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Online tutor's knowledge in a Mexican public university: TPACK Model

Conocimientos del tutor en línea en una universidad pública mexicana: Modelo Tpack

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Abstract

The online tutor's perspective on their knowledge concerned with the subjects they teach in a fully online university education program was analyzed, from the Technological Pedagogical Content Knowledge (TPACK) model, which includes seven dimensions. A Likert TPACK scale was used, which was adapted to the activities of the tutor in a virtual classroom in a university training program. Two hypotheses were tested considering two predictors, the training received and the time dedicated to online tutoring activity (considered as the number of hours hired at the institution). It is a cross-sectional study with an intentional sample, in which 50 online tutors participated voluntarily. The results show acceptable reliability in all dimensions; the general average of the group was of 129, with a minimum score of 33 and a maximum of 155. In the Content Knowledge dimension: 70% of the tutors say they strongly agree to possess it. In the other dimensions, their answers oscillated between the options, strongly agree and agree. The statistical test indicates that the training (online or mixed) is not associated with the perceived knowledge, since the time dedicated to online tutoring is directly proportional associated to the perception of knowledge (Mann-Whitney z = -2.741, n = 34, p. = .006). This result is consistent with other studies. It was also identified that in the dimensions related to technological knowledge the differences are more significant.

Keywords: Online tutor, teaching knowledge, TPACK, Distance education.

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Resumen

Fue analizada la perspectiva del tutor en línea sobre sus conocimientos delimitados a las materias que imparten en una formación universitaria totalmente en línea, desde el modelo Conocimientos Tecnológicos Pedagógicos y de Contenido (TPACK) que contempla siete dimensiones. Se empleó una escala tipo Likert TPACK que fue adaptada a las actividades del tutor en un aula virtual en un programa de formación universitaria. Se probaron dos hipótesis considerando dos predictores, la formación recibida y el tiempo dedicado a la actividad de tutoría en línea (considerado como el número de horas contratadas en la institución). Es un estudio transversal con una muestra intencional, participaron voluntariamente 50 tutores en línea. Los resultados muestran una confiabilidad aceptable en todas las dimensiones; la media general del grupo fue de 129, con una puntuación mínima de 33 y una máxima de 155; en la dimensión Conocimiento de Contenido, el 70% de los tutores dice estar muy de acuerdo con poseerlo; en las demás dimensiones sus respuestas oscilaron entre las opciones muy de acuerdo y de acuerdo. La prueba estadística indica que la formación (en línea o mixta) no se asocia con el conocimiento percibido, en tanto que el tiempo dedicado a la tutoría en línea se asocia de manera directamente proporcional a la percepción del conocimiento (Mann-Whitney z=-2.741, n=34; p.= .006). Este resultado coincide con otros estudios. Así mismo se identificó que en las dimensiones relativas al conocimiento tecnológico las diferencias son más marcadas.

Palabras Clave: Tutor en línea, conocimientos docentes, TPACK, Educación a distancia.

Introduction

Online education is an increasingly important for university education, where the professor is often identified as a tutor, responsible for accompanying the student is learning through different activities. This process of accompaniment is to coordinate the learning activities, develop teaching activities, supervise the student's activities, develop didactic planning, and provide cognitive and socio-affective aid to the students in both group and individual settings.

To perform these activities, the tutors mobilize their knowledge about discipline, profession, the specific objectives of the subject, the variables that affect the learning of the student (cognitive, affective and social), teaching strategies, and the technological tools available (Chang, Shen & Liu, 2014) Cole, Shelley & Swartz, 2014; Goold, Coldwell & Craig, 2010; Kopp, Matteucci & Tomasetto, 2012; Matteucci et al., 2010; Barker, 2002; Berge, 1995; Garcia-Aretio, 2001; McPherson & Nunes, 2004; Goodyear, Salmon, Spector, Steeples & Tickner, 2001; Guasch, Alvarez & Espasa, 2010).

There are differing perspectives as to what it means to be an online tutor. Some studies address two important requirements of the online tutor: being experienced and knowing how to guide the student through online learning (Chang, Shen & Liu, 2014; Matteucci, et al., 2010; Kopp, Matteucci & Tomasetto, 2012; Gorsky & Blau, 2009).

