

THE INTERACTION IN A FORUM OF DISCUSSION, BASED ON THE PARTICIPATION OF STUDENTS AND ADVISER.

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Summary

It addresses the work within the discussion forums to identify how is the participation of students in their learning, within the subject Project I of the Licentiate in Technologies and Information (LTEI) of the Virtual University System of the University of Guadalajara (UDGVirtual), during the 2016 A cycle.

A content analysis of the types of interaction in the messages of the forums is done, according to the classification of Hirumi (2002). The course in which the research was conducted is nested in a Virtual Learning Environment (AVA) Moodle. A solid open source-learning platform responds to the requirements of its academic model.

This exploration was the type of strategies used in the management of interactions within the dynamics of the Project I of the Licentiate in Technologies and Information (LTEI) of the System of Virtual University of the University of Guadalajara (UDGVirtual).

It was possible to conclude that the advisors and the majority of the students participated in the forums of irregular form, since some published more messages than others did and the participations varied in each forum.

Likewise, the most frequent type of interaction in the course of Project I was that of Teacher-Student. The lowest frequency was located in the Teacher-Group type.

Keywords: Interaction, Forum, Management learning, student, advisor.

Introduction

CBE (Computer Based Education) emerged in the mid-eighties in the twentieth century, at that time had little interactivity, which was what detonated the expansion of e-learning or e-learning. -Learning in the nineties. This fact was an advance in the traditional education of systems of distance education, with more facility, permanence and flexibility, since it allows the student to accede to the learning when he decides it and how to face his study almost from any place (Cantillo, Roura & Sánchez, 2012).

Theoretical fundament

For Holmberg (1985) the theory of interaction and communication between teachers and students is the didactic conversation guided as a contiguous communication supported by a simulated communication through the interaction of the student with the materials of support and real communication through the written interaction The telephone On the other hand, Blumer (1969) established three basic premises of the symbolic interactionism approach: (a) That human beings act on the basis of meanings they have of things or people act on the meaning attributed to the object and (B) This derives from the meaning of things or arises from the social interaction that a person has with other participants, (c) uses these meanings as a process of interpretation performed by the individual in his relationship with The things that are found and transformed through the process.

The concept of interaction is related at the bottom of what is called transactional distance, which is understood as the distance that exists in the instructional relations. "According to this definition, the distance is established by the communication that is made between the Adviser and students, as well as the level of structure that exists in the instructional design of the course, when a greater structure is achieved than dialogue between adviser and students, a greater transactional distance will be obtained. (Moore, 2012, p.2).

For Bustos and Coll (2010, p.164) they refer to interaction as the central axis of the educational experience, which must be systematic and structured if one wishes to foster critical and reflective thinking; The interaction forms the basis for the development of the educational act, through which the students' relationship with one another, the students with the teacher and the students with the content are promoted.

This conception of interaction makes sense around the processes that occur between the advisor and the student, as well as between peers, and at the same time favor and support the educational process, strengthening communication. On the other hand:

... interaction is the element that properly defines the educational process. The interaction is verified when the student transforms the information he receives into knowledge. Taking into account the sources of this information, interactions occur among the elements that integrate a learning environment: the teacher, the materials (content) and, above all, the students (Quiroz, 2007, p.2).

... common use of interaction and participation as synonyms. However, there is a difference:

participation is understood as the simple presence and contribution of teachers and students, while interaction involves the response and the linking of understandings made through language which points to the generation of knowledge (Barberá & Badia, 2004 , P.11).

Non-presence and interaction mediated by new technologies have influenced significant changes in the traditional development of the teaching-learning process. The relationship between the students themselves is replaced, in Distance Education, by communication elements that, through technology, intervene in the formation of the student, changing the roles of the participants in the teaching-learning process. Similarly, the process of socialization that occurs in conventional educational situations requires possibilities of interaction that undergo major transformations when they occur through a technical means. This is "a decisive structural difference in the characterization of Distance Education" (Peters, 1996, p.52).

