

Diagnóstico de la Evaluación del Aprendizaje en Entornos

Virtuales de Enseñanza Aprendizaje

Diagnostics of the evaluation of the virtual teaching-learning environments learning

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RESUMEN: Los nuevos escenarios tecnológicos que transforman sustancialmente los procesos de formación, y el aislamiento provocado por la pandemia de Covid 19 han generado una mayor utilización del Entorno Virtual de Enseñanza Aprendizaje, Moodle, de la Universidad de Moa Dr. Antonio Núñez Jiménez. Esta situación ha complejizado la evaluación del aprendizaje, categoría en que aún se presentan insuficiencias para llevar a cabo eficientemente el proceso de enseñanza aprendizaje. Para determinar e identificar las causas de esas insuficiencias se desarrolló esta investigación; que pretende elaborar un diagnóstico sobre el proceso de evaluación del aprendizaje en la plataforma de dicha universidad.

Palabras clave: Evaluación del aprendizaje; Proceso de evaluación; Entorno virtual de enseñanza aprendizaje; Diagnóstico.

ABSTRACT: The new technological scenarios that substantially transform the training processes, and the isolation caused by the Covid 19 pandemic have generated greater use of the Virtual Teaching-Learning Environment, Moodle, of the University of Moa Dr. Antonio Núñez Jiménez. This situation has made the evaluation of learning more complex, a category in which there are still insufficiencies to carry out the teaching-learning process efficiently. In order to determine and identify the causes of these inadequacies, this research was carried out with the purpose of elaborating a diagnosis of the learning assessment process in the university's platform.

Keywords: Learning assessment; Evaluation process; Virtual teaching-learning environment; Diagnosis.

Introduction

The development of Information and Communication Technologies (ICT) and their introduction in the field of education, has led to a great diversity of resources and learning assessment tools that teachers of all educational levels can use (Losilla, 2017). Expanding the possibilities and challenges for teachers; in charge of planning, designing, developing assessment and issuing value judgments on student learning.

Evaluation is an essential and inherent process to the educational act, it covers not only the teaching and learning processes, it is also extensive to the administrative, curricular and evaluation aspects, among others. As noted by (Hernández 2007), "it is a process that requires multiple views, since it is one of the main components of education as a social practice" (p. 216). This social dimension invites us to consider it as a process that must be carried out in a continuous, flexible (Fallas, 2021), integral and holistic manner, taking into account contexts, interests, needs, coherence and relevance of the various instruments.

All these elements take on a new quality with the introduction of ICTs and highlight the role of feedback on the teaching activity carried out by the teacher. The engine of assessment for learning in EVEAs (Virtual Teaching Learning Environments) is feedback, as it involves interaction and dialogue among its participants who provide adjusted, coherent help and response for the promotion and construction of knowledge and learning (Losilla, 2017).

In essence, the evaluation of learning is the activity whose objective is the assessment of the process and result of student learning, for the fundamental purposes of guiding and regulating teaching for the achievement of the purposes of training (González, 2005).

Therefore, the objective of learning evaluation is not only to accredit that the student passed and passed through a certain teaching cycle, but that he learns and develops his personality, human communication, the capacity for creative activity, which contributes to his formation as an individual, to instruct, educate, develop attitudes and aptitudes should be the principles that govern the purpose of the evaluation.

At the University of Moa Dr. Antonio Núñez Jiménez, a polytechnic center, there are three faculties that group 9 technical and humanistic specialties: Mining, Geological, Metallurgical, Mechanical, Electrical and Computer Engineering (all accredited by the system of evaluation and accreditation

of university careers); and bachelor's degrees in: Sociocultural Studies, Information Science and Accounting and Finance.

In observations and interviews conducted during the teaching-learning process, both students and professors expressed dissatisfaction with the evaluation activities in the Virtual Teaching-Learning Environment Moodle, which have caused insufficiencies in student achievement.

In this environment, this research was proposed with the following general objective:

To determine the causes of the inadequacies detected in the evaluation of student learning in the Virtual Teaching Learning Environment Moodle of the University of Moa Dr. Antonio Núñez Jiménez

Development

The general methodology of the research was based on dialectical and historical materialism. The research conducted, as the basis of this article, is in correspondence with the mixed research methodology because it combines methods, techniques and procedures corresponding to the two types of research, qualitative and quantitative, in order to collect and process information for its subsequent analysis and interpretation.

In order to reach the knowledge of the reality in the evaluation of learning and identify the causes of the problematic situation raised, a diagnosis was made which consisted of three phases: preparation of the instruments for the survey, interviews and observation; application of the survey and carrying out of the interviews and observation; and interpretation and analysis of the results obtained.