Studies indicate that experience influences the performance of the online tutor. In general, it has been found that there is a direct relationship between this variable and the number and diversity of activities in the virtual classroom. We refer to "experience" in a general way; we have not analyzed specific qualities associated with the experience of the tutor, for example, their training, and their experiences as a student in a virtual classroom, time spent, etc.

Most studies are oriented to analyze online tutor performance to in a somewhat prescribed way, i.e., stating what has to be done according to the technological resources and institutional policies,

or discussing the tutor's performance, focusing on theoretically relevant variables such as cooperative learning or roles that the tutor must fill. However, the information provided by studying these factors in this way is an external and partial view, which does not consider the perspective of the tutor.

In contrast, other studies (Swinglehurst, Russell, & Greenhalgh, 2008;) McPherson & Nunes, 2008; Rodriguez-Hoyos & Calvo, 2011) have focused on analyzing what the tutor thinks about their online activity and have reported important findings. For the tutors, it is necessary to consider the existence of crucial aspects of online education: dedicating more time to plan and develop mentoring strategies, having an educational mode according to the model, and considering the characteristics of individual students rather than the idealistic student. It is important to them that they are involved in decisions about their training process and use the different educational technological resources available. They also value peer learning, and the possibility of experiencing being an online student themselves (Benson & Brack, 2009) Guasch, Alvarez & Espasa, 2010; Macdonald & Poniatowska, 2011; Gregory & Salmon, 2013).

Self-analyzation gives the tutor access to knowledge that would not be gained from an external look. We can understand their role as an educational agent who reflexively chooses their interaction style in the virtual classroom (to develop an educational design and propose the use of resources or provide feedback to students), rating their needs of training. In this regard, the Koehler & Mishra (2005) model about TPACK presents evidence of a systematic alternative to address the skills of online tutors from their perspective, and uses their experience as a variable, which affects their performance in the classroom.

Using the TPACK model, our objective was to analyze the relationship between the online tutor's experience and their perspective of their knowledge; specifically regarding subjects taught at an online university. "Experience" is defined as previous training and the amount of time they have been an online tutor. The hypothesis differs depending on the mode of the training they have had (online or mixed) and for time spent tutoring online (contracted time).

The TPACK Model

This section describes conceptual references of the TPACK model and different alternatives to assess the dimensions of the model. The TPACK was developed to describe the basis of the ability of teachers to teach effectively using technology. Various studies (Harris, Phillips, Koehler & Rosenberg, 2017; Voogt et al., 2013) have allowed researches to understand the differences between teaching in a face-to-face classroom and in virtual environments.

The TPACK is based on Shulman's proposal (1986) about the organization of the tutor's knowledge influencing decision-making in the classroom regarding what, with what, and how to teach. Shulman proposed to unterstand the teacher's thought process and knowledge and examine whether their methods were effective. His main concern was to make sure teachers were properly trained to translate knowledge within their domain into pedagogical contexts. In his model, he proposes to examine the interaction between teaching content and the teaching process. He defines various categories of knowledge, including the technology component, which are adopted and extended by the TPACK (see Figure 1).

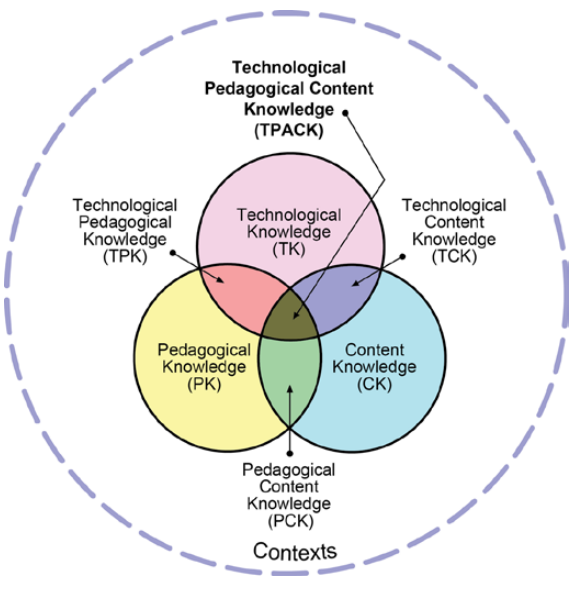

Figure 1. TPACK Model
Source: Mishra & Koehler (2011) www.tpack.org

The definitions of each of the components of the model of Schmidt et al., (2009, p.125) are the followings:

- Pedagogical Knowledge (PK): The methods and processes of education, including knowledge about classroom management, assessment, the development of the academic curriculum and student learning.
- Content Knowledge (CK): The knowledge about the specific topic that is learned and taught, and how it differs from others by its nature.
- Technological Knowledge (TK): Describes the knowledge about different technologies, from as basic as a pencil and paper to digital technologies like the internet, videos, interactive boards, and computer programs.
- Pedagogical Content Knowledge (PCK): Points to the relationship between the teacher's knowledge and best pedagogical technique; unique by nature.
- Technological Content Knowledge (TCK): Reference to the knowledge of how technology can create new representations for specific content. With a specific technology, the teacher can transform the students' understanding of a concept.
- Technological Pedagogical Knowledge (TPK): Considered the knowledge of how various technologies can be used to transform education.
- Technological Pedagogical and Content Knowledge (TPACK): Considered the knowledge required by teachers to integrate technology into their teaching. Teachers have an intuitive understanding of the complex interaction between the three basic components of knowledge (CK, PK, and TK) and teach the content properly using pedagogical methods and technologies.

Different work has been derived from this model, some specific to the online tutor and some related to teachers who adopt technology to teach. Schmidt et al., (2009) developed a scale of self-evaluation that derives from the belief that effective integration of technology in education depends on the content and pedagogy. The teacher's technological experience must be specific to the content. The purpose was to measure the self-assessment of teachers in training of the seven domains included in the TPACK model. The scale consists of 47 items, Likert-type with five response options. The sub-scales showed indexes of reliability Alpha in a range from .75 to .92. The correlations were statistically significant, leading the authors to conclude about the qualities and strength of the scale.

Cabero (2014) directs a project that adds empirical evidence to the TPACK model in the Spanish-speaking population, using a Spanish adaptation of the scale developed by Schmidt, et al. (2009). The results show that the knowledge of teachers is an important element to plan training and impact educational practice. The results also show that experience is an important element because it showed that teachers with experience performed better than teachers in training. The instrument is composed of 73 items; 58 of which collect information on the different dimensions of the TPACK model, individually and on interactions. Other items address different content with similar redaction, for example, in knowledge content dimension one item says, "I have enough knowledge about science," and added other similar items for math, social studies and literacy. The other 11 items are related to the value teachers assign to TPACK for its training abilities. The rest requests sociodemographic information. Reliability indexes of each of the dimensions that made the questionnaire were: TK Alpha = 0 906; CK Alpha = 0, 885; PK Alpha = 0 951; PKC Alpha = 0 787; TKC Alpha = 0 834; PCK Alpha = 0 912; TPACK Alpha = 0.899.

Research on the TPACK model focused specifically on the online tutor. Different approaches have been used including qualitative interviews, focus groups, and observations.

The work of Cowan, Neil & Winter (2013) shows how it is possible to get methodically closer to the educational practice of the tutor online from the tutor's view, but also through a theoretical perspective that allows researchers to explain that vision. They used focus groups and interviews. The basis of his research is connectivism, but they

categorized the knowledge, which emerged from their data with the TPACK mode. Online tutors indicate that the key elements to focus on when developing a curriculum that utilizes technology are: tutor, learning, history of the student and the technology to be used. In addition, they say that the way the learning process is facilitated is more important than the content of a course.