For Wagner (1994), one of the primary problems of interaction is that it has not been clearly defined operationally. The exact meaning of the term has varied between studies (Battalio, 2007). With a large number of variables that contribute to interaction, it has become difficult to agree on exactly what constitutes interaction (Soo & Bonk, 1998). However, it is important to create a common knowledge base based on terminology and operational definitions to provide clarity in the development of the meaning of interaction (Bannan-Ritland, 2002; Reigeluth & Carr-Chellman, 2009).

Thus, student-centered interaction in the virtual environment has two outputs: learning content that is directed towards achieving an educational goal and the affective benefits, which are the social and emotional aspects of learning (Yacci, 2000). On the other hand, coherence refers to the shared meaning between the message and its response, which indicates a connection (Yacci, 2000). Therefore, in the message loop, communication is not carried out in isolation, and the degree of meaning indicates the perceived quality of the interaction.

LaPointe (2007) began to understand the importance of interaction in learning experiences. He identified interaction as a valuable online component that helped him develop effective teaching methods. This author has pointed out the unmet needs of leading a person, including teachers.

As teacher and students intertwine through communication, teaching is no longer just "simply transmitting content as if it were the dogmatic truth" (Shale & Garrison, 1990: 29). On the contrary, the teacher and the students should participate fully and actively to create an online success experience (Palloff & Pratt, 2007). Interaction offers the opportunity to share viewpoints, receive feedback and gain knowledge (Garrison & Shale, 1990). Through this process, it creates a learning experience that is not that the student is individual, but rather, focuses on the students and their individualism.

Issue

Since 2005, the Virtual University System (SUV) of an institution of Higher education located in western Mexico, according to its Educational Model (ME), paid special attention to online interaction so that students learned to construct their own meanings through their relationships with others, in a Virtual learning environment (Moreno, Chan, Pérez, Ortiz, Flores, Hernández, Córdova & Coronado, 2010). The Moodle Virtual Learning Environment (AVA) platform where the courses of the different programs of this virtual university are nestled. In its Educational Model (ME) four environments are considered (a) information, (b) exhibition, (c) production and (d) interaction.

Bautista, Chávez, Lascurain and Mercado (2001) affirmed that what makes a good academic program different from an inappropriate one is not the technology that uses, but the aggregation of elements that intervene in educational action. These elements are essentially four: (a) student-teacher interaction, (b) teacher-student interaction, (c) student-student interaction, and (d) and students. Hirumi (2002) stated that interactions are made in an improvised way by not contemplating in the instructional design a communicative process that makes learning more efficient in students. When teachers make available to students the space to interact at the moment, without having considered it in their course design or in the instructions of the activity to be carried out in said program, it is when the students have difficulty to go ahead.

Likewise, in the SUV, Flores (2009) applied a questionnaire with the purpose of knowing the reasons for which the students are discharged, and found that one of the factors of desertion is due to the lack of communication with the advisers. The students indicated that these did not feedback their learning activity sent to the portfolio and did not respond to their doubts in the established time in the educational program. These circumstances caused the lack of motivation to continue their studies.

In this research the types of interaction carried out within the discussion forums of the subject matter of the LTEI Project I of the SUV during the 2016 A cycle, based on Hirumi's proposals (2002), were studied: Student- Teacher (PE); Teacher-Student (P-E); Student-Student (E-E); Student-Group (E-G); Teacher-Group (P-G); This characterization took into account who sends the message and who is addressed to the participants, in order to identify, how the interaction with students is developed in a project I of the Degree in Information Technology (LTEI) Of the SUV.

Based on the above, the research question raised at the beginning of the work was the following: What types of interaction occurs in a virtual learning environment attached to a higher-level program in a higher education institution in Mexico?

Methodology

In this research the types of interaction that have the presence of teachers in the students in the discussion forums of the course Project I was studied. It was placed as a qualitative research that refers and analyzes the interaction achieved in the discussion forums of a course Project I Developed in a virtual learning environment. To express Danhke, (1989) quoted in

Hernández, Fernández and Baptista, (2006: 102): "These studies measure concepts collect information, data (variables), dimensions, components of the phenomenon to investigate." The research presented in this document is located in the field of educational research.