In the case of the survey instrument or questionnaire, it is made up of closed questions (with answers: yes, sometimes, I don't know and no) that were divided into two components: didactic and technological. The didactic dimension is composed of 25 items and the technological dimension of 6 items.

Evaluation is one of the didactic categories that requires greater attention in any educational project; not taking it into account would be in contradiction with the conception that the student, as the subject of his training, should participate actively and consciously in his learning process. Among the functions of evaluation, the role it plays in the students' training process stands out, given its instructive and educational nature (González, 2005).

These same sources consider that evaluation constitutes a learning activity and contributes to learning, also provides information at each moment of the learning process and allows making the necessary adjustments and adaptations to achieve the proposed objective.

The evaluation process of teaching and learning at UMOa tries to be systematic, continuous and comprehensive; however, it is not always formative and is not adequately supported by the technological platform to help this process.

For the diagnosis of a population of 150 professors at UMOa, a sample of 40 was calculated, selected by all the teaching departments of the center. Ten of them hold the scientific degree of Doctor of Science and 34 have a Master's degree in Science. With respect to the teaching category, 6 tenured teachers, 16 assistants, 10 assistants and 8 instructors, it should be added that most of them have more than 10 years of teaching experience in the training of technical science professionals.

The results by components (Figure 1), show an apparently favorable situation, most of the answers provided by the teachers are affirmative. They consider that they have the didactic and technological competences necessary for a favorable evaluation process of student learning in the EVEA.

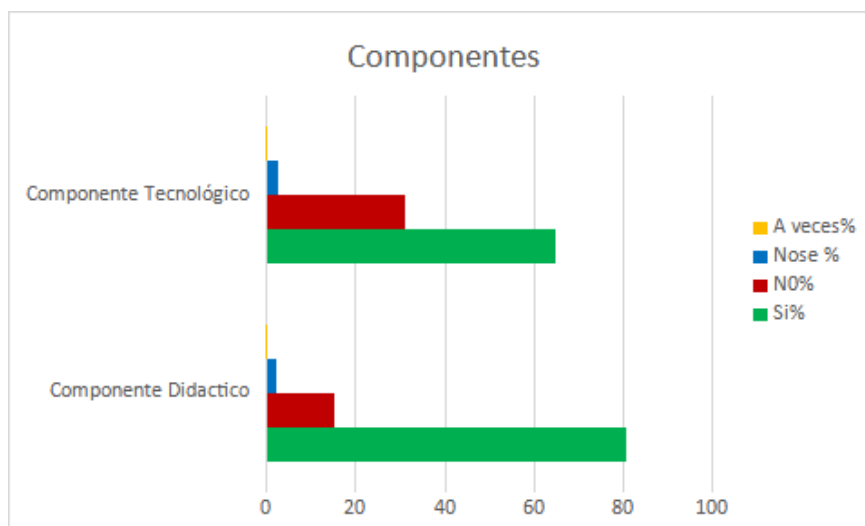


Figure 1. Behavior of the didactic and technological component.

Source: self-elaboration

From this analysis, it can be deduced that 80% of the teachers consider that they have the didactic competencies and 65% the technological competencies to carry out the process, which would be

very favorable. However, the inadequacies detected in the observation of the courses on the platform and the interviews conducted show another reality.

If we take a closer look at the didactic dimension, we also get the same feeling: mastery of the necessary skills by teachers. Ninety percent of those surveyed consider that their knowledge in relation to didactics allows them to adequately perform the PEA, while 92.5% state that learning assessment is one of the didactic categories.

It is relevant that 100% of teachers recognize that:

- I carry out learning assessment according to planned objectives.
- I am knowledgeable about various forms of assessment for learning.
- I apply different forms of assessment with my students.
- I take into account the results of the assessment to introduce modifications in planning and teaching performance.

However, in the interviews and observations carried out, it was found that the diversity of evaluations applied by teachers is focused on partial evaluations, control questions in the classroom, i.e. exams.

They do not go in search of instruments and procedures that avoid fragmentation in spheres or areas to be explored and in aspects that are too specific, as it is common to find in exams composed of numerous items or specific questions of details.

In the evaluation, situations or integrating activities are not instrumented, that go to essential aspects of the content, to ways of proceeding with it, that demand certain relations of the subject with the object and interactions with other subjects involved in such situations to facilitate the integral evaluation of learning. That is, the modeling of essential professional activities with their requirements, or the evaluation in natural conditions of professional practice.

