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SOCIOFORMATIVE PROCESSES AND EDUCATIONAL BENCHMARKING AS A STRATEGY FOR QUALITY IMPROVEMENT IN RURAL SECONDARY EDUCATION

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Abstract. The comprehensive education of students in rural areas of Peru lags behind that of urban areas, influenced by both endogenous and exogenous factors that widen the gap. The objective of the study was to determine the level of influence of the educational model based on socio-training processes and educational benchmarking in the improvement of educational quality. Methodologically, the study approach was mixed, integrating the phenomenological and analytical approach, through a non-experimental-interpretative design; the study population consisted of students and teachers from the rural area of the province of Huánuco, the study sample consisted of 46 students from the district of Cayrán randomly selected by cluster, the data collection was done through a Likert-type questionnaire and interview guide, the data analysis is supported by descriptive and inferential statistical measures. For the descriptive and inferential data analysis, Minitab 20 software was used, highlighting among the results the conformity of 71.3% of the students with the practice of socio-training; 68.8% agree with the practice of educational benchmarking; while 72.4% agree with the achievement of quality learning, there is also a direct relationship between the socio-training processes and educational benchmarking with the achievement of educational quality. It is concluded that the practice of socio-training and educational benchmarking based on the characteristics of the context are directly related to educational quality in rural secondary education.

Keywords: Educational benchmarking, socio-training process, educational quality, secondary education.

PROCESOS SOCIOFORMATIVOS Y EL *BENCHMARKING* EDUCATIVO COMO ESTRATEGIA PARA EL MEJORAMIENTO DE LA CALIDAD EN LA EDUCACIÓN SECUNDARIA RURAL

Resumen. La formación integral de los estudiantes en las zonas rurales del Perú, se encuentra rezagada con respecto a la zona urbana, influenciado por factores, tanto endógenos como exógenos que ahondan la brecha. El objetivo del estudio fue determinar el nivel de influencia del modelo educativo basado en procesos socioformativos y el benchmarking educativo en la mejora de la calidad educativa. Metodológicamente, el enfoque del estudio fue mixta, donde se integran el enfoque fenomenológico y analítico, a través de un diseño no experimental-interpretativo; la población de estudio estuvo conformada por los estudiantes y docentes del área rural de la provincia de Huánuco, la muestra de estudio lo conforman 46 estudiantes del distrito de Cayrán elegido de forma aleatoria por conglomerado, la recolección de datos se realiza mediante cuestionario tipo Likert y guia de entrevista, el análisis de datos se apoya en medidas estadísticas descriptivas e inferenciales. Para el análisis descriptivo e inferencial de datos se utilizó el software Minitab 20, destacando entre los resultados la conformidad del 71,3% de los estudiantes con la práctica de la socioformación; el 68,8% manifiestan estar de acuerdo con la

praxis del benchmarking educativo; mientras el 72,4% están de acuerdo con el logro de un aprendizaje de calidad, asimismo existe una relación directa de los procesos socioformativos y el benchmarking educativo con el logro de la calidad educativa. Se concluye que la que la práctica de la socioformación y el benchmarking educativo basado en las características del contexto están directamente relacionados con la calidad educativa en la educación secundaria rural.

Palabras clave: Benchmarking educativo, proceso socioformativo, calidad educativa, educación secundaria.

Introduction

Today's education in a globalized and technological context requires the use of educational strategies and materials in accordance with the demands of the knowledge era, where education aims at the integral formation of future citizens capable of managing and handling complex situations, acting and reacting with relevance, combining resources to mobilize them in a specific context, and understanding, transferring and configuring learning to learn. This requires innovative proposals in regular basic education institutions that make possible the effective integration of theory and practice for efficient and effective educational achievements (Martínez & Echevarría, 2009). Contrary to this proposal, the Peruvian education system at the secondary education level is increasingly declining in its different components, with a mismatch between the educational development of rural and urban areas, since priority is given to education in urban areas, and little support is given to rural education.

Given the heterogeneous social, cultural and geographic context of rural areas, the educational system is in permanent emergency, urging the development of inclusive education, through contextualized teaching-learning strategies, in accordance with the current educational paradigm. It is essential to incorporate the competency-based curriculum approach, through the widespread use of ICTs, aimed at changing the vision of education through the evaluation of teacher and student performance.

The integration of educational practice to the socio-cultural context with a view to educating students with a social identity is almost nonexistent, since educational institutions in rural areas do not have formative educational models. If it existed, it would propitiate the integration of practice - teaching, learning and research - and in their work coexistence spaces, a situation that implies involvement with the community that make possible the improvement of living conditions in the territory (Martínez-Clares et al., 2018).

