

Pautas metodológicas para el empleo de las TIC en el proceso de extensión universitaria en comunidades rurales

Methodological guidelines for the use of ICTs in the university extension process in rural communities

Bárbaro Emilio González Carcassés

María Elena Pardo Gómez

José Manuel Izquierdo Lao

Universidad de Oriente. Santiago de Cuba. Cuba

ORCID: <https://orcid.org/0000-0002-5876-8325>

<https://orcid.org/0000-0002-2811-8444>

<https://orcid.org/0000-0002-8184-4795>

Correo electrónico(s):

barbaroe@uo.edu.cu

mepg@uo.edu.cu

jmil@uo.edu.cu

Recibido: 11 de febrero de 2023

Aceptado: 27 de septiembre de 2023

RESUMEN: Se valora el insuficiente empleo de las posibilidades que ofrecen las Tecnologías de la Información y las Comunicaciones en cuanto al manejo de la información y la comunicación en el proceso de extensión universitaria en comunidades rurales, lo que atenta contra el necesario diálogo que debe establecerse entre actores universitarios y locales. El propósito principal del artículo es presentar un conjunto de pautas metodológicas, encaminadas a perfeccionar el referido proceso a partir de la utilización de dichas tecnologías con un significado y sentido de transformación y en cuya elaboración se empleó el método sistémico estructural funcional.

Palabras clave: Comunicación; Comunidades; Extensión; Información; Tecnologías.

ABSTRACT: The insufficient use of the possibilities offered by Information and Communication Technologies in the management of information and communication in the process of university extension in rural communities is valued, which is detrimental to the necessary dialogue that should be established between university and local actors. The main purpose of the article is to present a set of methodological guidelines, aimed at improving the referred process from the use of these technologies with a meaning and sense of transformation and in whose elaboration the functional structural systemic method was used.

Keywords: Communication; Communities; Extension; Information; Technologies.

Introduction

The "digital" or "network" society is currently marked by the so-called Information and

Communication Technologies (ICT), whose paradigm is computer networks and digital technologies, which have imposed significant challenges on university work in relation to its use in the development of the educational processes that identify it: teaching, research and extension.

For (Pérez-Martínez, 2013) university extension constitutes an integrating formative cultural process, which presupposes the commitment of the university community in the social and intentional appropriation of culture, which is carried out through social relations of a formative nature that are developed between different subjects, which implies the sustainable transformation of reality.

According to (González Fernández-Larrea & González-González, 2013) university sociocultural work is identified as the management of university extension, which operates from the functions of management (planning, organization, execution and control) and from the dynamics of sociocultural promotion (extension methodology), which, being interrelated, allow solving social needs with the active and conscious participation of the actors of the university community (intra/extra). In this regard, (Martínez-Rodríguez, 2019) emphasizes the mission of higher education in socio-cultural community work.

Linked to the above, socio-cultural promotion pursues the transformation of social reality, seeking specific results and pre-established goals, based on the two principles that identify it: identity and participation, with identity being recognized as the set of objective and subjective elements specific to a given culture, which gives it a distinctive and differentiating stamp from others. Participation, on the other hand, is the active intervention of the different social actors in the dynamic processes of construction and transformation of society.

In accordance with the aforementioned authors, it is recognized that a social actor is an individual, institution or organization that raises awareness among the members of the community in terms of its transformation, in order to contribute to the satisfaction of their needs on the basis of integrating them in the work for the socio-cultural development of society, hence they act as facilitators to generate participation processes in certain scenarios.

In this way, the level of satisfaction of the social responsibility of universities is directly related to the maturity and transcendence that they achieve as cultural institutions in their interrelation with society, in which the university extension process is a key factor, as it guarantees a broader and more dynamic link that favours identification, communication and joint activity between university

students and the population in general and strengthens the essential unity between them.

Thus, the social responsibility of the university in its direct relationship with the demands of society is expressed through the link with the communities, for which it is important and essential to develop internal and external communication systems in this institution that encourage dialogue and favour the participation of the (intra/extra) university community in solving the problems of the communities, which, without a doubt, could be enhanced through the use of ICTs.

University extension should take full advantage of the wide possibilities offered by ICTs to multiply its reach and to fulfil its role as a backbone for the transformation of the (intra/extra) university community. Hence the recognition of terms such as "virtual extensionism", to identify a process through which university subjects or actors can systematically "connect" not only with people outside the institution, but also cross the borders of the geographical area to which each university belongs and get closer to the different social contexts, even if they are distant.

Several authors have made incursions into the study of ICTs and the extension process. Thus, (Roura-Redondo, 2017) addresses how to achieve dialogic learning in virtual scenarios, emphasizing how the actors of the university community perceive the online dialogue between them. For their part, (López Siu et al., 2018), point out the use of an interactive platform in the university extension process with a view to greater interaction between the actors involved in this process, which promotes activity and expeditious communication between them.

For their part (Carenzo et al., 2019) allude to extension practices with the possibilities offered by ICTs to promote collaborative work. In line with the previous idea, (Guerrero Muguercia et al., 2019) point out the role of Virtual Environments for the university extension process.