Learners are not involved in their own assessment (self-assessment) and that of their peers (co-assessment). Self-assessment and co-assessment allow students to be actively involved in the self-reflection of their learning, making them feel really responsible for it and generating a more complete vision of the usefulness of assessment, both summative and formative.

The evaluation of learning requires, from its methodological dimension, the diversification and

rational combination of instruments and procedures. The use of an exam to evaluate the learning of a course, as is often the case, is insufficient and undermines the validity of the evaluation. It is also necessary to search for ecological validity that brings the assessment closer to the natural conditions of the learning process and its content, as well as the use of the genetic approach (González, 2002).

With the use of a continuous learning evaluation process, the educational aid can be adjusted according to the information that is produced. This evaluation is formative, since it will make it possible to detect the moment in which a difficulty occurs, the causes that provoke it and the necessary corrections to be introduced.

However, only 25% of the respondents recognize the reproductive nature of the evaluations performed. There are 2.5% who do not know.

Another interesting result is obtained from the item: "When applying the subject evaluation system to evaluate the learning of my students, I place greater emphasis on the result achieved by them than on what they did to achieve this result". Fifty percent responded affirmatively and 5% do not know.

This conception is a legacy of the traditional system that emphasized measuring the acquisition or improvement of skills. Given the importance given to results, the student justified the teaching activity only as a way to improve these results.

Today, the evaluation of learning, not only in the EVEA, acquires a new meaning, beyond the mere collection of data, but at the same time appears as an essential key for the teacher to provide the student with the necessary help and, consequently, to be able to assess the transformations that have taken place.

In addition, the student may have different achievements with different meanings. Those that reveal significant changes, advances in their personal and professional development, related to ideals and training objectives, will be more important and should be the focus of attention, that is, the object of evaluation. In addition, those achievements, which are translated into learning indicators, express qualitative changes in the student's development in an integral way. Therefore, the most important relationships are not the additive ones, the result achieved, but the changes in the psychological formations of the subject.

The paths followed by the student in the process of construction of concepts and formation of skills:

from a mediated action to an independent action; from a non-generalized action to the expected levels of generalization; from an execution on an external plane to an internal, mental one. As well as the elements that make it possible to assess progress from one stage to another, their characteristics and the qualities of the actions that are worked on at each stage constitute the basis for establishing evaluation indicators whose results make it possible to guide and regulate learning, not only by the result.

Both the ways of acting with reality and the characteristics of the objects offer parameters for the purpose of the objects offer parameters for the purposes of evaluation. It is essentially the evidence of the student's mastery of the conceptual, procedural, normative and evaluative system, established and accepted by the scientific community, related to a specific sphere of the reality to be learned, which has been selected and converted into teaching content.

This has an important methodological implication, leading to the search for instruments and procedures that avoid fragmentation in spheres or areas to be explored and in aspects that are too specific, as is common to find in exams composed of numerous items or specific, detailed questions.

The teachers' conception of learning and the reflection on what is to be learned determine the focus of the assessment in terms of the relevant attributes and indicators.

Only 35% of the teachers surveyed are satisfied with the results achieved by their students, but 45% believe that students do not study in order to learn. This is a manifestation of the impact of

assessment on students' attitudes towards studying. These are cases in which one studies (a subject, a career) to pass, to "pass", to meet certain requirements for promotion or graduation.

So, if most of the teachers surveyed know the didactic elements to carry out a satisfactory learning evaluation process, why such a high percentage is not satisfied with the results achieved by the students; why the results are not satisfactory.

In the opinion of the researchers and according to the elements analyzed, the cause is that the teachers try to extrapolate to the EVEA moodle, the characteristics of the learning evaluation of the traditionalist didactics that they have impregnated from the face-to-face modality.

With respect to the technological component of the survey figure (3) the results are more expected, but contradictory to the didactic one.