According to (MINEDU, 2016)according to the teacher, the teacher must design activities with a clear understanding of the learning purposes, the student's learning needs, the design and organization of meaningful situations, diverse resources and materials, pertinent pedagogical and didactic processes, differentiated strategies, and interactions that allow for a favorable climate for learning, providing students with the opportunity to deploy their abilities to act efficiently in complex situations to achieve the learning purpose.

In this sense, the study responds to the needs of secondary education in the rural area and is oriented towards an inclusive education and a quality education oriented to the development of previously established capacities and performances, leading to the development of competencies, which allow them to link with the social environment, for the strengthening of their individual development, in the family context and in the community. This prerogative is feasible from the conjunction of socio-training processes and the practice of educational *benchmarking*, which constitute catalysts for the achievement of a sustained and quality education; through the integration of culture and the experience of students with their learning

of educational content immersed in areas of study, as part of the structuring of the students' life project.

Also, the importance of the study lies in the fact that it made it possible to identify and evaluate the comparative advantages of the application of the didactic strategy based on the findings of the *benchmarking* process in rural secondary education, as compared to urban secondary education. To this end, the study has explicit and implicit reasons that justify its conduct. On the one hand, it is explained from the academic interest in promoting more meaningful learning in rural high school students, as well as seeking forms of evaluation that bring them closer to the discovery and reflection on the world and on themselves, to enjoy in knowing and know themselves in doing; on the other hand, the professional interest in researching on *socio-training* and educational *benchmarking* and concrete ways to contribute through research to the improvement of professional practice through viable strategies for the achievement of the proposed educational objectives.

From the considerations described above, the following research question arises: what is the level of influence of the educational model based on socio-training processes and educational *benchmarking* with respect to the perception of educational quality of students in the fifth grade of secondary school in rural educational institutions in the province of Huánuco, Peru?

Background and current status of the subject

Among some previous studies on socio-formative processes, educational benchmarking, which was used as a reference for this study, the following stand out:

Adames & Dino (2020) published the article "Aportes de la socioformación para una educación de calidad" in which they offer a proposal for quality education for Fe y Alegría in the Dominican Republic, taking socioformation as an articulating axis, related to the theoretical and methodological approaches of the curriculum and the quality improvement system of Fe y Alegría. The methodology is based on a documentary analysis through conceptual mapping, developing its eight axes, which favored the relationship between the three proposals. He achieved a practical synthesis of the changes that must be generated to produce an education in accordance with the knowledge society. It concludes that socio-training offers significant elements to guide the pedagogical practice of teachers, such as situating education from complex thinking, developing training processes through projects, facing problems of the context, developing competencies as integral actions in the context and consolidating an ethical project of personal and social life, which when put into practice define a route of educational change that will lead to the transformation of society.

Arreola et al. (2019) in a documentary analysis research are responsible for giving clarity to the concept of pedagogical practice from the socioformative approach, with the aim of being able to guide the reflective educational intervention by professionals and organizations, for this purpose the conceptual mapping has been used, concluding that the pedagogical practice from the socioformative approach has elements that characterize it and can be applied at any educational level in which it is worked. Where it highlights the existing relationship between the development of competencies, considered as cognitive skills, in a teaching-learning space and postulates that socio-training as an approach to improve the academic training of every student (Ceballos, 2020). Under this premise, the teaching-learning binomial, cognitive skills and competencies are integrated with key elements such as teaching, curriculum, and socio-

formative assessments based on the development of metacognition, complex thinking and problem solving.

In this context, socio-training emerges as an approach that seeks the integral development of people in different areas of their development, from complex thinking through socio-training projects, with an ethical vision, constant reflection and the support of ICTs to lay the foundations of a knowledge society (Prado, 2018). Thus, the existing sources of information on socioformation are relevant as an approach for the study of the dynamic reality in constant change and development, projecting more and more its application in different educational scenarios: in research processes, curriculum design and academic development, being vital its importance in continuing to provide innovations, in the constant search for educational quality.

On the other hand, *benchmarking* emerges as a plan aimed at improving customer service, through the analysis of the workshops programmed to improve the quality of service provided by workers to users, systematically optimizing the services offered; this plan considers as a transcendent activity the awareness of workers to provide quality care, through the design of a sequence of activities aimed at continuous improvement, through monitoring, evaluation and feedback, which led to the reduction of deficient care (Diaz, 2016).

According to Hernandez & Cano (2017) *benchmarking* is an important tool to increase the quality of service in organizations and business management, by obtaining information on the real state of the organization compared to the competition, from monitoring the behavior and actions of those organizations that are considered the best, without this meaning copying ideas from the competition, but trying to learn from them in order to create maximum efficiency in the company or organization. Also, *benchmarking* is considered as a structured and continuous process to diagnose the operations of organizations that are recognized with the best practices in the market and sales are the solution to a problem, where *benchmarking* techniques to increase the sales of the organization or company. Llantop & Rimarachín, 2016). This position allows us to have better and greater opportunities to grow, to meet expectations and to strengthen the quality of our service.