The study of Benson & Ward (2013) illustrated online tutors' profiles with graphic models that showed how their level of content knowledge, pedagogical knowledge, and technological knowledge were integrated in an idiosyncratic way and characterized their practice. They performed interviews and non-participant observation to create individual profiles of the skills of three online teachers, who were chosen for their focus on using technology to teach. Each teacher chosen had post-graduate studies in their subject area (content knowledge), at least three years of experience teaching online—showing mastery of the LMS (learning management system)—and focused on the use of technology to facilitate teaching and learning. A relevant result is that two of the three tutors, who had between five and seven years of experience, mentioned that their professional skills were related to the use of technology. They showed greater technological and content knowledge than pedagogical knowledge, and demonstrated low levels of integrated knowledge, for example, PCK and TPACK. The other teacher, who had four years of experience as an online tutor, had no actual training as an online tutor and had never been an online student, but also showed TPACK integration, with a greater presence of PK and CK than the other two teachers, but a lower level of TK. Benson & Ward (2013) concluded that the tutors who are able to explicitly express their understanding and application of pedagogical knowledge are more likely to demonstrate the integration of the TPACK.

Anderson, Barham & Northcote (2013) determined the degree to which the elements of different types of knowledge within the TPACK model is evident within the practices of teachers who participated in the study. The teachers selected were online tutors who had participated in training sessions at the University. The 15 teachers selected specialized in the following areas: music, communication and information technologies, marine biology, cultural studies, physiotherapy, nursing, architecture, pharmacy, and indigenous studies. They conducted semi-structured interviews; the results of which indicated that the three main components (TK, CK and PK) of the TPACK were represented in the participant's answers, the most frequent of which were TK and PK. The answers indicated that participants showed awareness that the content was not the main focus of the lessons, but instead focused on pedagogical aspects and significant use of technology. Another relevant result was the emergence of different combinations of TK with the other elements. Researchers reflect on how the online tutors' educational practice is fully linked with the use of technology.

Anderson, Barham & Northcote (2013); Benson & Ward (2013) analyzed interviews with online tutors using categories from the TPACK model. Through interaction with the participant, both studies showed the presence of their knowledge of each element. Anderson et al. found that TK and PK were more frequently observed than CK. For his part, Benson & Ward concluded that the tutors who are able to explicitly express their understanding and application of PK are more likely to demonstrate integration of TPACK. Anderson et al., (2013) as well as Cowan, Neil & Winter (2013) mentioned that, for online tutors, the content is not important, but the pedagogical methods for teaching the content are.

Materials and Methods

Participants

The sample type is intentional, not probabilistic (Harrison, 2013). 50 online tutors voluntarily participated. The sample constituted 35% of the population of tutors in a university training program of psychology, part of the Sistema de Universidad Abierta y Education a Distancia (SUAyED) (Open University System and Distance Education) in the Facultad de Estudios Superiores Iztacala (Superior Studies Iztacala Faculty)

belonging to the Universidad Nacional Autónoma de Mexico (UNAM) (National Independent University of Mexico). They were chosen because they have the authority to adjust the educative design of their courses, unlike other universities, and unlike other tutors of the same institution.

They were 37 women, 13 men, between 25 and 50 years old. They all have fourth-level studies such as specialty, master's degree or doctorate. They had been online tutors between one and 12 years within the SUAyED psychology department. They work different hours per week; less than ten contracted hours (24%), between ten and twenty hours (14%), between twenty-one and thirty hours (18%), and between thirty-one and forty hours (44%).

Participants who did not have any type of training in online education (6%); training in mixed mode (32%) or completely virtual (62%).

Instruments

An adaptation of the instrument published by Cabero (2014) was used. It is a questionnaire in Likert scale style with five response options: SD = strongly disagree, D = disagree; N = neither agree nor disagree, A = agree; SA = strongly agree. The steps for the adaptation of the instrument were the following:

1. Select the original test questions. Cabero's version of the test has 62 questions covering socio-demographic data, TPACK model knowledge, and questions designed to assess how students perceive the teacher's knowledge. For the present study, we used only TPACK-related questions.
2. Tailor the wording of the questions to the online tutor. The items were modified to relate to the online classroom. Questions related to a specific subject were modeled to pertain to that subject's content.
3. Prepare the questions related to the socio-demographic characteristics of online tutors. Questions used pertained to professional training, graduate and online education, the time of recruitment to SUAyED psychology, number of hours and type of modules managed (theoretical, applied, or mixed). Therefore, all the items about sociodemographic data of the instrument published by Cabero et al. (2014) were eliminated.
4. Apply the questionnaire to virtual media. The questions were put into a Google form for accessibility, so that the online tutors could answer and record their responses virtually.
5. Calculate reliability of the dimensions. Internal consistency was measured using Cronbach's Alpha coefficient in order to determine the behavior of the instrument in terms of variability of the questions, with respect to themselves and other questions (Reidl, Guillén, Sierra & Jewel, 2002).

