CHAPTER 36

Virtual forums as motivational tools to build meaningful learning in times of COVID 19

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ABSTRACT
The development of the virtual forum in remote education in rural areas of the district of Abancay, Apurimac region, during the COVID 19 health emergency has been presented as an opportunity for students to increase not only the cultural and cognitive level, but to mobilize competencies and capabilities characterized by being timely, reflective and self-regulated. Therefore, the objective is to demonstrate the influence of the use of the virtual forum in the construction of meaningful learning The research design in the present article corresponds to descriptive research, is simple correlational and transversal. The results show that the virtual forum as a motivational tool is motivating in 53.6%, promotes interaction in 51.8% and promotes self-learning in 42.9%, while significant learning does develop communicative capacities and competences. The conclusions determine that the virtual forum stimulates communicative skills and abilities, strengthens autonomy and self-regulation skills, allows feedback and promotes cooperative work and interaction between students and teachers.

Keywords: virtual forum, motivational tool, meaningful learning.

1 INTRODUCTION

The development of the virtual forum in remote education in the educational institutions "Micaela Bastidas" and "Edgar Valer Pinto" of the jurisdiction to the district of Tamburco of the district of Tamburco, province of Abancay, region of Apurimac, are presented as an alternative to the sanitary emergency of COVID 19 and an opportunity for the student to increase not only the cultural and cognitive level, but the mobilization of competences and communicative capacities. "The aim of the present work is to analyze the influence of virtual forums on the processes and results of collaborative learning, both at individual and group level through interactions in videoconferences." (Coll, 2015), because as a pedagogical tool it allows the development of students' self- regulation skills and as a formative assessment methodology it relatively replaces descriptive and conceptual aspects of a receptive education: (exams, notebooks, Google drive tabs and skill tests, etc.). In this regard, due to the pandemic problem, education takes place in a virtual environment with enormous difficulties that led to school failure during the year 2020, where teachers and students are not prepared in the use of virtual strategies in the learning process. An alternative is to train both teachers and students in the district of Abancay in work strategies with virtual forums to promote interaction and debate with motivating and current social and political topics, because it enhances characteristics of speed and effectiveness in the process of rural distance learning." (Harrison, 2019). On the one hand, as a virtual strategy it develops critical thinking involving aspects: cognitive communicative and socio-affective, because it helps us to understand the interventions and to create opinions during the

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debate; on the other hand, it opens a world of possibilities to improve learning that implies freedom of the student to organize and plan their reflective learning activities within the framework of their performance and autonomy. (Pinto, 2019). That is, "with the virtual forum a cognitive conflict is generated, because it energizes skills of: analysis, inference, interpretation, explanation and evaluation characterized by being logical, rational, reflective, timely, argued and self-regulated. Therefore, it requires group cooperation to be able to solve problems of real or simulated situations through analysis and discussion". (Méndez, 2016).

The online forum, in spite of a certain degree of complexity, allows to effectively address the thematic contents of the "I learn at home" program according to the competencies and capacities in the different areas of basic education; therefore, it requires group cooperation to be able to solve them efficiently according to their skills and oral communication styles (Arango, 2004). At present, during remote education, the use of ICT technological resources is of great importance; in this sense, virtual forums have allowed the elaboration of judgments about ideas and the search for intelligent consensus to create an asynchronous multidirectional communication between students and teachers with a deferred feedback in learning activities" (Fabro A. P., 2004). (Fabro A. P., 2017).

In this context, the teacher's task in a virtual environment is not only to send cards through WhatsApp or upload activities through the classroom on the institutional platform, but also to replace the virtual forum, because with the use of various techniques of group participation, it allows users to post their messages at any time, remaining visible for other participants to enter later and read it or answer during the discussion. (Cando Almeida, 2021) It is an "interactive board" which has several options for easy access, allowing to manage various uses of individual or collaborative nature. P. 18-19. With this tool the diversity of techniques for teaching and learning are wide since videos, audios, files, links, images and more are added and annexed. For this route of work the teacher moderator has to design and open the debate motivating the organized groups to plan the learning experiences according to the transversal approaches in the health emergency, but without planning the quality of the debate would be deficient and would not improve the progress of the forum. In that line of ideas the question arises: to what extent do virtual forums as motivational tools influence the construction of meaningful learning in students from rural areas of Abancay in times of COVID 19 pandemic? "Finally, the mastery of participation strategies should be considered as a key factor in collaborative learning assisted by a technological resource that can be a computer, cell phone, laptop, television, platforms, Tablet or other resource." (Onrubia, 2009). For all of the above, the objective is to demonstrate the influence of the use of the virtual forum in the construction of meaningful learning in the students of the 5th rural secondary school of Abancay in the midst of the pandemic. The didactic resources are very important because they allow students to develop skills and abilities, which must be developed according to the basic years and areas of study. They play a very important role because without them learning would be less meaningful and would arouse less interest and motivation. (Espinoza Beltrán, 2017).

