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The tutor’s roles and functions in online education. Qualitative study within the context of worker training

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Abstract

E-learning education has become a reality that transcends the educational environment. This research focused on continuous education of working people for whom e-learning offers many advantages given the characteristics of this group. The tutoring process is key when introducing improvements and contributing to the progress of this educational experience. The research here presented was intended to analyze the functions performed by teletutors in carrying out their educational function, highlighting e-learning tutoring styles. The methodology employed was qualitative, and in-depth interviews with tutors of 29 online courses were conducted. The data were gathered within the framework of a program of continuous training courses for autonomous workers from small and medium-sized companies.

The analyses performed allowed for in-depth study of the dimensions and functions performed by tutors in the educational activity. The Atlas.ti software was used for qualitative analysis that allowed for the construction of several category systems relating to a series of comprehensive theoretical frameworks. Several flow charts were drawn for each one of these theoretical frameworks that allowed for a better understanding of the relationships between the categories and dimensions of each tutor participating in the study. It was also possible to establish tutor typologies according to their roles and functions, the resources used in tutoring and the features that characterize students that participate in e-learning.

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1. Introduction

E-learning is gaining ground among the different forms of training, not only because it is efficient, but also as a result of the proliferation of a multitude of studies intended to improve the teaching and learning process (i.e. Llorente, 2006).

In the present changing and dynamic situation in which we find ourselves, brought about by the introduction of information and communication technologies into the educational process, the methods, strategies and instruments used in teaching must be reconsidered, since there are indicators showing that the social and work-related educational experience that bears upon an individual's development will not be one and the same throughout life, that there will be various work-related changes and that this is one of the typical and basic goals of adult education and advancement.

E-learning is currently the most frequently used training mode for continuous education of workers due to the great advantages offered. Notwithstanding, we must not think that this educational mode ensures by itself greater quality or faster and more efficient learning. With this pedagogical model the tutor's work acquires special importance to the detriment of the use of information and communication technologies.

The tutor does not transmit content in the manner he or she did by classroom teaching due to the fact that the student is already in possession of content that is to be acquired in the student's own manner and at his or her own pace.

The research presented here adopted a double perspective based on two closely related aspects: on the one hand, the introduction of new educational technologies as a relevant and current aspect, and on the other, the need to improve e-learning quality in worker training.

Accordingly, we became aware of the need to study tutoring forms that contribute and aid in improving performance by the teletutor and which have an impact on the development of an improved teaching-learning process that results in lowering student attrition rate.

The paper presented is part of a wider research effort intended to contribute to the work still to be done in order to improve the quality of the formative action that takes place in this area of education. In doing so, we began by analyzing which functions are carried out by e-learning tutors through the educational actions they undertake and how these functions are perceived by students.

The proposal put forward by Llorente (2005), regarding five functions that all teletutors must perform was the basis and has been used as the theoretical model for our research. These five functions are:

- Academic Function: Relating to mastery of contents, activities, and student formative assessment, as well as the skills to organize activities.
- Technical Function: Intended to ensure student mastery over available tools on the virtual environment.
- Guiding Function: Having the required skills to plan, structure and establish operating rules, as well as to program schedules and implement the various formative actions.
- Social Function: Meant to overcome feelings of isolation, loss or lack of motivation of students participating in this educational mode.
- Organizational Function: Relating to the tasks of providing students guidance and advice on organizational matters in the course of the formative actions.

2. Objectives

The general research objectives established were the following:

- To gain an understanding on tutors' perception in regard to educational course online tutoring and to analyze the different manners in which tutoring is conceived.
- To gather information on which of the functions and tasks of online tutoring were of greater importance in the tutors' opinion.

3. Method

3.1. Procedure

In conducting this research a qualitative perspective was chosen, since it allowed greater in-depth study of some of the study variables that stood out in the interviews conducted with the tutors. The interviews were not intended to be statistically representative of the population subject to research, but were meant to obtain a wide range of conceptual perspectives and outlooks that would aid us in better understanding some of the key dimensions of the complex tutoring process.

The semi-structured interview was supplemented with additional information that was gathered from the tutors by means of a document where they stated their opinion on how to improve the e-learning tutoring process from their own perspective and on the basis of their professional experience.