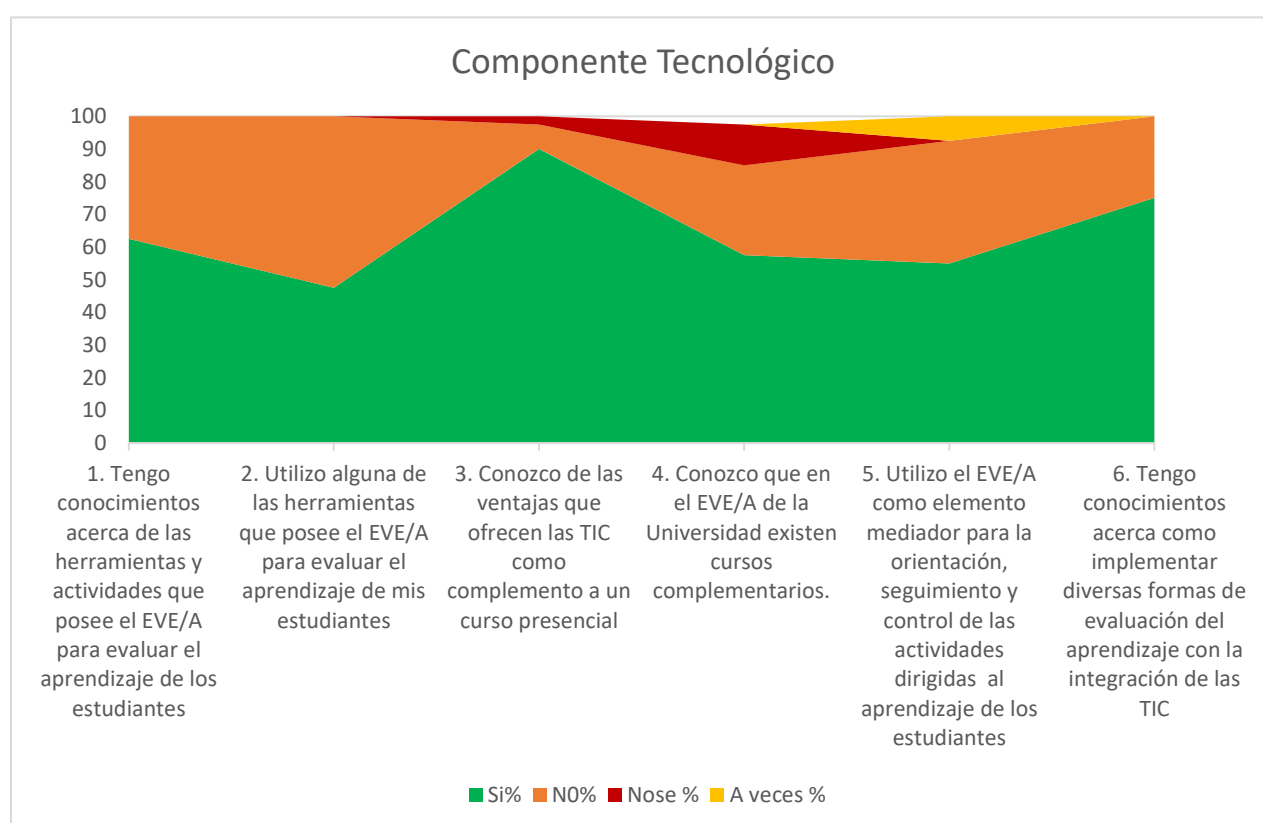


Figure 3. Behavior of the technological component items.

Source: self-elaboration

A high number of teachers, approximately 90%, recognize the advantages of ICT, 63% are aware of the tools and activities that EVEA has to assess student learning and 75% know how to

implement various forms of learning assessment with the integration of ICT. The other items are below 60%.

Only 48 % of the respondents use some tool that EVEA Moodle has to assess student learning. Moreover, they are mainly concentrated in tasks extrapolated almost entirely from the face-to-face modality without orientations for an adequate communication with their environment, detailing their use in each activity as follows: forums 14, chat 11, questionnaires 20, workshop 8, survey 4, homework 29, lesson 7, glossaries 6, rubrics 1 and others 1.

The rubric is not practically used. It is a table in which we specify the aspects we want to evaluate and the possible degrees of achievement. With its use, students can clearly identify the importance of the contents and objectives established in a topic, task, activity or project before starting it. An interesting activity is to elaborate it in collaboration with the students.

With a collaborative learning evaluation process, of communication, which the collaborative activities of EVEA allow, and which are the least used by teachers, the hierarchical relationship between teacher and student changes; so that the learning process is shared, and students also become generators of content and connections between different aspects of the course.

Students therefore cease to be individual actors in their learning, and become part of a much broader learning community, in which knowledge does not come exclusively (although it may have its origin or initial selection there) from the teacher, but also from the participation and involvement of other students. In addition to social networks, those involved in the learning community can take advantage of content aggregation (RSS, for example) to share information, thematic or tangential materials, and learning strategies that favor their learning.

It is also necessary for the teacher to be aware that his or her experience in the design and delivery of face-to-face courses is not necessarily sufficient to face the challenge of designing and delivering an ICT-mediated course in an EVEA. In this type of course it is much easier to follow the progress of each student individually, not only because of its linear character that can, for example, propose an itinerary or certain mandatory topics to move on to a later topic.