The adapted questionnaire included questions specific to the objectives of the study (see the questionnaire in annex 1). It consisted of 31 questions, which assessed seven dimensions. The number of items and Cronbach's Alpha value are specified in table 1 for each dimension.

Table 1
Seven dimensions of the applied questionnaire, specifying number of reagents and Alpha calculated for each dimension

Dimension	Questions	Value
Technological Knowledge (TK)	7	α= .908
Content Knowledge (CK)	3	α= .949
Pedagogical Knowledge (PK)	7	α= .954
Technological Pedagogical Knowledge (TPK)	6	α= .938
Technological Pedagogical and Content Knowledge (TPACK)	6	α= .939
Content Technological Knowledge (CTK)	1	
Pedagogical Content Knowledge (PCK)	1	

Type and Design

The study was a transverse, non-experimental type (Garcia, Marquez & Avila, 2009). The hypothesis of the study considered the relationship between two variables and the perspective of the online tutor regarding how they implemented their knowledge in the educational practice within the online classroom, measured on the TPACK scale. The two variables present were: their training experience (online and mixed), and tutoring time

dedicated, defined by the amount of time employed by the institution.

Procedure

We presented the project to the management of SUAyED Psychology; the Coordinator and Manager of the teacher-monitoring program. We discussed the utility of the department's results for the institution.

Management agreed to invite their online tutors to participate in the study, specifying to the teachers that management in no way would benefit from their participation in the study and that their responses would not put their job in jeopardy. It was explicitly stated that their participation was completely voluntary and that the results be only used for research purposes.

The link to the questionnaire was included in the invitation message. In was sent on three occasions: May, August, and October 2017.

To analyze the data, we used the SPSS statistic package, version 21.

Results

We first showed the statistical analysis of the descriptive data related to central tendency, dispersion, and position (Vega, Garcia, Valencia & Hoover, 2009). Subsequently the inferential analysis proved the hypothesis true.

In general terms, the average score on the questionnaire was 129 points, with a minimum of 33 and a high of 155, which corresponds to the total score possible. The value of the first quartile was 121, of the second quartile was 134 and the third quartile was 145.

Table 2 presents the descriptive statistics for the seven dimensions. Answers lean toward the positive side of the scale. Tutors chose high percentages of the options "Strongly Agree," meaning that they agreed with the question's statement. A standout is the CK dimension, which presents a 71.3% response of "Strongly Agree."

Table 2
Descriptive statistical analysis for the seven dimensions

Dimensión	TK	CK	PK	PCK	TCK	TPK	TPACK
Average	27.84	13.74	29.74	4.02	3.96	25.52	24.7
Median	28.5	15	31	4	4	26.5	25
Mode	28	15	35	4	4	30	30
Standard deviation (SD)	5.41	2.48	5.78	1.02	1.00	4.92	4.91
Minimum	9	3	7	1	1	6	6
Maximum	35	15	35	5	5	30	30
Average (%)							
Strongly agree	33.7	71.3	48	48.5	35.6	34	36
Agree	41.2	23.3	36.2	39.4	43.6	40	42
Neither agree or disagree	16.5	1.3	11.7	7.1	14.8	16	14
Disagree	5.4	0	0.5	0.8	2.8	8	4
Strongly disagree	2.8	4	3.4	4	3.2	2	4

Note: The average percentage row shows percentages of responses to each of the dimensions by type of response. TK = technological knowledge, CK = content knowledge, PK = pedagogical knowledge, PCK= pedagogical content knowledge, TCK = technological content knowledge, TPK = technological pedagogical knowledge, TPACK = technological pedagogical content knowledge

The percentage of participants who chose the option "neither agree nor disagree" fluctuates between 7% and 16% chose and a very small percentage chose the "disagree" or "strongly disagree" response. The categories that demonstrate the highest amount of those options are related to TK.