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2 MATERIALS AND METHODS

The research design in this article corresponds to the descriptive correlational research carried out in rural areas and responds to the questions: How are they, where are they, how much are they and who are they, it points out the particularities and hidden conditions and basic figures of the situation in different realities in a present and past space (Alfaro, 2012). The research is simple correlational and cross-sectional, in this regard refers: "The usefulness and main purpose of correlational studies is to know how a concept or variable can behave with respect to the other variable and, cross-sectional because in the context of the year 2020 its purpose is to describe the variables and analyze their incidence and interrelation at a given time (Hernández, 2010).

Validation and reliability of the instrument

Regarding the reliability of the questionnaires, a pilot test was applied with a questionnaire of multiple questions with 10 items to a sample of 56 students out of a total population of 500 high school students of the educational institutions "Micaela Bastidas" and "Edgar Valer Pinto" of the jurisdiction of the district of Tamburco, with the test was intended to validate the relevance, relevance, clarity and sufficiency of the measurement instruments of the variables: virtual forums as motivational tools for the construction of meaningful learning. According to the results shown in the tables, students have shown great interest in applying virtual forums in the achievement of meaningful learning. The reliability of a measurement instrument is determined by various techniques, which will be briefly discussed after reviewing the concepts of validity and objectivity. Validity, in general terms, refers to the degree to which an instrument actually measures the variable it is intended to measure. For example, a valid instrument for measuring intelligence should measure intelligence and not memory (Hernández Sampieri, 2020).

Virtual learning as a remote activity takes place in a temporary external space; therefore, with the use of these digital tools, learners not only

accumulate information, but will be able to learn efficiently and autonomously in the construction of knowledge (Urquidi, 2020). Let us see some comparisons of results of learning sessions with and without virtual forums: Differences between groups, before and after, in the variable: Virtual forums and significant learning.

Learning sessions without virtual forums

In an academic session without virtual discussion forum with students of the fifth grade of secondary school of the Educational Institution ""Micaela Bastidas" and "Valer Pinto" of Abancay in pandemic time through the institutional platform, it has been demonstrated that the learning process is characterized by being very descriptive, theoretical and conceptual: (expository monologue, extension activities, exams, sending of cards in Google drive, skill tests, theoretical problems, etc.) that does not develop communicative skills and abilities, let alone critical thinking, because there is deficient motivation or

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absence of social interaction. Students were only a mere receiver of knowledge, that is why they did not participate, did not pay attention, did not report their evidences to the platform, some felt bored, apathetic, committed indiscipline, others did not connect due to technical difficulties and most of them felt unmotivated in the virtual learning process. The level of interaction with the learning materials is significantly associated with student motivation in these environments (Beltran Baquerizo, 2020).

Learning sessions with virtual discussion forums

In an academic session through a virtual discussion forum, significant differences are observed in a communication environment that favors a collective learning space among its participants based on their interactions and exchanges in debates around a specific topic, which are recorded sequentially. For the development of the forum, the following criteria were established: answering a question, replying to the answer of another peer and counter-replying to the opinion received from a peer, having an open mind to accept other points of view, challenging others to be innovative with critical thinking and evaluating alternatives. The results revealed significant rates of controlled autonomous motivational behavior. This means that students improved their ability to learn with the help of their peers, because their organization is planned: a) The moderator initiates the forum,

b) The forum rules are pointed out, and c) The moderator summarizes the opinions and draws conclusions.