From the perspective of education, *benchmarking* is conceived as a methodological tool that makes it possible to achieve the highest level of quality in virtual education through a process of comparative evaluation, provides knowledge about the educational quality process in another university and identifies the reasons why better results are obtained there, the results obtained in the study led to the elaboration of a comprehensive improvement action plan to increase, in the short and medium term, the quality of the education offered, and highlights that *benchmarking* is a very useful and effective tool to improve the quality of virtual higher education (Marciniak, 2016).

Literature review

The theoretical construct that supports the present study integrates the concepts of socio-training, educational benchmarking and educational quality, which serve as the theoretical foundation and scientific support for the research.

Socioformation

Socio-training is an approach to human activity in general, based on activities through the collaborative work of different actors in a society. It is flexible, open, practical and focused on solving contextual problems. As such, it seeks to promote economic development, quality of life, technology, agriculture, peaceful coexistence, inclusion and respect for socio-cultural

diversity; oriented to the articulation of knowledge from different disciplines and training areas. This approach "does not focus on learning as a goal, but on the formation of people with a clear ethical life project in the framework of social, cultural and environmental interdependencies, in the synchronic and diachronic dynamics." (Tobón, 2013).

Socio-education emphasizes the full development of its members, providing them with the necessary tools to face the challenges that arise, in addition to this, from a position of ethical life, it seeks to make a difference with other educational approaches that seek permanent innovation processes inside and outside the classroom (Hernández et al., 2015). Thus, in a socio-formative process, the individual has the faculty to develop and propose creative and well-founded solutions to the contextual problems formulated, in an interdisciplinary manner.

Socio-training also makes it possible to consolidate and integrate the ethical life project, social integration, human talent management, values, scientific development and entrepreneurship, and the search for quality, among others. Becoming an approach oriented to the study of the new needs and challenges of the knowledge and information society, to innovate traditional approaches to education and talent development are limited. On the other hand, the management and recreation of knowledge orients the elaboration of a theoretical construct, having as inputs, the communication and identification of problems, the search for relevant sources, processing and organization of knowledge, contextualization and adaptation of knowledge, the creation and innovation of knowledge and the application of knowledge to problem solving (Ortega-Carbajal et al., 2015).

In the educational field, socio-training seeks innovation through teaching practice, as well as its relevance to enhance students' skills. It also has tools and techniques that take up versatile learning styles such as the ethical life project, formative projects, problem-based learning, among others. Through evaluation and follow-up instruments appropriate to each need, the socio-training process can be modified according to the goals or objectives established, highlighting the theme of competency development as a teaching task, showing its relevance as an approach that seeks to go beyond the classroom.

In short, socio-training is a tool that is not limited to the operational but responds to "training aspects in competencies necessary for solving real problems, coupled with the development of talent, which occurs through the implementation of projects and continuous improvement from collaboration" (Tobón et al., 2015, p. 200). Thus, a socio-formative process follows a path "intense, challenging and full of visions, which aims to recognize its essence, its place in society and that its members through the ethical project of life, collaborative work, constant improvement, entrepreneurship, management and co-creation of knowledge and ICT for the knowledge society" (Contreras-Torres & Rodríguez-Peralta, 2020).

Educational benchmarking

Benchmarking is the search for industry best practices that lead to excellent performance (Camp, 1993). It is also conceived as "a systematic and continuous process that evaluates products, services and work processes of organizations that are recognized as representing best practices with the purpose of making quantitative and qualitative improvements to an organization" (Splendolini, 2005). From this perspective, the *benchmarking* process can be understood as a process of organizational learning from the observation, analysis and implementation of practices that work successfully in other organizations.

To fulfill its purpose, the *benchmarking* methodology is developed in two stages. The first refers to the use of the concept as a tool that improves the company's competitiveness, differentiating it from imitators; through a process of continuous improvement that allows the comparison of the company's objectives and achievements with the best practices of companies

considered excellent in the industry or sector. That is, "*benchmarking* as the search for industry practices that lead to excellent performance." (Camp, 1993, pág. 23). The second stage considers *benchmarking* as a methodology to study how a company has established itself as a leader in the market or sector, not only through the assimilation of best practices, but also by measuring the ability to understand how to do things more efficiently and effectively (Camp, 1993).

Benchmarking is also conceived as an evaluation technique evoked to the integral study of products, services, processes and procedures that are performed between organizations, where one of them analyzes what another organization performs, in order to match or improve it, to achieve higher quality in their products and services they provide, through the praxis of cooperation, collaboration and permanent exchange of information; correcting mistakes along the way and identifying opportunities to solve the problems detected that lead to make decisions taking as a reference the quality indicators of the leading organizations; from this perspective, the quality of the services is considered as fundamental (Coldling, 2000).

