in Emergency Remote Teaching (ERT).

In order to achieve the general objective, which is to understand the teachers' didactic gestures and their connection with the teacher-student interaction, with the teaching practice and with the attitudes to face problem situations, the following specific objectives were established:

To identify teachers' judgment about teacher-student interaction in remote teaching.

To identify the judgment about the didactic gestures used in teaching practice (foundational and specific)

To identify the judgment about adaptations needed to cope with the difficulties of remote teaching.

We believe that each teacher's judgment is linked to the perceptions that the teacher has about remote teaching at this time of transition.

Method

This study was characterized as being of exploratory, quantitative and cross-sectional type, in the sense attributed by authors Thomas, Nelson and Silverman (2012). For these authors, exploratory research classifies and defines the problem, involving interviews and bibliographic research. In addition, the research is quantitative because it enumerates and relates the variables that interfere in its relations without manipulating them or making value judgments about them, usually taking the form of a Survey. In this case, research done directly with the participating subjects by means of questions related to the research problem, having the objective of exploring, describing, and explaining a certain phenomenon. The research was cross-sectional, because it studied the situation at a given moment, when the data of interest to the researched are collected.

The sample of the study consisted of all the Higher Education teachers of a University in the ABC Paulista region, who were contacted by institutional e-mails and invited to participate on a voluntary basis, with their identities being preserved. All of these teachers had access to the collaborative educational platform Google Suite, which was acquired during the pandemic, in order to support the ERT. This platform consists of the tools Google Classroom, Google Calendar, Google Forms, Google Meet, Google Drive etc., however, the teachers did

not have any training for the use of these tools, leaving it up to each teacher to instruct themselves in their use.

The inclusion criterion as a research participant was to be a professor in Higher Education at the aforementioned University and to consent to be a volunteer in the research. The exclusion criterion was not being in remote teaching (ERT).

All ethical procedures for conducting research with human beings were adopted, obeying CNS Resolution No. 466/2012 (Ethics in Research with Human Beings) and CNS Resolution No. 510/2016 (Ethics in Research in Human and Social Sciences). The project was submitted to the Ethics Committee, with favorable opinion no. 3.384.895.

For data collection, an online Google Forms type questionnaire was created to obtain information about: specificities of the teachers participating in the research; the domains of specific gestures and founders; the interactions in remote teaching; the teaching gestures in remote practice.

The questionnaire was designed with closed questions on a Likert scale, with the values: Strongly disagree (1) - Disagree (2) - Neither disagree nor agree (3) - Agree (4) - Strongly agree (5) (see Appendix I).

The collection was carried out in June and July 2020, with the questionnaire made available to the entire universe of teachers, resulting in 108 answered questionnaires. This set of answers was the sample to be analyzed, so it is a non-probabilistic sample (n=108). It was observed in the sample a contingent of 50.4% male teachers and 49.6% female. The average age was 50.8, with a standard deviation of 10.4 years, with the minimum age value being 20 years and the maximum value 72. These professionals were distributed in five areas, namely: Creative Industry (14.3%), Law and Humanities (15%), Management and Business (15.8%), Polytechnic (9%), and Healthcare (45.9%).

The analysis of the results was made from the creation of quantitative criteria, established from an a-priori analysis of response possibilities, according to the pre-judgment of the researchers, concerning the questions of the instrument.

For data analysis the chi-square test (X^2) was selected. In comparisons between the proportions of the scale used, the significance test for differences between proportions was applied. The tabulated value used in this research was 5%, or a value equal to $*p<0.05$. The statistical program used was SPSS 18.0.

Results and discussion

The general objective of the research was to understand how the teacher perceives his didactic gestures in Emergency Remote Teaching (ERT), since the performance in Higher Education has become more complex with the implementation of remote practice, requiring the development of competencies and skills to face the difficulties in this new scenario. Thus, the didactic gestures arise in context, i.e., throughout the pedagogical process, in the interaction with the students, and come from both the teacher's professional knowledge and his attitudes and decision-making to face the problem situations.

An important phenomenon in the pedagogical process concerns identifying whether our students are learning what we teach. Traditionally, this identification is done by the teacher through learning assessment, whether it is diagnostic, summative, comparative or formative. But what about now, with synchronous remote classes, how could we identify evidence of learning as it is revealed in remote classes? How can we evaluate the knowledge learned in this new reality?

In the survey, one of the statements for the teacher's judgment was as follows*: I perceive in my classes that the "silence of the students" may indicate that they are not learning.* In table 1, it can be seen that there are statistically significant differences (X^2=39.5; p<0.001) in the teachers' judgment, through the observed responses about this fact. There are differences in the distribution between the level of agreement and the highest frequency of responses was *'Neither disagree nor agree*' (n=108; 40.7%). In this case, the teacher is neutral, not taking a position on whether *'students´ silence'* indicates that they are not learning. Therefore, the participating teachers are not yet able to evidence whether the students are really learning in this new situation.