At the beginning of the interview we talked to the interviewee about the importance of collaboration that was done in the investigation and thanked him for his participation. Also some data on studies and work experience as a tutor in e-learning courses were collected. The informed consent of the tutors was requested for recordings and all tutors accepted without any inconvenience.

At the start of the recordings, the reason for conducting the interview was mentioned, that is, collect data on the tutoring process that had taken place in online courses Avanza Plan. They were also said that their responses would be considered anonymous and that in any case the information in the interview he wouldn't reach the company for which they worked or personal data published appear anywhere.

All interviews were transcribed for further analysis and they were represented all the variables that were intended to measure. From content analysis of the transcripts, a illustrated overview of how the various functions were developed in each tutor was obtained. Once we collected all the material we proceeded to a classification by tutors. The first readings allowed for a selection of statements, or textual fragments substantive sense, were properly coded for easy location of each of the interviews and the related statements.

3.2. Sample

A sample was taken from among tutors participating in a project of ongoing education offering 29 e-learning courses for workers throughout Spain.

We chose to take a non-probabilistic sample of an incidental nature, by requesting the tutors' voluntary participation.

Tutors were between 30 and 40 years old, 63% were male and 37% female. All were university graduates and had e-learning teaching experience ranging from 13 to 21 months before the tutoring course project began.

3.3. Study variables and information gathering instruments and techniques

In undertaking the research, interviews were conducted with the tutors who were tutoring in the 29 formative actions of the project. This technique was used to obtain information on the tutors' opinion and point of view regarding the study variables listed in the following table:

Table 1. Variables under study by means of the interviews conducted with tutors.

Categories (Functions)	Study variables
Guiding function	Facilitating intellectual study techniques for online training
	Ensuring that students' work pace is adequate
	Motivating students to work
	Ensuring that students' work pace is adequate
Social function	Acting as student guide
	Encouraging and stimulating participation

Organizational function	Maintaining contact with the other members of the teaching team, if required Establishing logical online communication structures Organizing and knowing how to carry out the administrative tasks required by the project
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Tutors were also asked after the interview to send a document stating which tasks, in their opinion, must be carried out by an e-learning course tutor in order to improve the tutoring process.

4. Analysis

The analysis conducted was qualitative in nature, taking the tutors' verbatim expressions as stated during the interviews conducted and in the supplementary documents sent to expand the information provided during the interviews. As stated by Tójar (2006) qualitative analysis requires that verbatim expressions, text fragments or statements be present both at the time of selection and throughout the process of categorization, analysis and the drawing of conclusions.

Initially "word clouds" were generated, a strategy that is currently very much in use in research being conducted in the educational science field. The word clouds were generated using the Tagxedo application, identifying by hierarchy the words most frequently used by a larger font size and those used less frequently with a smaller font size.

After this first approximation to the data by the use of word clouds, in-depth analysis continued by means of a categorization process. Each category established was built on the basis of the selection of the analytical units and the establishment of precategories. This stage took place simultaneously with the analysis and the drawing of conclusions.

All the information gathered during and after the interviews was reduced and organized and was used to draw and verify conclusions. Several analytical techniques were used in an increasing scale of abstraction which included speculative analysis, classification and categorization, establishment of categories and subcategories, models and typologies in order for the processed data to be incorporated into a theory. These analytical and theorization processes were used as conceptual instruments for analysis by the use of matrices or tables and of descriptive and explanatory graphs. The Atlas.ti 7.0 (2012) application was used to perform qualitative analysis.

5. Results

After analyzing all the textual material found in the transcripts of the tutor interviews with Atlas.ti, 245 text segments or verbatim citations were selected and 212 codes were prepared that were organized into 11 families. Since some of the citations were coded and recoded several times, the total number of citations by codes was 408 units.

After regrouping the code families (reategorization), three macro-categories were established:

- A first one relating to "Tutor resources", made up of the following families: "Materials", "Communication tools", "Activities and tasks", "Technical aspects", "Forums", "Contents" and "Chat". This macro-category relates to the resources used by the tutor in tutoring.
- A second one relating to the "Tutor's functions and tasks" that included the following families: "Tutor's tasks", "Attention, tutoring and support", "Organization and planning" and "Assessment, monitoring and control", that would relate to all those activities, tasks and work undertaken by the tutor in the performance of his or her duties.
- And a third and last one that comprised only one family: "Students' characteristics" bearing the same name and comprising all those features that characterize the students that enroll in courses of this kind.