Participants

The present research was carried out in the course of Project I of the Degree in Technologies and Information (LTEI), during the cycle 2016 B. This degree was selected because one of the researchers is a professor in it and for having access to that program of the SUV, and the other researcher is an academic of the SUV, which allowed to analyze the subject to be approached. The LTEI courses are supported by a timetable, a study guide, organized by contents, activities and resources necessary to carry out the activities required in the course.

Messages from the participations of three teachers of the LTEI of the SUV were required. This sample was derived from a total population of 85 teachers working in this degree. These teachers are one-third of the nine teachers assigned each semester in the 13 sections or groups of the subject of Project I that

Are offered based on the institution's academic programming. The units of analysis were: (a) messages published in the discussion forums of teachers. There was no contact with students or teachers with the texts alone, as the authors of this study confined themselves to observing and describing the interventions.

Likewise, the criteria used to select the three teachers were to be an LTEI teacher and have knowledge in: (a) structuring the course Project I, (b) opening the forums, (c) knowing the design Instructional course of Project I course, (d) have teaching experience, minimum of three years and maximum of six years and (e) master the contents of the subject of the course Project I.

Results

In order to answer the research question, an analysis of the messages published in the discussion forums of the Project I course was carried out. This analysis was carried out using Krippendorff's (1990) Content Analysis methodology and supported The Atlas Ti program.

First, the design of the course authorized for this research was reviewed to know its structure, the location of the phases and the activities that contemplate the work in the forum, as well as the indications that were given for its development. Participants and teachers were then identified in the section (group) in which the study was performed, replacing the names and placing them with number to guarantee the confidentiality that was required.

In a second moment were compiled in Word documents of all the messages in the forums,

later they were transformed to the format of required text (.rtf by its abbreviations in English) and were annexed to the Hermeneutic Unit (UH). Following Krippendorff's Content Analysis methodology (1990), the next step was the coding of the messages. As a unit of analysis were taken literally sentences or phrases used in the messages published in forums and the feedback that the teacher did in portfolio of thematic content.

In order to guarantee a reliable codification, the support of an academic which served as an auxiliary in this process. A previous talk was made to this second step to make more tangible the purpose of the research to the auxiliary partner and to unify around the types of interaction proposed by Hirumi (2002).

On the other hand, for the analysis of the interactions achieved in Project I, two components were taken into account: (a) number of messages emitted, (b) type of interaction according to Hirumi's classification (2002). For the analysis of the messages published in the thematic discussion forums of the course authorized for this research, codes built by the researcher and auxiliary coders were used.

Types of Interaction

In this section, we present the data obtained to answer the research question: What types of interaction occur in a course in a virtual learning environment attached to a higher-level program in an institution of higher education in Mexico? We sought to analyze the address of the messages during the course development, as well as the behavior of the interactions, based on the messages of the discussion forums under study.

The data that were obtained when studying, based on the codification made, the orientation of the messages published in the two forums of discussion that were worked in the course Project I. The analysis of these data allowed knowing the type of Interaction that occurred and the frequency of messages published by each participant. For this, the proposal of Hirumi (2002) was Professor-Student (P-E), Teacher-Group (P-G), Student-Student (E-E), Student-Teacher (E-P), and Student-Group (E-G).

When working on the coding, messages that were not addressed to a specific person were located, by virtue of which they were coded as Teacher-Without Explicit Guidance (P-S) and Student-Without Explicit Guidance (E-S). These types of interaction were not added to the coding tables although this affects the number of published messages. Although these messages are not located in a type of interaction because they do not have a specific recipient, they were not taken into account as messages published by some competitor. Table 1 shows the types of interaction and codes that were assigned to work messages published in forums and portfolios of the course.