In the midst of the virtual pandemic, it is possible to create discussion forums, videoconferences and virtual classes on topics offered by MINEDU in the "I learn at home" platform. In this contextualized scenario, students are the ones who exercise control of self-regulation and learning, because they generate a cognitive conflict, where the skills of analysis, inference, interpretation, explanation and evaluation of academic activities are dynamized. In addition, it has the purpose of obtaining information on the progress of a student to provide feedback on their weaknesses, including the teacher to improve their teaching strategies.

According to (Osores, 2019, pp. 3-5) he formulates his theory in the epistemological field as a proposal that virtual classes is an opportunity to develop not only competencies, communicative skills or knowledge, but to interact with facts and phenomena different from their social reality through videoconference meetings.

In this context, the mastery of these digital tools becomes very important to achieve effectively during remote education caused by COVID 19. For which it is essential the implementation of educational systems to prepare future students in these times of health crisis, because it demands new knowledge, teamwork initiative to strengthen social skills. (Cueva, 2020).

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3 RESULTS AND DISCUSSION

The questionnaire validates the influence of the virtual forum in the learning process, in which results are obtained from a sample of 56 students of the "Micaela Bastidas" and "Edgar Valer Pinto" Educational Institution in the rural area of Abancay.

Sample

The population of the current research is constituted by students of the secondary level of the aforementioned Educational Institution, jurisdiction of the UGEL- Abancay, which groups a population of 426 students. Valderrama (2015). "It is a representative subset of a universe or population, it is representative, because it evidences exactly particularities of the population at the time the sampling technique is used (p. 184).

Operational definition of the variable 1. For the virtual forum as a motivational tool, a multiple-choice questionnaire with 10 items was applied to measure the dimensions of motivation, interaction and self-learning through an evaluation system: (1) Disagree, (2) Indifferent and (3) Strongly agree.
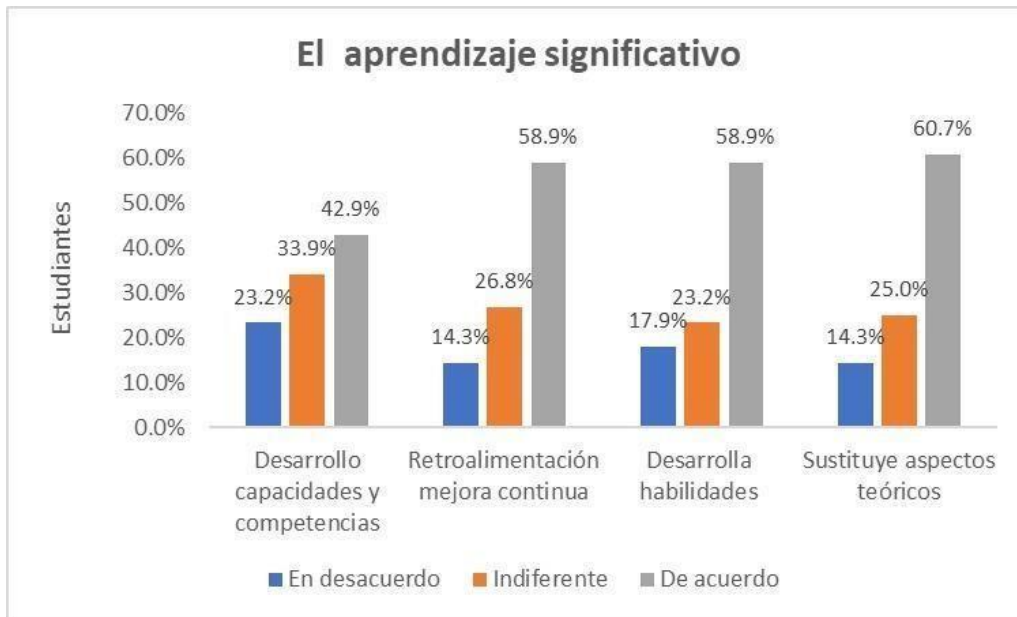
Table 1. The virtual forum as a motivational tool
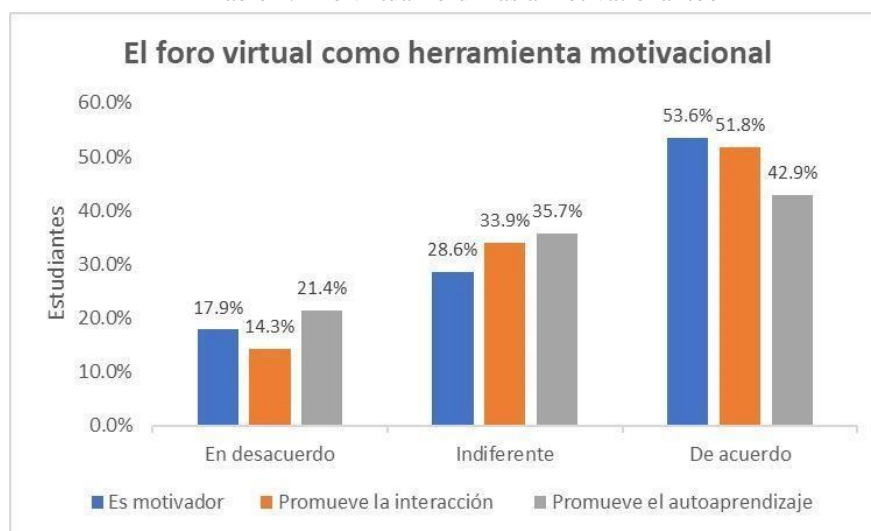
Source: Own elaboration.