Table 1 - I notice in my classes that the "silence of the students" can indicate that they are not learning

	Absolute frequency	**%**	**Chi-square (X^2)**
Strongly disagree	14	13	
Disagree	27	25	X^2=39,5 p<0,0001
Neither disagree nor agree	44	40,7	
Agree	17	15,7	

Strongly agree	6	5,6
Total	108	100

Source: Prepared by authors

Considering the ERT as a particular model in the teaching process, as well as the "silence of the students", as previously reported, we find in Gil and Pessoni (2020) subsidies to emphasize that this moment should be established by strategies to achieve the affective objectives in detriment of cognitive objectives. That said, the authors warn:

> [...] that higher education teachers are trained to use the means available for remote teaching also for the achievement of affective goals. This becomes possible, provided that the multiple group teaching strategies are considered, as well as the active methods, and that they are associated with the various resources made available by the remote teaching platforms (GIL; PESSONI, 2020, p. 14).

Therefore, silence is necessary at the time of learning, but in face-to-face moments; we should think about how this process could be enhanced in ERT, since we are facing a new phenomenon. Thus, we should reflect on the know-how in this new order (reorganize) as teachers.

As Nascimento (2011, p. 435) alerts us:

> [...] the classroom dialogue is dynamic, asymmetric and, to some extent, unpredictable. In this search for different semiotic systems that signify the gestures of teaching, it can be observed that experienced teachers occupy strategic moments in which the absence of gestures constitutes "spaces of silence" - necessary and potential for the particular activity of students.

Considering what the author described, regarding the 'spaces of silence', this should be necessary for the internationalization of the object to be taught. However, we are faced with an extremely particular moment in our lives, as the author refers to face-to-face classes. She goes on to describe that:

> [...] teachers aware of the importance of teaching gestures give premeditated intonations to the voice, varying the timbre and speed of intonation, making their voice gestures more meaningful, especially because they are articulated to movements of hands, arms, body - gestures of showing and meaning the objects of knowledge to be internalized by the learners (NASCIMENTO, 2011, p. 435-436).

Even though this know-how is reflected in this new order, with doubts about the role of silence in the learning process, the teachers tried to interact with the students in a dialogical way. This was perceived in the research by the judgment of the statement: *In my classes I always try to question them (dialog)* (Table 2):

Table 2 – In my classes I always try to question them (dialog)

	Absolute frequency	**%**	**Chi-square (X^2)**
Strongly disagree	0	0	
Disagreeo	0	0	
Neither agree nor disagree	3	2,8	X^2=84,3 p<0,0001
Agree	26	24,1	
Strongly agree	79	73,1	
Total	108	100	

Source: Prepared by authors

It can be observed that there was a majority agreement in the teachers' judgment, pointing 'I strongly agree' (n=108; 73.1%). The teacher positions himself regarding the dialogue in class. Therefore, the participating teachers show that they value the interaction with students through dialogue and questioning.

In pedagogical practice, teachers express themselves through verbal and non-verbal means. These are the observable forms of teacher expression that guide their didactic actions, attitudes, and emotions. One can say that they are the teacher's working gestures, that is, the didactic gestures, with which the teacher carries out his or her teaching. In the semiotic systems of teachers, using certain gestures or choosing not to use gestures in the classroom environment, introducing spaces of silence, are productive ways to teach and enhance in students the activity of learning (NASCIMENTO, 2011).

Observing tables 3, 4 and 5, related to specific gestures, therefore linked to pedagogical practice, we identify evidence on teacher-student interaction to teach content. Part of the teachers think it is necessary, in order to draw attention in class, to use seminars (in groups) as a form of work in times of pandemic (X^2= 13.01; p<0.01), with 47.3% of them judging the statement as "*I agree*" or "*I strongly agree*".

Table 3 To get attention in class I try to make them interact by making presentations in seminar form (Group, mainly)

	Frequency	**%**	**Chi-square (X^2)**
Strongly disagree	10	9,3	
Disagreeo	17	15,7	
Neither agree nor disagree	30	27,8	X^2= 13,01 p<0,01
Agreeo	29	26,9	
Strongly agree	22	20,4	
Total	108	100	

Source: Prepared by authors

It is observed, regarding trying to involve students by means of documents that can be edited collectively (web wiki) for the understanding of curricular contents (X2= 84.3; p<0.0001), that the majority (87.8%) opted for "*Agree*" or "*Strongly Agree*" (Table 4):