The data obtained from the hypothesis test always displayed a significance level of .05. The population who exclusively had: online training (N = 16), joint training (online and face to face) (N = 31). The overall score was used as the main display.

HO: Online tutors who have had exclusively online training are not perceived to have different knowledge than tutors who trained in mixed mode.

H1: Online tutors who have had exclusively online training are perceived to have different knowledge from tutors who trained in mixed mode.

The Mann-Whitney U test for independent samples indicates that the null hypothesis is accepted, since a value of z = 28.500 with an associated significance of .088 was obtained. The overall score for the questionnaire does not differ according to the type of training experience. For this reason, we did not do the dimension comparison.

On the differences in the knowledge perceived according to the time dedicated to online tutoring: we considered the overall score on the instrument and compared four groups: less than ten contracted hours (N = 12), between ten and twenty hours (N = 7), between twenty-one and thirty hours (N = 9) and between thirty-one and forty hours (N = 22).

HO: Online tutors are not perceived to have different knowledge based on how many contracted hours they work.

H1: Online tutors are perceived to have different knowledge based on how many contracted hours they work.

The Kruskal-Wallis test for more than two independent samples indicates that the research hypothesis is statistically significant; therefore, accepted. Differences were found in the overall score depending on the time dedicated to online tutoring (Kruskal-Wallis ji2 = 7.912, n = 50; P = .048). Based on this data, it was decided to do a different analysis that would identify between which groups exist statistically significant differences.

Factors within each group were compared to each other. Statistically significant differences in the overall scores between tutors were specifically found between those with more than 30 hours and less than 10 hours (Mann-Whitney z = - 2.741, n = 34;) P = .006). For the group of 30 hours [M = 135.95, SD = 12.71], for the Group of 10 hours [M = 110.25 & SD = 36.05]. Next, the dimensions analyzed yielded statistically significant differences, mainly in technological knowledge concerning dimensions: TK [Mann-Whitney z = - 2.332, n = 34;] [P =. 018], TCK [Mann-Whitney z = - 2.437, n = 34;] [P =. 018], TPACK [Mann-Whitney z = - 2.811, n = 34;] [P =. 004] and PK [Mann-Whitney z = - 2.484, n = 34;] [P =. 012]. The means and standard deviations for groups with less than 10 contracted hours and the group with more than 30 hours contracted for each of the dimensions are shown in table 3.

Table 3
Comparison of means and standard deviations in seven dimensions into two groups

Counted hours	Less than 10		Between 30 - 40	
Dimensions	M	SD	M	SD
Technological knowledge	23.58	7.78	29.31	3.87
Content knowledge	11.91	4.35	14.13	1.12
Pedagogical knowledge	25.08	8.49	31.27	3.62
Pedagogical content knowledge	3.41	1.24	4.22	.92
Technological content knowledge	3.2	1.05	4.13	.94
Technological pedagogical knowledge	22.33	7.83	26.72	2.60
Technological pedagogical content knowledge	20.66	6.91	26.13	3.07

Note: Shows the nomenclature for the average with M and standard deviation with SD

Discussion and Conclusions

The objective of the present study was to analyze the perspective of the online tutor about their knowledge within the subjects they teach at an online university, using the TPACK model. In general, the findings identify that tutors perceive their technological knowledge, pedagogical knowledge, and content knowledge in a highly positive manner, however, the findings also identified that the longer they spend tutoring online, the greater their perceived knowledge is. This result is similar to that reported by Cabero et al. (2014). CK, PK and TK were present such as in studies of Benson & Ward (2013); Anderson, Barham & Northcote (2013). However, there is more commonality with the study of Benson & Ward (2013) regarding PK and its manifestation in the articulation of each of the integrated knowledge of TPACK components.

Online tutors expressed proportionally greater disagreement in dimensions that involve technology, specifically in TK and TPK. This data does not match the claim of Anderson et al., (2013) about

the obvious presence of the TK due to the nature of the educational environment. In the present study, the data on knowledge linked to the use of technology could be understood as the need for greater training; however, we should consider that the ability to use a variety of technologies does not necessarily result in their effective use to affect teaching and learning (Benson & Ward, 2013). The educational use of a technological tool inside or outside of the virtual classroom responds to the educational need of the didactic online tutor who is interested in their students' education. This point will be analyzed more extensively in future research.