According to (González, 2002), it is necessary to implement situations or integrating tasks for evaluation, which go to essential aspects of the content, to ways of proceeding with it, which require certain relationships of the subject with the object and interactions with other subjects involved in such situations to facilitate the comprehensive evaluation of learning. That is, the modeling of

essential professional activities with their requirements, or the evaluation in natural conditions of professional practice. None of this is evidenced in the observations and interviews conducted.

The evaluation of learning must notice what the student does not have but can have through the transforming action of teaching, especially those acquisitions that he/she cannot yet make autonomously with the psychological means he/she possesses, but with certain help and, therefore, inform about the potential directions of the student's development and in this situation the orientations and aids play a fundamental role, which are not observed in the activities of the courses reviewed.

Many teachers still consider that content is the aspect to which they attach most importance for the realization of quality virtual learning environments (Boumadan, 2020). On the contrary, as pointed out by (Ruiz, 2020), "evidence suggests that the most effective instructional practices include a more conscientious planning of the tasks that students will perform and the provision of feedback while performing them" p. 264. On the other hand, if the e-activities designed by the teacher are of the collaborative type, this has a beneficial impact on increasing student motivation and decreasing the level of frustration (Gómez, 2018).

Teachers should diversify the means and instruments of evaluation. Give greater weight to informal modes of evaluation, to evaluative tasks with ecological validity (in conditions of professional practice or modeling it), individual and collective projects, evaluation of executions during a prolonged period of student work, and other innovative forms, based on the collaborative activities of EVEAs, such as: the glossary. In particular, encourage the use and testing of performance assessment ("portfolios") in those subjects where feasible. It can include diverse executions such as essays, experiments, reports, monographs, research tasks of diverse nature, multimedia works or others, selected with the criterion that they show the best works or productions of the student in the area and the contradictions, limitations and advances that he/she has presented in the course of his/her development. The selection is made by the student alone or with the guidance of the teacher, which gives the student a margin of freedom in his decisions and promotes critical reflection and self-evaluation of his work.

Design questions or problems that demand the handling of data and facts in a reflective, reasoned way, that leaves in evidence, for the student, the significance and necessity of his knowledge. This leads to eliminate the memoristic questions that appear in the observed exam questionnaires.

To design evaluation tasks that foresee a gradation in the levels of learning demand, starting from the highest level admitted by the training objectives (without ignoring that the learning results could transcend the level of the objectives). A resource for this is the introduction of "demand aids" understood as information that is offered to the student, if required, to provoke the generation and restructuring of his knowledge. Such information may differ in content, extension and format; and in any case, it must be foreseen in the planning, as part of the conception of the evaluation instruments.

Finally, the evaluation carried out through e-activities, due to its diversity, allows the evaluation of competencies related to the teaching activity. In this sense, the study and analysis of these is relevant because the level that teachers usually possess in digital competence is low (Dzikite, 2017). Therefore, it is essential to establish specific lines of training action adapted to the professional context in which teachers carry out their work. Reducing this training gap will allow the correct use of technology in teaching-learning scenarios, where the selection, creation and modification of e-activities is a fundamental competence (Guillén, 2020).

In summary, the educational evaluation of learning, in any medium and circumstance, should be oriented to explore, value and contribute to the development of the potential of each student and to the search for ways of development from the diversification of opportunities and spaces that education and society itself provides, or should provide.

Conclusions

The results obtained in the diagnosis regarding the learning assessment process in the Moodle EVEA of UMOA, show that: There is very little diversity in the evaluation of learning and most of the activities are extrapolated from traditionalist didactics, which do not involve the search for instruments and procedures that avoid fragmentation in too many punctual aspects, as it is common to find in exams composed of numerous items or specific questions, of details, are not instrumented, in the evaluation, the modeling of essential professional activities that require certain relationships of the subject with the object and of interactions with other subjects to facilitate the comprehensive evaluation of learning, students are not involved in their own evaluation, in their own evaluation process, so there is a very limited practice of participatory evaluation forms (self-evaluation, co-evaluation, hetero evaluation), there is a tendency to evaluate the result of learning and to identify

evaluation with grading, although a high number of teachers recognize the advantages of ICT, the use of collaborative activities in the evaluation of student learning is still very low.

In general, teachers have a conception, inherited from the traditional system, that emphasized measuring the acquisition or improvement of skills. Given the importance given to results, the student justified the teaching activity only as a way to improve those results. This indicates insufficient didactic and technological training of the teaching staff, which leads to a resistance to change with respect to the use of different forms of learning assessment in the EVEAs.

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