For the virtual forum as a motivational tool, the dimensions have been measured through the multiple-question questionnaire, the results of which percentages were: if it is motivating, 53.6% totally agree. In the dimension that allows interaction, 51.8% totally agree; and in the third dimension: Promotes self-learning, 42.9% agree. We can deduce that, according to the results, a higher percentage of students improve their learning with the application of the virtual forum strategy, because it is characterized by the richness and abundance of data. The teacher's mission is to be a facilitator, guide and counselor around the appropriate sources of information, creator of habits and skills for data processing to obtain quality learning (Castro Méndez, 2016). (Castro Méndez, 2016).

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Table 2. Meaningful learning.

El aprendizaje significativo

	Desarrollo capacidades y competencias	Retroalimentación mejora continua	Desarrolla habilidades	Sustituye aspectos teóricos
En desacuerdo	23.2%	14.3%	17.9%	14.3%
Indiferente	33.9%	26.8%	23.2%	25.0%
De acuerdo	42.9%	58.9%	58.9%	60.7%

Source: Own elaboration.

For meaningful learning, the following dimensions were measured: If it develops communicative skills and competencies, 42.9% were found to be in agreement. In the dimension that allows for feedback in learning, 58.9% totally agree. In the dimension, that if it allows the development of analysis and inference skills, 58.9% and in the dimension: it substitutes theoretical and conceptual aspects, 60.7% of students agree with this strategy; therefore, they consider that it is no longer necessary to use descriptive, conceptual and theoretical aspects in learning, because it obeys a receptive and memoristic education. The reason for measuring student satisfaction.

(Alvarez, 2015) argues that student satisfaction is a valuative indicator of educational quality, because the articulation of academic and administrative services denotes efficiency and satisfaction, for which the work must be comprehensive starting from the learning sessions, with the interaction of students and teacher; as well as with the facilities and equipment for the good use of virtual technology that will serve as an indicator of efficient educational management. (p.15-26).

(Gonzales, 2017). Distance education at this juncture of health crisis becomes an alternative access to training in different spaces and at different times; without However, students living in rural areas whose agricultural working conditions and disability decrease their concentration to attend virtual teaching. Consequently, student satisfaction is efficient as long as the improvement of opportunities and pedagogical innovation are promoted (p. 243-260).

They reveal that many students who participated in the forum offered assertive possibilities of opportunity and collaborative interaction in learning, despite the limitations due to distance and the possibility of regulating emotions to deepen their reflections in virtual pedagogical practice". (Martinez M. , 2019). Indeed, the motivational aspect of the use of technological resources is a field of scientific research,

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because the objective of study has been to analyze whether students in rural areas are motivated to learn different subjects in videoconferences (Morilla García, 2019).

Study dimensions:

Motivation in learning

The virtual forum strategy becomes relevant when the student awakens interest in their own learning, because they constitute a significant contribution in the development of the different curricular areas, in addition it favors collaborative group work, autonomy and critical thinking in the learning process". (Fabro P. , 2017). Motivation in learning positively influences the development of metacognition and critical thinking. This study shows the importance of the role assumed by the teacher in generating a good climate that favors the use of learning strategies and improves the academic performance of students (Navarro Gómez, 2021). That is, if we apply the virtual forum based on real cases, motivation will be relevant and their learning will be more active, autonomous, reflective and critical.