The *benchmarking* process takes place in the relationship and direct interaction with competitors or non-competitors within a line of study and, at the end of the study, the results of each of the institutions involved in the process are shared, creating their own improvement systems (De Cárdenas, 2006). Thanks to *benchmarking*, the term competitiveness appears, and the development of virtual learning environments becomes the fundamental input for the development of studies aimed at the search for quality in the educational field.

Educational quality

According to the OECD (2011), quality education is that which ensures that all young people acquire the knowledge, skills, abilities and attitudes necessary for a relevant adult life. Also the UN (1990) in its "World Declaration on Education for All", establishes that quality basic education should focus on learning, according to three dimensions: effectiveness, which postulates quality education taking into account whether students really learn what they should learn, according to what is established in the curricular plans and programs; what is learned in the system and its relevance in individual and social terms; and the processes and means that the system provides to students for the development of their educational experience.

A quality educational experience relies on a rights-based approach to all elements involved in an educational endeavor (Vaillant, 2018). Thus, educational quality implies a search for constant improvement in all its elements, in inputs (resources available in schools), teaching processes (time allocated to school teaching, amount of homework and curricular stipulations) and in outputs (student achievement). Another important aspect is the link between education, reality and the personal and social life of the learner, since this determines that the acquisition of knowledge, abilities, skills and attitudes are ideal to equip them for everyday life. This also means that the responsibility for the quality of education lies not only with the directors of an educational institution, but with all its participants. In this way, the educational quality approach will not be oriented only to achieve a good product based on favorable input conditions (adequate infrastructure, ICT, among others), but to make all students progress based on their personal circumstances (UNESCO, 2016e). Thus, a quality education is locally important and culturally appropriate; it is meaningful in the present and prepares people for the future; it creates knowledge, vital skills, perspectives, attitudes and values; through instruments for transformation, based on a process of continuous improvement, with interaction of the subjects of education in a teaching-learning process carried out efficiently, which has an impact on the integral formation of the student body.

Method

Research approach

The present study is based on the mixed approach, which is based on the combination of quantitative and qualitative methodology, called multi-methods, mixed methods or methodological triangulation (Moscoso, 2017). In this approach, as mentioned by Hernández et al (2014), it is specified in the process of collecting and analyzing quantitative and qualitative data, to respond to the problem statement; for this purpose, five interrelated phases are used, such as: a) Process of observation and evaluation of the phenomenon; b) Raising assumptions or ideas as a result of the observation and evaluation carried out; c) Verification of the level of veracity and foundation of the assumptions or ideas; d) Review of the assumptions or ideas on the basis of the evidence or analysis. e) Proposing new observations and evaluations to clarify, modify, substantiate or support assumptions, or to generate new ideas.

Design

The present study contemplated the non-experimental cross-sectional design, which allows obtaining a better evidence and understanding of the phenomenon under study, which facilitates the strengthening of theoretical and practical knowledge; also, it enables researchers to have the appropriate knowledge for the integration of paradigms, so as to ensure the effectiveness of the strategy (Pereira, 2011). Through a set of systematic, empirical and critical research processes, based on the collection and analysis of quantitative and qualitative data, as well as their integration and joint discussion, in order to draw inferences from all the information gathered for a comprehensive understanding of the phenomenon under study.

It also takes into account the sequential exploratory mixed design (DEXPLOS), which involves an initial phase of qualitative data collection and analysis followed by another phase where quantitative data are collected and analyzed through the following modalities: derivative and comparative. The *Derivative* modality consists of the collection and analysis of quantitative data based on qualitative results, connecting the qualitative analysis of the data and the collection of quantitative data; the final interpretation is the product of the comparison and integration of qualitative and quantitative results; while in the *Comparative* modality, in the first phase qualitative data are collected and analyzed to explore a phenomenon, generating a data base; subsequently, in the second phase quantitative data are collected and analyzed and another data base is obtained, to then interpret them as a whole (Hernandez et al., 2014).

Participants

The population of the present study consisted of 420 students in the fifth grade of secondary school from 12 rural districts of the province of Huánuco, between 15 and 18 years of age, of both sexes.

The type of sample used is probabilistic by clusters, being chosen as the study sample the district of Cayrán which houses 46 students of the fifth grade of high school, complementarily also participate in the study teachers and directors of the four institutions installed in the district chosen by convenience, which allowed selecting a sample of the population by the fact of being accessible (Hernández eta al, 2014). Inclusion criteria took into account attendance to the face-to-face classes and exclusion criteria were those who did not participate in the face-to-face classes, as well as those who returned the questionnaires or did not respond to the interview.