Tutors with more time dedicated to online tutoring are perceived to have more knowledge in comparison with the tutors who have fewer hours in the institution. This study's results concur with other studies that indicate that the dedication to mentoring online influences educational practice (Chang, Shen & Liu, 2014;) Gorsky & Blau, 2009; Kopp, Matteucci & Tomasetto, 2012; Matteucci et al., 2010), which suggests that the benefits offered to the tutor by the institution can influence their dedication to education.

To examine pedagogical knowledge, technological knowledge, and content knowledge of the online tutor, using the TPACK model is a way to begin to identify and recognize their perspective on knowledge, and their level of knowledge in different areas, in order to detect which areas are their strengths and which areas could use more training.

The TPACK model enables researchers to understand these skills separately (PK, CK, TC) but also in an integrated way (TPK, TCK, PCK and TPACK), coinciding with the conclusions of Harris et al. (2017), who believe that the TPACK model is a powerful tool for educators and researchers, since it helps to better understand the nature of knowledge, reasoning, decision making and teaching processes.

In future work we must know how online tutors build such knowledge in the light of their experiences and reflections. It is desirable and pertinent that we from approach online education from the perspective of online tutors, using qualitative tools to delve into the manifestation of the knowledge of the tutors. The goal is to understand how to develop the ability to teach the content of their subject, with the mediation of the technological resources available in and out of the virtual classroom so that the student will achieve the expected learning.

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Annex

Instructions:

In the following questions, choose answer that most closely applies to you. Remember that there are no right or wrong answers.

1. I solve my own technical problems on the SUAyED Moodle platform.
2. I assimilate to technological knowledge easily.
3. I stay up to date on important new technologies.
4. I often experiment with the technological tools of the SUAyED Moodle platform.
5. I know how to use many different kinds of technology (tools, applications, platforms, software.
6. In the module that I chose:
7. I have the necessary technical knowledge to use the SUAyED Moodle platform.
8. I have had sufficient opportunities to work with different technologies.
9. I have enough knowledge about the content of my module.
10. I know how to apply versatile ways of thinking in accordance with the contents of my module.
11. I have various methods to develop my knowledge about the contents of my module.
12. I know how to evaluate the performance of students on the platform.
13. I know how to adapt my teaching to what students understand or don't understand at all times.
14. I know how to adapt my teaching style to accommodate students of different learning styles.
15. I know how to assess students' knowledge in different ways.
16. I know how to use a variety of teaching strategies in the classroom.
17. I'm aware of the most common successes and errors that students do in relation to their comprehension of the content.
18. I know how to organize and maintain the classroom dynamics.
19. I can select effective teaching approaches to guide the thinking and learning of the students in my module.
20. I am familiar with technologies (on and off the platform) that I can use to understand and develop content on my module.
21. I know how to select (on and off the platform) technologies that support the strategies of teaching for a specific topic.
22. I know how to select (on and off the platform) technologies that improve the learning of students in a certain subject.
23. My training as a teacher has made me reflect more carefully about the ways in which technology can influence teaching approaches employed in the classroom.
24. My training as an online tutor has made me think more carefully about the ways in which technology can influence teaching approaches employed in the classroom.
25. I think critically about how to use technology (on and off the platform) in the classroom.
26. I can adapt the use of technologies (off the shelf) on which I am learning to different teaching activities.
27. I can adapt the use of the technologies on which I'm learning (Google drive, Google Hangouts, Skype and other applications outside of the platform) to different teaching and learning activities.
28. I master topics related to my module content, technologies, and teaching focus.
29. I know how to select technologies for use in the classroom (on and off the platform) that enhances how I teach and what students learn.
30. I know how to use teaching strategies to combine content, technologies, and teaching approaches that I've learned.
31. I can guide and help other tutors to coordinate the use of content, technologies and teaching approaches in the same module.
32. I can select (off the platform) technologies that improve lesson content.