Virtual interaction

The importance of the virtual environment lies in the need to structure cognitive, social and organizational interactions that students perform in order to improve their learning. The purpose of the study is to understand the aspects that must be considered in the interaction for the expected learning to take place and to analyze the students' perceptions in relation to the types of interaction that occur in the collaborative learning process (Hernández Sellés, 2021).

Virtual interaction as a process of uninterrupted hyperconnection favors sociability in the digital environment. The changes that technological innovation has brought about in social interactions affect scenarios, processes and the relationships of the actors. Therefore, if the subject interacts with others, it enables the formation of new virtual social bonding (Zapatero, 2017).

Self-learning

Self-learning promotes curiosity, problem solving, defines a learning pace, seeks information and diverse learning methods. Currently, there is a significant increase in interest in issues related to self-learning associated with the diffusion of new technologies, the rapid expansion of information and the use of a digital competency approach in the construction of meaningful learning. This has given relevance to the ideas of lifelong learning and self-learning in pedagogical theory and practice (Kenesbekova, 2019).

Virtual classrooms as social networks complement face-to-face physical interaction with digital resources at different educational levels. The purpose is to exchange information and didactic material with virtual education projects (Vidal, 2016). Learning is defined as a process of acquiring skills and abilities to assimilate new information with cognitive strategies and action (Copari, 2015).

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Virtual feedback

In the face of learning difficulties, the teacher provides reflective or discovery feedback for students to discover and reflect on their own performance. It is a proposal to support the student through a Feedback Platform. This tool works as a forum: the teacher posts the name of the topic and students participate by contributing ideas on the topic (Pereira Sarmiento, 2019.).

Importance of digital competencies

It is important to clarify that the transcendence of digital competencies from the panorama of Educational Technology, as manifested by: Marza and Cruz (2018) are assumed by way of instruments of great utility that allows the mobilization of attitudes, knowledge and processes, but parents are not prepared to accompany and monitor the pedagogical activities to their children, because they do not know the use of virtual environments (Britez, 2019). In this regard, since 2008, UNESCO has established three approaches to digital competencies: a) understanding and integration of technological competencies, b) application of technological knowledge to solve real and concrete problems and, c) production of new knowledge from the already generated. (Lévano Francia, 2019).

Comparative assessment of the experience of students' use of virtual forums

In variable 1: virtual forum as a motivational tool, the dimensions have been measured through the multiple-question questionnaire, whose percentage results were: if it is motivating, 48.6% totally agree. In the dimension that allows interaction, 62.9% totally agree; and in the third dimension: Promotes self-learning, 42.9% agree.

In variable 2: Meaningful learning, the dimensions were measured and the results were: If it develops communicative skills and competencies, 45.71% agree. Feedback improves learning, 65.71% totally agree, and in the dimension: replaces theoretical and conceptual aspects, 54.29% of students agree with this strategy.

A comparison was made with the results of a study at the Arturo Prat University, Faculty of Health Sciences of Chile, and there are coincidences and similarities in the behaviors during the exploration of the virtual forum as an evaluation strategy to develop the self- regulation skills of university students. The sample was composed of 35 students in their first year of three careers in the health area. A quasi-experimental pre- and post-test design was used. The intervention consisted of using the virtual forum multidisciplinary to analyze and solve cases during four months with inter-group forum self-evaluation averages of high and low participation. With respect to the groups' evaluation of the forum, it can be seen that the high participation group exhibited higher averages in all dimensions, which produced significant group differences in all dimensions. Thus, the students in the high participation group consider that the virtual forum stimulated their attitudinal dimension (DA), that is, their attitudes and mental dispositions to investigate and learn, generate their own opinion, demonstrate a critical sense and negotiate ideas. In the

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cognitive dimension (CD), students used skills for understand, analyze, reflect, refine, synthesize and argue complex ideas, as well as to elaborate a value judgment on their own and other people's ideas. In the self-regulatory dimension (DAR) they trained critical thinking, awareness of rethinking ideas, seeking clarity of expression and respect for the critical and intelligent opinion of others.(Castro Mendez, 2016).