Instruments

The research instruments used in the research were: a checklist, a questionnaire and an interview guide. By means of the checklist was evaluated (contents, capacities, skills, abilities, behaviors, etc.), the application of this instrument was basically for the verification of activities

of the teaching and learning process to verify the level of practice of socio-training and educational *benchmarking* during the learning activities. The applied questionnaire contains 25 items for each of the three study categories, divided into 5 dimensions, and was applied to the students in the sample. The purpose of the in-depth interview guide was to collect the narrative opinions in person, and it was applied to 8 secondary school teachers, 2 fifth grade students and 2 directors, whose responses made it possible to know the perception of the subjects of the study on the subject.

The process of construction and validation of the research instruments is based on the review of literature on the subject, the exploration of concepts of the study categories or variables, the formulation of the items, the selection of experts or judges, the evaluation of consistency and the readjustment of the items. The validation process took into account: *construct*validity, *internal*validity, referring to the triangulation in the elaboration of explanations and conclusions; and *external* validity, oriented to the generalization of the findings so that they can serve as a reference for future studies on the subject.

Research development process

The execution of the research is carried out in three phases or stages. In the first phase, prior to the literature review and knowledge of the object of study, the quantitative study consisted of the application of a questionnaire to students, and then proceeded with the analysis of the results obtained. In the second phase, a qualitative study was carried out through the collection of information by means of systematic observation and interviews with teachers and students at different times in order to corroborate the socio-educational praxis and educational benchmarking. Then, the third phase consisted of reflecting on the findings, comparing results and relating them using descriptive and inferential statistics, in this phase conclusions were drawn about the influence of socio-training activities and *benchmarking* on the improvement of educational quality on the part of the student and the teacher.

Data analysis procedure

Quantitative data are presented in graphs and tables, also through descriptive statistical measures that serve as input for the analysis and interpretation of the results obtained from the questionnaire and the categories addressed in the study; on the other hand, correlation analyses were performed between the categories under study. The level of influence that education based on socio-training and educational *benchmarking* has on the consolidation of quality education was also analyzed by means of bilinear regression and its corresponding hypothesis test.

As for the analysis of the qualitative data, information collected through direct observation and interview, the following procedure was followed: Direct observation allowed for an objective understanding of the subject under study; the information recorded was used to reinforce the argumentation of the results referred to the three study variables. Interview: the results of the interview with students and teachers on the subject under study are summarized taking into account some transcendental aspects that contribute significantly to the objective of the study.

Results

The results obtained from the questionnaire referring to the *socio-training*process, educational *benchmarking* and educational quality during the study are presented below.

From the responses to the diagnostic questionnaire administered to teachers who teach in rural areas, it can be deduced that, among some aspects that favor the teaching-learning process in rural educational institutions, the following stand out: the desire for self-improvement of most students due to the empathy they have with teachers, the possession of many resources of the social, cultural and physical reality that enable contextualized teaching, most keep certain cultural values of their ancestors and are easily integrated to the use of digital resources as an adjuvant element of their learning.

The data obtained through direct observation of the students showed that, in terms of knowledge achievement, they have deficiencies; they do not adequately manage the data and information in the process of building their knowledge; likewise, in the attitudinal aspect they have some weaknesses, which adversely influence the acquisition of learning and the student's integral development.

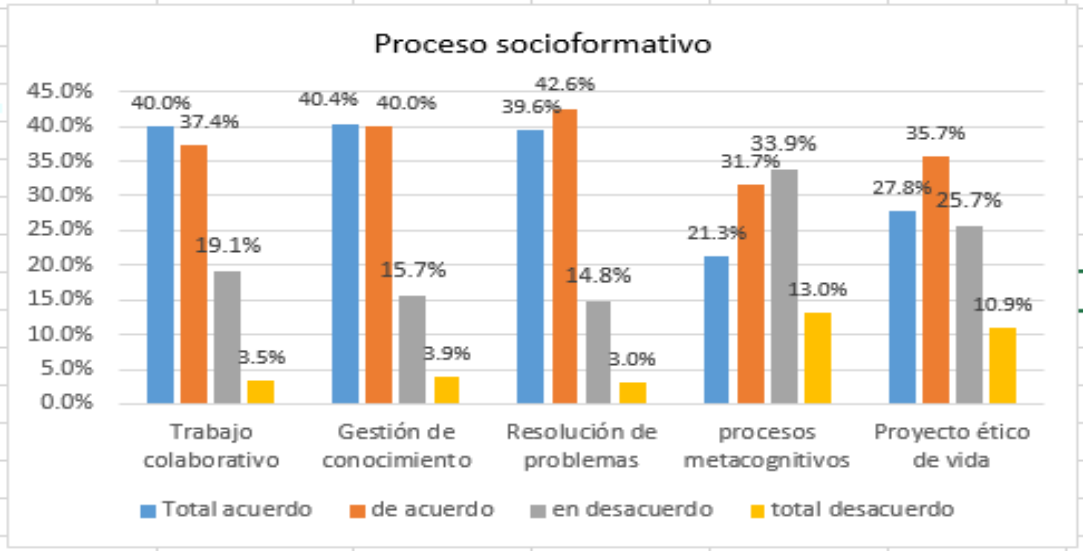
The data collected through the checklist of teachers who teach in the rural area, it was found that most of them have an adequate mastery of the curricular contents they teach, but they do it in a decontextualized way; in what concerns the pedagogical aspect, showing serious methodological and didactic shortcomings that do not enable the motivation towards the learning of students; on the other hand, the ethical posture that they show during their teaching activity does not demonstrate strength in their performance, expressed in behaviors that dilute their condition of being educational and community leaders, influencing in a negative way the development of values in young people.