The following table provides examples of the verbatim segments from each family of the "Tutor's resources" macro-category:

Table 2. Example of verbatim segments of the different families comprised in the "Tutor's resources" macro-category.

"Tutor's resources" Macro-category	Verbatim segment
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Materials	“Well, there was information on how to move around on the platform, how to use forums, the chats. Where each section of the platform was. Where to upload activities. Where to take exams.”
Communication tools	“I normally used e-mail and forums.”
Activities and tasks	“Activities presented to students must be as close to reality as possible, of suitable difficulty and must take into account the duration of each module.”
Technical aspects	“Yes, there was somebody who coordinated everything and another one who was the informatics technician in charge of the platform”
Forums	“We have strived to clearly define the topic in all forums and also to clarify if the forum was associated to a specific activity”
Contents	“Yes, I normally address any doubts they might have on the syllabus and if possible I send them more information by e-mail or provide them with a link to a web page if pertinent.”

After analyzing the documents with the additional information provided by the tutors, four macro-categories were established:

- The first one was “Tutor’s functions”, on the basis of tutors’ opinions and the categories established that make up the tutor’s role on the basis of his/her functions. This macro-category would include the “Pedagogical functions” regarding the control and monitoring of students by the tutor, those involving having to establish the relationship between theoretical contents and professional practice and those relating to the planning and organization of the work to be undertaken; the “Social and driving functions” which include the required presentation and introduction to the course, the accompaniment throughout the course whereby the tutor must foster interaction between himself or herself and the student and between the student and other students; the “Management and organization functions” regarding compliance with obligations by both parties, student summative assessment, preparing and adhering to the schedule and planning and lastly, the “Technical functions” consisting in providing advice on technical-computer application functions and that involve providing solutions for all questions regarding virtual functioning of the course.
- Secondly, the “Functions by phases” macro-category where emphasis is placed on the scheduling of the role performed by the tutor and on the organized planning of his/her work. Phases are organized chronologically. During the first phase “course planning” takes place, that is to say, all didactic, logistic and administrative aspects are planned. The second is the start-up phase, where the tutor must act as a perfect virtual host; at this stage, the students are welcomed, the tutor introduces him or herself and must encourage the students to introduce themselves and start to interact. At this time the tutor introduces the course and makes a presentation of the course plan and objectives. The following stage involves actual immersion in the course to be taken. This is the so-called “development phase”. During this phase the tutor performs various pedagogical functions such as providing guidance and motivation, and the phase has an organizational-administrative character. Finally the “closing stage” arrives. During this stage all on-going tasks are wound-up and completed and special attention is given to students who have yet to undertake or complete a task.
- The third macro-category presented is that of “Functions as tasks”. To a certain degree this macro-category closely resembles the “Tutor’s functions” macro-category, although the former focuses on the tasks and activities the tutor has to perform without organizing them into functions. It comprises three categories: the “more pedagogical tasks” whereby the tutor must motivate, guide, orient and advise; that is to say, in addition to having to conduct the dynamics and coordinate groups, he/she has to provide pedagogical support and foster collaborative learning; the “more technical tasks” category that includes tasks such as providing information on the work plan, controlling information and communications and providing prompt and adequate support; and a third one, where the tutor must perform various “other functions” of both a pedagogical and technical nature, such as preparing individual and collective reports, making assessments and anticipating problems.
- Finally, the fourth macro-category was designated “Tutor typology” and it referred to the various roles played by tutors. Thus, we were able to build a “Pedagogical tutor” typology where the tutor makes pedagogical functions and tasks prevail over other kinds of functions, the “Technical tutor” came next, this tutor gives priority to technical tasks and actions when interacting with students, the third typology corresponded to the “Phase tutor” where the

tutor gives special emphasis to the planning and ordering of the tasks to achieve organized tutoring. Lastly, the “Task tutor” who stresses compliance with a set of actions (tasks or activities) in order to comply with his/her tutoring duties.