At the end of the virtual forum, the self-evaluation instrument allowed students to openly and freely express comments on their virtual work experience. Let us look at some of the responses:

- "I had a hard time debating, the forum helps me to create opinion and to respect the points of view of the participants". I had never participated before, it is very entertaining to debate and exchange my points of view with my colleagues.

- The development of the virtual forum creates expectations for the improvement of the pedagogical task, because it addresses a perspective of reflection on the emerging pedagogies of the virtual environment (Pando, 2018).

- In the development of the virtual forum it has been observed that participation levels improve, they feel more motivated to participate collaboratively with timely guidance from the teacher (Martínez I. , 2019).

- The topics should be current political-social and health topics, i.e. motivating, in addition, an exact time should be set to connect and exchange ideas (Gonzales, 2017).

- Ignorance of technological resources hinders connectivity, the learning process, as they will not meet their goals, depends on the pedagogical proposal of continuous training with technological innovations (Dos Santos, 2018).

- During the development of the virtual forum, groups with better learning results tend to maintain or increase the use of socioemotional discursive strategies and use them during the development of online collaborative tasks (Ramirez, 2020).

Self-determination theory. -The development of virtual forums links personality, human motivation and optimal predisposition in a given context. According to studies by psychologists Edward Deci and Richard M. Ryan, they propose the satisfaction of three psychological needs: autonomy, competence and commitment.

Which favors the internalization of motivation. The online forum in a "Remote Learning Project" is a powerful resource and a collaborative communication work with Internet services or virtual learning environments that encourages debate, agreement and consensus of ideas between students and teachers; therefore this pedagogical tool provides a space for academic discussions that promote the development of critical and reflective thinking, because it allows developing self-regulation skills of students and as a formative assessment methodology relatively replaces the descriptive and conceptual processes: (exams, Google drive tabs, skill tests, theoretical problems, etc). In addition, it has the purpose of obtaining information on the progress of a student to give feedback on their weaknesses, even to the same teacher to improve their teaching strategies and learning styles. During the pandemic online face-to-face learning has

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been seen as a paradigm shift in secondary education, taking momentum from the "self- determination theorist" framework that generates impact on the remote learning process with the active participation of students.(Shah, 2019).

Self-regulation theory. According to research shows that those students who have this ability tend to have a higher academic performance in the achievement of learning, because it is a process of self-generated thoughts, emotions and actions that are planned and adapted to achieve the attainment of goals and objectives. Therefore, the motivational effect of the use of technological resources is very relevant, because studies show that students are more motivated to learn different subjects with the development of videoconferencing." (Morilla García, 2019). Therefore, it is relevant to talk about the educational technological infrastructure to understand and comprehend the definition of software and the management of digital tools and resources; however, if there is no efficient use of the available technological resources it will hinder the learning process. Consequently, the efficient use of technologies in rural schools depends on the pedagogical proposal, the physical space and continuous training and technological innovations (Dos Santos, 2018).

Virtual didactic material

Virtual didactic materials should be adapted to the different characteristics of the students and to the contexts where the teaching-learning process takes place.

Adaptability allows for tailoring instruction to individual learner needs for applications, systems, and contexts (Torres, 2019).

Adaptability, according to (Sandoval, 2017) is the adjustment of characteristics of the learning environment, in order to achieve a personalized education model adapted to the learning capabilities according to the needs of each student. Educational platforms reinforce learning adaptability:

- Adaptive learning adapts the pace of study of a given subject to the individual needs of each student, with benefits for both students and teachers.
- It favors greater student attention, because the online interrelation with virtual forums motivates the learning process.
- The development of virtual forums should be progressively adapted to the students' learning, because it is necessary to master methodological strategies in the use of digital resources.

4 CONCLUSIONS

The strategies of the virtual forum as a motivational tool generate a cognitive conflict, because the skills of analysis, inference, interpretation, explanation and evaluation of academic activities are stimulated.

The virtual forum as a methodological strategy for learning achievement will be very successful when students in rural areas strengthen their autonomy and self-regulation skills".

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Cooperative work with the virtual forum strategy leads us to achieve significant learning through interaction between students with high and low participation; therefore, they require feedback.

In the evaluation system, the virtual forum strategy measures learning achievement and favors the development of cognitive and social skills.

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