Descriptive analysis

The overall result of the items corresponding to the five dimensions of the *socio-formative process* category, the majority responses of the students, adding those who totally agree and agree represent 71.3% of the respondents; while those who do not agree with the socio-formative position represent only 28.7% of the students, Figure 1.

Figure 1

Level of acceptance of the socio-training process by rural high school students

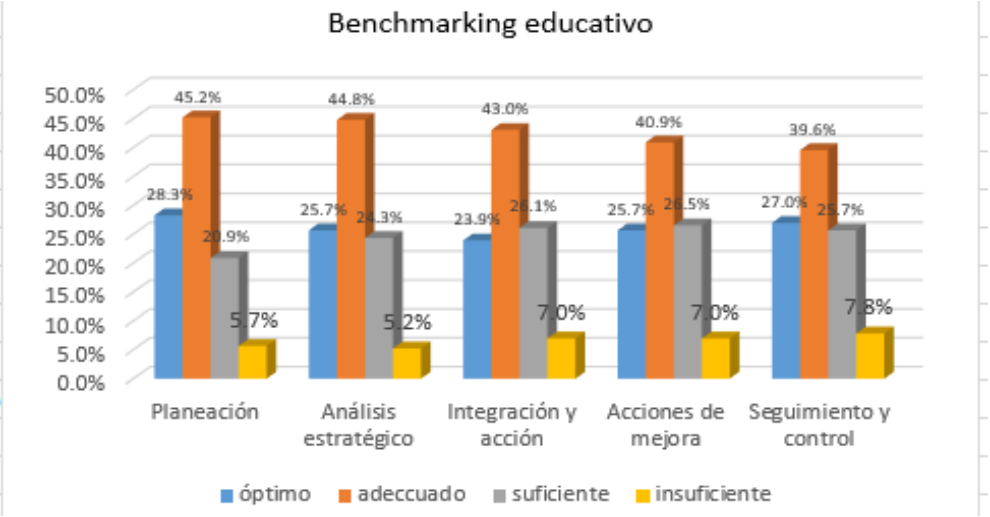


According to the responses obtained from the items corresponding to the five dimensions of the educational *benchmarking* category, the majority of students accumulate their response in the optimal and adequate alternative, which on average total 68.8% of the total

number of respondents, compared to those who qualified as sufficient or insufficient, which only represent 31.2% of the students (Figure 2).

Figure 2

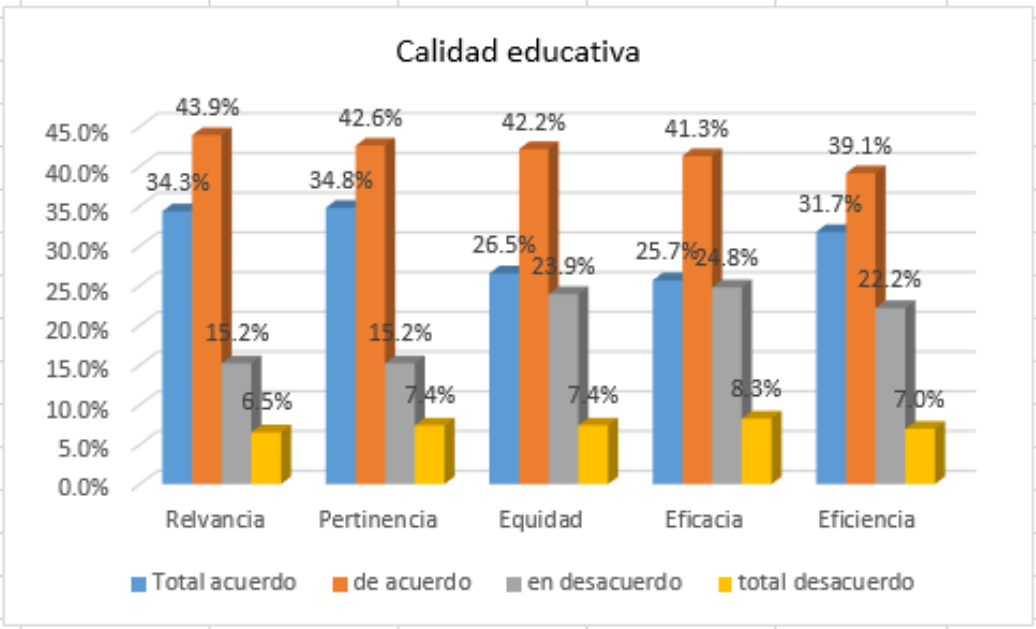
Level of acceptance of educational benchmarking by rural high school students