Table 1
Codes: type of interaction

1

Type of interaction	Code
Teacher-Student	P-E
Teacher-Group	P-G
Student-Student	E-E
Student-Teacher	E-P
Student-Group	E-G

Note: Taken from Hirumi (2002). From the typology of Hirumi (2002) the types of interactions were located attending the orientation of each message. To know the types of interactions of participant 01 as shown in Table 2.

Table 2
Frequency of the type of interaction in the forums of the project I

Type of Interaction	F1	F2	F3	F4	F5	F6	Total
P-E	0	0	33	6	4	4	47
P-G	2	2	0	0	0	0	4
E-E	36	4	0	0	0	0	40
E-P	4	1	0	0	0	0	5
E-G	14	5	0	0	0	0	19
Total	56	12	33	6	4	4	115

Note: Teacher 01 is located with the number assigned to this study and the interaction type codes are located as PE: Teacher-Student, PG: Teacher-Group, EE: Student-Student, EP: Student-Teacher And EG: Student-Group.

Forum 1 (Professor 01). The message that triggered the discussion in this first forum asked what kind of technology and information projects have you participated in? If you have not had experience in projects of technologies and information mentions some other type of project in which you have participated in some way. Read your peers' submissions and ask questions or comments to two of them to deepen the types of projects they have participated in and what their role has been in them. The last day of the activity re-enters the forum and publishes a conclusion about what was done in this activity and indicates the type of project that you intend to develop in this school year, briefly justifies your choice. In this first forum entitled My Experience in Projects, 56 messages were published. Teacher 01 published two Teacher-Group messages (P-G). Students 09 and 14 participated with an

interaction to the group without any response from other students of the 14 Student-Group messages (E-G). There were 36 published Student-Student (E-E) messages in which students 07 and 10 each posted five messages sent to other students.

The students without address or recipient posted five messages (E-S). These were not taken into account in Table 9. Four published messages were addressed to the teacher explicitly (E-P) as the message 27 that began with "Good morning Professor, I leave my participation of the questions". 47 posts published Professor-Student (P-E).

In this first forum were located 14 messages of the type Student-Group that only responded the initial indication of the forum. In which were written start phrases like: Hello, good evening, everyone, I share my participation in this activity. What is a project for you? Hi good day. Here my participation. What is a project for you? I upload my participation. What is a project for you? Hello everyone: Here are my answers. What is a project for you?

On the other hand, not all the published messages giving answer to the message with the instruction of the professor obtained comment of answer. It was noted that if the Forum 1 (Professor 01). The message that triggered the discussion in this first forum asked What kind of technology and information projects have you participated in? If you have not had experience in projects of technologies and information mentions some other type of project in which you have participated in some way. Read your peers' submissions and ask questions or comments to two of them to deepen the types of projects they have participated in and what their role has been in them. The last day of the activity re-enters the forum and publishes a conclusion about what was done in this activity and indicates the type of project that you intend to develop in this school year, briefly justifies your choice.

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Address of the message was explicit to the group or to a participant, it received more answers than if the message remained without an explicit address.

Shows the message chain of each type of interaction published by each participant in forum 1, especially the participation of the teacher 01.

On the other hand, not all the messages published responding to the message with the instruction of the professor 01 obtained comment of answer. In this forum the teacher only published two messages of the type of interaction Teacher-Group (PG), all other messages published are Student-Student (EE) students, followed by Student-Group (EG), Student-Teacher (EP) and Student-No direction (ES).

Participants who posted most messages were 04 and 10 with eight messages each, 13 with seven messages, 06 and 07 published six messages and the following were 02, 08 and 12 with five messages each. The messages of the rest of the participants were scarce since they published four messages or less. Student-Student (EE) type was coded 39 messages, as the message of the participant 06 that sent the participant 04 "Hello 04, I would have liked you to have talked a little more about your project in which you have participated, maybe Are for primary school children and are installed such software. Or simply to which public you have given support. A greeting that you are well. " It was observed that if the address of the message was explicit to the group or to a participant, it received more answers than if the message was left without an explicit address.