Table 4 – I try to involve students in web wiki (documents that are edited collectively) to understand the subject matter

	Frequency	**%**	**Chi-square (X^2)**
Strongly disagree	2	1,9	
Disagree	5	4,6	
Neither agree nor disagree	14	13	X^2= 84,3 p<0,0001
Agree	35	32,4	
Strongly agree	52	48,1	
Total	108	100	

Source: Prepared by authors

Regarding the use of slides for the teaching moment (X2= 10.7; p<0.03), half (50%) of the teachers considered the statement as "Strongly Disagree" or "Disagree" (Table 5). This result caused surprise, since supporting the teacher's explanation by slides is widely used in face-to-face teaching and it was assumed that this practice would be transposed to the ERT, at a time of pandemic.

Table 5 – I often try to present the lesson content using slides

	Absolute frequency	%	Chi-square (X^2)
Strongly disagree	25	23,1	
Disagreeo	29	26,9	
Neither agree nor disagree	24	22,2	X^2= 10,7 p<0,03
Agree	21	19,4	
Strongly agree	9	8,3	
Total	108	100	

Source: Prepared by authors

As Aeby-Daghé and Dolz (2008) point out, specific gestures are constituted by verbal and bodily movements addressed to the "other," and have the function of decomposing, detailing, and pointing out certain dimensions of the teaching object; monitoring the student's tasks in individual or group work practices; and modulating the intonation of reading aloud.

Regarding the founding didactic gestures, what were the evidences found in our research? The founding didactic gestures, according to Schneuwly (2000 apud NASCIMENTO, 2011), arise from the elements mobilized to materialize the teachers' knowledge delimited in the common space created between teacher and learners. They are part of the adaptive schemes of individuals and are used in various teaching situations to evoke memories, symbolic representations, and put into action concepts and procedural schemes already learned.

To highlight these founding gestures, a sequence of questions was designed to capture their components which, according to Aeby-Daghé and Dolz (2008), they consider to be: Presentification, Elementarization, Task Formulation, Materialization, Appeal to Memory, Regulation, and the Institutionalization (Chart 1 - Introduction).

Tables 6 and 7 summarize the teachers' judgment regarding adapting lessons to the ERT when using Google Suite, as well as other digital technology tools, to teach a given content.

It is worth mentioning that the Google Suite platform enables schools, teachers, and students to extrapolate their creativity in using digital technologies in the classroom. This platform was acquired in partnership with Google during the pandemic, for the teacher to use in their pedagogical work.

There was a statistically significant difference between judgments about experimenting with the various ways of working with Google Suite (X2= 26.5; p<0.0001) and about studying

intensively to aid student learning (X2= 31.3; p<0.0001), as well as about seeking to delimit the teaching object to other software (X2= 16.3; p<0.003). Most of the teachers (59.3%) judged the statement "*In my classes I have experimented with various ways of working with Google Suite*" by scoring "*Agree*" or "*Strongly Agree*" (Table 6). The same percentage (59.3%) responded identically to the statement "*I have intensively studied various ways in Google Suite to facilitate my students' learning*" (Table 7). However, around ¼ of the teachers (25.9%) take no position, selecting the option "*Neither agree nor disagree*".

Table 6 – In my classes I have experimented with various ways of working with Google Suite

	Frequency	**%**	**Ci-square (X^2)**
Strongly disagree	6	5,6	
Disagree	14	13	
Neither agree nor disagree	24	22,2	X^2= 26,5 p<0,0001
Agree	37	34,3	
Strongly agree	27	25	
Total	108	100	

Source: Prepared by authors

Table 7 – I have been studying intensively various ways in Google Suite to facilitate my students' learning

	Frequency	**%**	**Chi-square (X^2)**
Strongly disagree	4	3,7	
Disagree	12	11,1	
Neither agree nor disagree	28	25,9	X^2= 31,3 p<0,0001
Agree	35	32,4	
Strongly agree	29	26,9	
Total	108	100	

Source: Prepared by authors

Table 8 – I try to delimit my teaching object by using the digital media offered in Google Suite and other software (Socrative, Mentimeter, kahoot, among others)

	Frequency	**%**	**Chi-square (X^2)**
Strongly disagree	11	10,2	
Disagree	28	25,9	
Neither agree nor disagree	31	28,7	X^2= 16,3 p<0,003
Agree	26	24,1	
Strongly agree	12	11,1	
Total	108	100	

Source: Prepared by authors

It is observed that 36.1% of the teachers judged the statement as "*Strongly Disagree*" or "*Disagree*", from which it can be inferred that these teachers were limited to using the tools made available through the Google Suite platform, which represents signs of the Materialization of their founding gestures. However, 35.2% answered "*Agree*" or "*Strongly Agree*", which is an indication that these teachers have gone beyond the use of the Google Suite tools and Materialization for these comes accompanied by "*Appeal to Memory*" and "*Regulation*".