From the responses to the items of the questionnaire referring to the five dimensions of the educational quality category, the majority response, from the perspective of the students, the sum of those who totally agree and agree, represents 72.4% of the students and those who state that they do not agree with the quality of education during their training constitutes 27.6% of the students (Figure 3).

Figure 3

Summary of information on the dimensions of the quality of education



As described and visualized in Figures 1, 2 and 3, of the three categories analyzed, the majority of the participants in the study have a favorable opinion about the dimensions and indicators of the socio-training process and educational benchmarking for the improvement of educational quality in secondary education in rural areas.

Summary of student and teacher interviews

Most of the students interviewed reside in the same community where the educational institution is located, and others come from nearby communities. Most of the students work in activities to finance their studies and family maintenance; on weekends they participate in communal tasks for the improvement of the community; most do not perform salaried work in the community but do so in other places during vacation time to cover the basic needs of the family. Regarding the time dedicated to the practice of collaborative work, problem solving, knowledge management and others, they consider fundamental for their training; they consider social networks as fundamental to interact and communicate with their peers and with the teacher, they also use this medium for educational purposes to share knowledge and school assignments; but more frequently they use cell phones, being the one that most use the instant messaging service through WhatsApp, but only between 15% and 25% use it for educational or learning purposes, within the approximately 12 hours they are connected daily

Regarding teachers, an average of 10% of the total number of teachers working in rural areas live in the community where the educational institution is located; most of them only go to the community to attend classes, since most of them live in the district or provincial capital, with an average monthly income of 2,450 nuevos soles; 6 out of 10 are engaged in other activities to cover family expenses. From the academic and methodological point of view, most of the teachers do not know the theory referred to socioformation and benchmarking, but they carry out these procedures in a practical way, contributing significantly to the academic and value formation of the students; through the practice of an education under the competency approach, through the use of ethnic resources of the context, complemented with the use of digital resources and media; since it is fundamental to manage the information, supporting their academic and human formation.

Correlational and inferential analysis

Prior to the inferential analysis, the data collected through the questionnaire applied to the categories: *socioformative* processes, educational *benchmarking* and educational quality of 25 items each, applied to the study sample, are subjected to normality test through the *Kolmogorov-Smirnov*test**,** obtaining p-value = 0.051 (>0.05), therefore, the data are on the borderline between normality and non-normality; consequently, the normality of the data, Pearson's bilinear regression analysis and the ANOVA test are chosen to measure the level of association or correlation between the dimensions of the categories under study.

Table 1 shows that there is a direct relationship between *socio-training* and *benchmarking* with educational quality; comparisons with other institutions and *benchmarking* are more influential for this purpose than *socio-training* processes, but both contribute to the achievement of educational quality in secondary school students in rural areas.

Table 1
Bilinear regression equation for educational quality

Regression equation
Educational quality = 0.051 + 0.331 Socio-training + 0.666 Benchmarking

Note. Source: answers obtained from the questionnaire applied to the three study categories.

From the regression equation it can be deduced that:

- In case of the implementation of socio-training procedures in rural secondary education, the educational quality or academic success of students would increase by 33.1%.
- With the practice of educational benchmarking to carry out the educational process, the quality of secondary education in rural areas would increase by 66.6%.

Hypothesis testing

The educational model based on the practice of *socio-training* and educational *benchmarking* based on the characteristics of the context are directly related to the development of competencies and educational quality at the secondary school level in rural areas of the province of Huánuco, Peru

Level of significance: 0,05

Test statistic: F for Fisher

Table 2
Statistical measures from the study categories.

Analysis of Variance					
Source	GL	SC Adjust.	MC Adjust.	F-value	P-value
Regression	2	1.7135	0.85676	27.09	0.000
Socioformation	1	0.2684	0.26844	8.49	0.006
Benchmarking	1	0.7575	0.75755	23.96	0.000
Error	43	1.3598	0.03162		
Lack of adjustment	41	1.1982	0.02922	0.36	0.925
Pure error	2	0.1616	0.08080		

Note. Source: answers obtained from the questionnaire applied to the three study categories.