6. Conclusions

The training model that frames the e-learning is different from classroom training. In the e-learning model, the student already has the training contents and he studies independently and at their own pace. Given this new approach, one of the main functions of the teacher will be to guide the student in the learning process. Their work will be more that of a "facilitator" of learning that will allow information to become knowledge and learning.

The work of the tutor is among the most important aspects that are proposed as determining factors in the success of the training in this type of training or, as it called by Cabero (2006), "critical variables".

Therefore, this research has been raised to study what is the opinion of the tutors about the tasks that are important and primordial during the process of tutoring in this training modality and what perceptions they have on what functions and tasks have been implemented in the training they have tutored.

Relevant conclusions were drawn of the research. For example, the suitability of the phenomenographic approach, adopted on the basis of the interviews conducted with tutors and further information gathering in the documents provided by tutors, was evidenced. This serves to highlight that this approach may be considered as a tool to be used in establishing the main categories and dimensions for each one of the tutors. Qualitative analysis also allowed for the organization of the various category systems into as many other “theoretical” frameworks, represented by comprehensive diagrams that helped us to more adequately understand the relations between and among categories and dimensions for each of the tutors who participated in the study.

The following figure shows one of these comprehensive diagrams we mentioned above. It illustrates how student characteristics have an influence on the resources used by tutors, and on the functions and tasks they must perform. Simultaneously, there is an interaction between the tutor’s tasks and functions and the resources employed that must conform to the training intended to be offered, given the students’ characteristics.

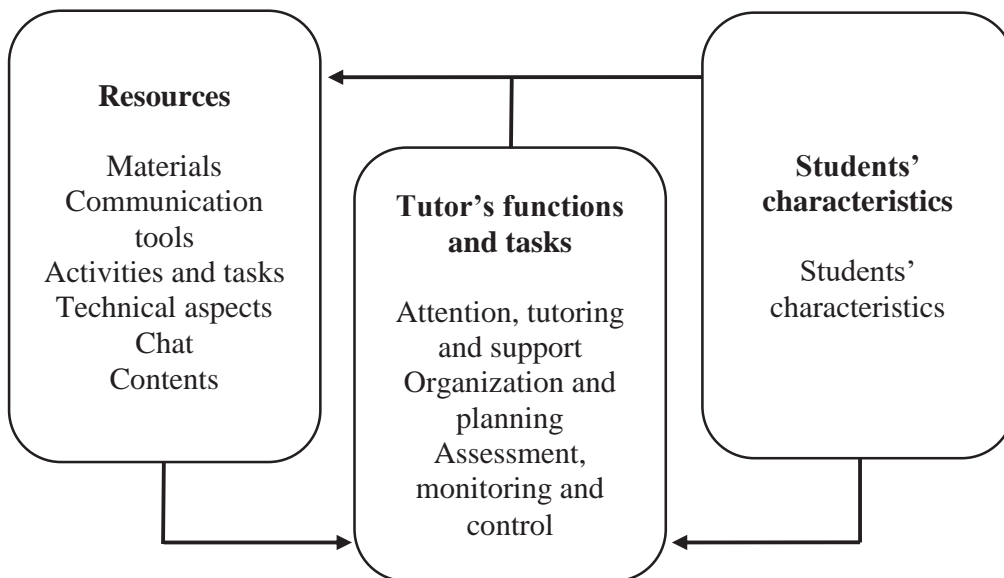


Fig. 1. Formative context: Macro-categories, code families and their relationships.

Qualitative analysis of the interviews and documents allowed us to inquire into the conceptions of the teaching function, enabling us even to establish tutor typologies according to the functions and roles performed, the preferred use made of resources in tutoring and the characteristics of the students who resort to this type of training, as it intended in the research objectives. We consider also that this type of analysis is a suitable qualitative strategy, to be used in establishing category systems to study and inquire further into pre-established (deductive) categories and to establish additional and new (inductive or *ad hoc*) categories and subcategories to be used in the analysis of the functions and roles performed by teachers.

Thus, by the use made of the *ad hoc* macro-categories, categories and subcategories, we proposed a comprehensive diagram that aided us in understanding how tutors carry out e-learning teaching work, as well as in understanding the educational context in which such training takes place. Moreover, the establishment of these macro-categories with their respective categories and subcategories served to design e-learning tutoring models to facilitate the acquisition of knowledge regarding interaction relationships in the tutoring process.

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