Table 9 – I have tried to identify evidence in the teaching-learning process through ICT

	Frequency	**%**	**Chi-square (X^2)**
Strongly disagree	2	1,9	
Disagree	5	4,6	
Neither agree nor disagree	23	21,3	X^2= 69,8 p<0,0001
Agree	50	46,3	
Strongly disagree	28	25,9	
Total	108	100	

Source: Prepared by authors

At the same time that we observed that there is still doubt in the pedagogical practice regarding the domain of technological knowledge in the teaching process (know-how), most teachers (72.2%) responded "*I agree*" or "*I strongly agree*" about the importance of ICT in

teaching and learning (Table 9). However, it was also observed that doubt persists for 21.3% - who answered "*Neither agree nor disagree*" - that the ITC assists the teaching processes.

A possible explanation for this behavior among teachers, with respect to identifying such evidence, is due to Regulation. As Aeby-Daghé and Dolz (2008) point out, Regulation is a component of the founding didactic gesture that seeks to diagnose difficulties and obstacles in relation to a stage of the ongoing process, aiming at the establishment of goals for the development of skills. Therefore, we can in hypothesis consider that the teachers in doubt are not managing to diagnose and identify this process due to their lack of skill with digital technologies.

Table 10 – I try to show my students how to improve their understanding of the subject content (I use various teaching strategies)

	Frequency	**%**	**Chi-square (X^2)**
Strongly disagree	0	0	
Disagree	1	0,9	
Neither agree nor disagree	13	12	X^2= 62,5 p<0,0001
Agree	44	40,7	
Strongly agree	50	46,3	
Total	108	100	

Source: Prepared by authors

In conclusion, it is observed that 87% of the teachers judge the statement use various teaching strategies with Agree or Strongly Agree (X2= 62.5; p<0.0001), which corroborate in the understanding of the content to be taught, therefore, reinforcing Institutionalization, that is:

> [...] gestures directed to the fixation of the knowledge (external) that must be used by the learners in the new circumstances (internal) in which they will be required. The teacher seeks to put in evidence the aspects of the object that the learners must internalize to be (re)contextualized in the task presented by the teacher (AEBY-DAGHÉ; DOLZ, 2008, s/p).

It was possible to infer the participants' expressive concern about Institutionalization.

Final considerations

The training of teachers to work in this century has been the same as that of decades ago, ignoring many of the scientific advances that have occurred in the world, as well as the evolution of technologies that can be used in education. The teacher training courses today need to include digital technologies for teaching in the training process itself, as tools for interaction and pedagogical mediation, in order to develop new teaching competencies in the participating teachers.

It is necessary for teachers to understand the relevance of keeping themselves professionally updated and to realize that the times in which we live interfere with work gestures.

In this research, regarding the teaching gestures of the teacher and their connection with the interaction between teacher-student, with the teaching practice and with the attitudes to face problem situations, the main findings were that the participants: (a) still do not realize whether students are really learning in this new situation; (b) value interaction with students through dialogue and questioning; (c) needed to study intensively to assist student learning in the ERT; (d) still need to develop the foundational gesture of regulation, which allow them to diagnose in students difficulties and obstacles in relation to stages of the learning process and, from this, set goals for the development of skills.

Although we are witnessing, in our lives, a new way of teaching (ERT), due to social isolation as a result of COVID-19, we need to rethink and reorganize our practices as teachers and establish working gestures adapted to the new teaching scenario.

The most adapted teachers in the context of ICT, in COVID-19 era, in synchronous online classes, must have special attention in focal actions regarding didactic gestures, so they must pragmatically master technological and pedagogical content knowledge in their classes

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Appendix I - Collection Instrument

FIELD	INDICATORS
Specific Gestures	1. I notice in my classes that the "silence of the students" can indicate that they are not learning.
	2. I try in my classes to always question them (dialog).
	3. To get attention in class I try to make them interact by making presentations in the form of a seminar (Group, mainly).
	4. I try to involve students in web wiki (documents that are edited collectively) to understand the subject matter.
	5. I often try to present the content of the lesson through slides.
Founding Gestures	6. In my classes I have experimented with various ways of working with Google Suite.
	7. I have been studying intensively various ways in Google Suite to facilitate my students' learning.
	8. 8. I try to delimit my teaching object by using the digital media offered in Google Suite and other software (Socrative, Mentimeter, kahoot, among others).
	9. I have tried to identify evidence in the teaching-learning process by ICT.
	10. I try to present to my students how to improve their understanding of the subject content (Use of various teaching strategies).

Source: Prepared by authors