Forum 2 (Professor 01). The second forum, named Problem Identification, was worked as a complement to phase one activity one. In this forum it was requested: to share and discuss about the detected elements and to retake the problematic of the project that is developed, to adjust it, to improve it or to enrich it according to the analyzed examples and the discussion in the forum. In this forum the interaction revolved around the feedback that the students gave to the works presented by their classmates.

When analyzing the second forum there is a decrease in the interaction in general. Decreasing messages posted by students. In this forum 12 messages were published (see Figure 2)

In this second forum, Professor 01 did not publish any messages, all the messages published in the forum were two of the students. The highest frequency is located of the Student-Group type (E-G) with five messages without explaining who they were addressing. Followed by Student-Student type (E-E) with four messages published. The student-teacher type (E-P)

was published one message and three of the type Student-No address (E-S). On the other hand it was noticed that the interaction that was achieved in this forum did not happen of a third level, that is to say, the message is received, it is answered and when much receives a new comment with which the chain ends. Most messages only reached a second level.

When analyzing the portfolio 1, there is an increase in the interaction in general, this is due to the number of activities that were delivered in the portfolio of phase one. Increasing the messages published by the teacher 01. As can be seen in Table 3 more messages of the type Teacher-Student (P-E) were published.

Table 3
Frequency of the type of interaction in the forums of the project

Tipo de interacción	F1	F2	F3	F4	F5	F6	Total
P-E	19	7	21	6	5	5	63
P-G	2	2	0	0	0	0	4
E-E	14	16	0	0	0	0	30
E-P	5	2	0	0	0	0	7
E-G	14	3	0	0	0	0	17
Total	54	30	21	6	5	5	121

Note: Teacher 02 is located with the number assigned to this study and the interaction type codes are located as PE: Teacher-Student, PG: Teacher-Group, EE: Student-Student, EP: Student-Teacher And EG: Student-Group.

Type of interaction

CONCLUSIONS

In the research presented, each message published in the discussion forums was taken as the unit of analysis. Content analysis identified the type of interaction for the study of interactions in learning communities working in virtual environments. In this case the virtual environment was designed in an institutional way and the learning community was taken as the group of participants of one of the 13 sections of the Project I course that was worked in the semester 2016 A in the SUV. 313 messages were coded in the two forums designed in the course according to the types of interaction proposed by Hirumi (2002). The categories proposed by Hirumi (2002) did not include the categories Teacher-Without Address and Student Without Address. As a general conclusion about the results obtained in this study, it is necessary that the advisors and the majority of the students participated in the forums in an irregular way, since

some published more messages than others and the participations varied in each forum. The highest frequency of published messages was placed in teacher 02, and as expected from its responsibility as facilitator of the learning of this group of students, it was the one that gave indications and maintained an interaction with all the participants, which has impact in a greater presence of teachers.

On the part of the students the type of interaction of more frequency in the course of Project I was the one of Teacher-Student. The lowest frequency was located in the Teacher-Group type. It can be concluded that the teachers motivated the students to interact with him. Teachers always directed their messages to a particular student or explicitly to the group motivated responses that led to the formation of chains of discussion that gave substance to interactions of more than two levels. Students are not always prepared to participate in a discussion at a critical and purposeful level, especially if they are in a virtual environment.

Given that interaction is a key to knowledge generation, it should be clearly established what students are expected to build through their interactions rather than assuming they interact.

Say in the instructions. In this sense, if a teacher is to be present, the students and the advisor must know the academic objectives, the phases of the study process and the level of interaction that must be provided.

The documented did not address the review of results in student learning. The intention was to analyze the interactions in the discussion forums which does not imply that the students did not learn, only that is not being achieved a cooperative learning through the online discursive interactions. In the design of the course students were not asked to demonstrate what was learned through the group proposal of viable solutions with specific indications such as the materials to be used and the procedures to be followed to solve a problem. This leads to the importance of design Instruction in courses in virtual environments.

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