In Table 2, the p-value obtained is less than the 0.05 significance level (0.000... < 0.05), ratifies the research hypothesis (alternative); consequently, with a confidence level of 95%, "The practice of *socio-training* and educational *benchmarking* based on the characteristics of the context are directly related to learning, the development of competencies and the improvement of the educational quality of secondary education students in rural areas of the province of Huánuco, Peru".

Discussion and conclusions

The results obtained in the category of socio-training processes in the questionnaire administered, highlight the value given by both students and teachers in rural areas to its implementation, most of them agree with a teaching model immersed in socio-training through

an interactive and contextualized teaching-learning process oriented to the integral formation of the student. Since, socio-training is a broad approach because it seeks a comprehensive development of people in different areas from complex thinking, through socio-training projects, with an ethical vision, constant reflection and the support of information technologies to lay the foundations of a knowledge society (Prado, 2018)

According to Marciniak (2016) *benchmarking* is a methodological tool that makes it possible to achieve the highest level of quality in virtual education, through a process of comparative evaluation, it allows to have knowledge about the process of educational quality. As a complement to this statement, the research showed that in order to carry out a benchmarking process in education, from the perspective of students and teachers, it is essential to identify the practices of other educational institutions with better achievements; or simply to learn something new from successful institutions, taking the necessary corrective measures to minimize the existing differences.

Quality is an inherent characteristic of the provision of educational services, valued with respect to any other of the same kind. Educational quality is based on processes and procedures aimed at satisfying the needs of students and society in general; quality is achieved if the resources are sufficient to carry out the educational process; also if they are managed in a pertinent manner oriented to provide an effective, efficient and effective education; satisfying the needs of students and the community in general.

Socio-training processes and educational benchmarking are two catalyzing elements for the development of competencies in students, so the general objective of "determining the level of influence of the educational model based on *socio-training* processes and educational *benchmarking* with respect to the conception of educational quality in rural secondary education students in the province of Huánuco, Peru", in the study these two methodological categories made possible the optimization of the educational process, promoting the achievement of qualitative changes of great impact on learning and the development of competencies in secondary education students in rural areas.

The convergence of the *socio-training* process, educational *benchmarking* and educational quality, in the model analyzed, allow for social interaction and the collaborative participation of students in the construction of knowledge, where the teacher plays the role of facilitator; through the combination of pedagogical, technological and organizational elements, to optimize the teaching-learning process, where the actions of the teacher and the student converge in the constant search for the improvement of quality in rural education.

The information gathered through the interview allowed us to know relevant aspects of the activities and the opinions of the students at the secondary school level in the rural area. The data revealed do not bear much relation to other studies, referred to in the theoretical framework, concerning the *socio-training* processes, which were carried out only within the educational institution, since outside class hours they do not have time, due to the multiple extracurricular tasks they perform. However, with a positive and proactive attitude, favorable environments can be generated for the praxis of socio-training and educational benchmarking through contextualized methodological strategies that lead to academic success and educational quality in rural education.

In short, *socio-training* processes and educational *benchmarking* are susceptible to be implemented at all educational levels; based on the hypothesis that their implementation through collaborative and contextualized activities leads to motivation and autonomous learning of students, and is directly related to the achievement of learning that involves the development of competencies and the improvement of educational quality; it also favors interaction among students and between them and the teacher in a teaching-learning

environment mediated by context and technology resources. The quality of education in rural areas can be significantly improved through the implementation of *socio-training* processes by means of educational benchmarking, contributing to the quality of rural secondary education.

Considering the existence of many studies related to socio-training and *benchmarking* in the educational field, with the results obtained in the study, it can be affirmed that the implementation of programs based on the socio-training approach through the *benchmarking* methodology in an experimental way, oriented to the development of students' competencies and the improvement of educational quality in different contexts, but for its consolidation it requires much effort on the part of the teacher in correspondence to the student's requirements.

Some of the limitations of the study include application of *benchmarking* only in some aspects necessary for the confirmation of the categories involved in the problem from the researcher's worldview. The geomorphology of the rural areas of the province and the distance between educational institutions prevented us from covering most of the educational centers in the rural area, in the sample we could not cover all the educational centers of the province; but, the rural district chosen as a sample represents the characteristics of the other districts in more than 90%, therefore it is representative and evidences the gap that exists between rural and urban education. The study was carried out in a non-experimental manner, supported by a descriptive correlational design, through the analysis of the relationship between the categories considered in the study, limiting the robustness that would have been acquired in the case of an experimental study. The scarce collaboration of the students, teachers and directors of the rural institutions, caused by the COVID-19 pandemic, which made it considerably difficult to carry out the field work, forcing the modification or adaptation of some strategies and techniques, forced by the adverse circumstances, and the risk of not being able to conclude the work in the time foreseen.

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