Authors such as (Camilo Parrón, 2020) and (Camilo Parrón et al., 2022), among others, affirm that practices regarding the use of these technologies in this process have not yet achieved the desired levels of intentional, generalized and systematic implementation of feedback or communication mechanisms, as well as a rapid exchange of information between university actors (intra/extra) that would allow them to offer more relevant responses to the problems detected in the communities.

The aforementioned authors agree on the fact that in the process of university extension with the use of ICTs there is a predominance of asystematic, empirical and unstructured communication between (intra/extra) university actors, which hinders their optimal, accurate and immediate response to the needs that emerge from the social contexts.

In line with the above, particularly with regard to rural communities, given the wide range of possibilities offered by these technologies as important means of information and communication, there is an urgent need to use them to rescue and preserve the historical memory and identity of these communities, which also implies safeguarding the experiences and knowledge accumulated by the members of these communities.

In this way, the use of ICT in the process of university outreach in rural communities gives it a flexible and contextualized character by varying according to the particularities of each specific community and the diversity of the subjects that may intervene in it.

Despite the need for a permanent link between the university and rural communities, through the possibilities offered by ICTs, it is perceived that university institutions do not exploit all the potential offered by these technologies, which would more effectively promote the diagnosis, interpretation and satisfaction of community socio-cultural needs and allow them to influence the progressive development of the latter, based on the establishment of a systematic and expeditious dialogue between university actors and local actors.

The in-depth study of the subject made it possible to specify:

- Insufficient projection of the university, from its social mission, to strengthen the link with rural communities, based on the use of ICTs.
- Inadequacies in the university extension process to establish a permanent cultural dialogue between intra-university actors and local actors in rural communities, through the use of ICTs.
- Limitations in the university extension process to design, implement and evaluate socio-cultural actions in rural communities, with the use of ICTs, in order to promote transformations in the community reality.

Based on the importance, timeliness and relevance of achieving the link between universities and rural communities through the use of ICTs, with a meaning and sense of transformation, the need was perceived for a doctoral research that assumed as a scientific problem, the insufficiencies of local actors in rural communities in relation to the knowledge and use of the possibilities that ICTs can offer for the preservation and dissemination of the culture accumulated in these communities, which limits their socio-cultural development.

An in-depth examination of the causes of this problem revealed the following:

- The existence of theoretical gaps that contribute to the uniqueness of university extension through the use of ICTs in rural communities, which respond to the inextricable link between technology, the university and community contexts.
- - Theoretical-methodological limitations in the link between university extension and rural communities, through the use of ICTs, that favour two-way communication between intra-university actors and local actors in these communities.

Based on the above, the objective of the research was the elaboration of a pedagogical strategy for the process of university extension through the use of ICT in rural communities, which has as a prelude a set of methodological guidelines to guide the development of the same.

Thus, the main purpose of this article is to present the methodological guidelines for the use of ICTs in the university extension process in rural communities, taking as a reference the rural community of "San Benito", belonging to the municipality of Segundo Frente, in the province of Santiago de Cuba.

The research is covered by the project associated with the programme (PAP) called Computerisation_University_Development, belonging to the Department of Software and Technology Development of the Computerization Department of the University of Oriente, whose main objective is to contribute to human and local development of the community through the use of ICTs. The project had its antecedents in the Armonía project, which obtained relevant results in the effort to strengthen the link with the community through these technologies.

Among the research techniques and methods used, the following stand out: documentary analysis, for the study of various documents related to the university extension process and ICTs, as well as for the in-depth study of all the categories associated with rural communities and for the characterization of the selected rural community.

Surveys were applied to professors and managers of the Universidad de Oriente related to the extension process, particularly the Vice-Dean of University Extension of the Faculty of Telecommunications, Informatics and Biomedical Engineering (FITIB) as well as the person in charge of the Cénit Cultural Observatory of that institution, as it is the virtual space through which socio-cultural promotion is developed as part of the university extension process. Local actors from the community of San Benito were also interviewed.

The research process involved scientific observation and the functional structural systemic method, which was used in the elaboration of the methodological guidelines presented here.

Development

- Taking into account the inadequacies detected in relation to the ICT-university extension-rural communities link, a set of methodological guidelines were designed as part of the aforementioned research, focusing on the rural community in question.
- Methodological guidelines
- Guideline No.1. Determination of the elements that can favour or hinder the use of ICTs in rural communities, based on the university extension process.
- This refers to the need to gain clarity about the possibilities that ICTs can provide for the communication and information of the culture accumulated in the community of San Benito, as an expression of the identity and cultural heritage that characterizes it. In this regard, the following indicators are taken into account:
- Knowledge of the local actors regarding the possibilities that ICTs can offer in the communication and information of the distinctive elements of the community.
- Activity and communication (dialogue) between university actors and actors of community institutions.
- Level of identification of local potentials of the community.
- Degree of commitment of local actors to the problems of their community.
- Organizational forms, methods and means used in the university extension process, with the use of ICTs, which favour direct and permanent links between university and local actors.
- Technological infrastructure of community institutions.
- Degree of incorporation of ICTs in community socio-cultural projects.
- The diagnosis of the elements that can favour or hinder the use of ICTs in the rural community of San Benito, based on the university extension process, was based on scientific observation by the researcher, as well as the use of techniques, among others, such as the following:

- Establishment of the problem tree: To identify the elements that hinder the establishment of the necessary university-community link, mediated by the use of the facilities offered by ICTs in terms of information and communication management. In the tree, the roots are the causes that hinder this link; the trunk is the prevailing difficulties that hinder the dissemination of the culture accumulated in the community context, by the actors of the cultural and educational institutions located in the community of San Benito, and therefore, the socio-cultural promotion as part of the extension process.
- On the other hand, the branches are the effects that have a negative impact on the development of the referred process and therefore have an unfavourable effect on the fulfilment of the university's commitment to community socio-cultural development.
- Obtaining the SWOT matrix: To determine the weaknesses (D), threats (A), strengths (F) and opportunities (O) that may be present in the use of ICTs in the communication and information of the local culture of the community.
- Use of life stories: To determine, through the experiences of key actors in the community, the elements that accompany the cultural traditions and practices transmitted from one generation to the next and that make up the identity of the community.
- Conducting semi-structured interviews: To collect information from local community actors about the possibilities that ICTs can bring to the socio-cultural development of the community. It also contributes to obtaining elements for the design of actions aimed at promoting the use of these technologies in the process of socio-cultural promotion.
- Guideline No. 2: Proposal of a set of actions to strengthen the university extension process, mediated by ICTs, in rural communities.
- The actions, in their content, should reflect the purposes to be achieved in the short, medium and long term, the ways to be used for control and the criteria to be used to measure the impact of university extension work in the community, based on the use of ICTs.
- The changes, modifications and transformations that are achieved in the community will correspond to the scope of each of the actions conceived, the clarity of the proposed objective and the level of commitment in their implementation.
- The following aspects should be considered in the design of the actions:

- Cultural characterization of the community.
- Interpretation of the local culture of the community.
- Cultural innovation in the community.
- Proposal of actions:
 - Explore the local culture of the community (cultural identity and heritage, traditions, etc.).
 - Select and train community change agents, taking into account the activation and stimulation of cultural work in the community.
 - To train community agents of change, in relation to all the possibilities that ICTs can offer as information and communication media and as digital technologies, for the preservation and dissemination of the accumulated culture in the community.
 - Creation of new cultural spaces, mediated by ICTs, within the community's cultural and educational institutions.
 - Encourage the participation of community agents of change in permanent dialogue with university actors, in order to favour the promotion of the community's culture, through the use of ICTs.
 - Systematically evaluate the existing technological potential of cultural and educational institutions in the community, with a view to promoting the development of joint activities between university actors and local actors in the community, based on the use of both synchronous and asynchronous communication, through the computer network and/or mobile devices.

Guideline No.3: Evaluation and control of the effectiveness of actions

This is aimed at assessing and recognizing the effectiveness of the actions carried out by local community actors and university actors linked to the community through extension activities, using the facilities offered by ICTs and, in particular, through the systematic use of these technologies. To this end, the following indicators are proposed to be considered

- Degree of socio-community motivation.
- Degree of socio-community responsibility.

- Degree of socio-community protagonism.

The above is an expression of the level reached by community actors in incorporating ICTs, with a meaning and sense of transformation, for the socio-cultural development of the rural community. These levels express the qualities that are being achieved in the course of the process. Thus, the transit through the three levels shows the rural community techno-socio-cultural empowerment as a totalizing quality achieved in the university extension process, mediated by ICTs, in rural communities.

In accordance with the above, the degree of socio-community motivation is evaluated in terms of the use of ICTs by community actors, taking into consideration the use of the cultural potential offered by the community, based on the identification of its cultural needs as well as the socio-cultural understanding of the community reality, all of which accounts for a first level: the cultural characterization of the community, essential for the development of the extension process, mediated by these technologies, in favour of the preservation, development and dissemination of the culture accumulated in the community.

Similarly, the degree of socio-community responsibility is evaluated in terms of the use of ICTs by community actors, based on the consideration of socio-cultural stimulation in the community in question, from the enquiry into its cultural interests and community socio-cultural understanding, which accounts for a second level: the cultural interpretation of the community, which is a fundamental element for the extension process, mediated by these technologies, to be carried out satisfactorily and the expected community socio-cultural development to be achieved.

On the other hand, the degree of socio-community protagonism is evaluated, in terms of the use of ICTs by community actors, through the assessment of the integral satisfaction of the community's cultural needs, based on the training projection and professional rural community socio-cultural intervention, thus bringing about a third level: that of cultural innovation in the community, which is important for the extension process, mediated by these technologies, to be carried out satisfactorily.

It should be noted that the evaluation and control system is present throughout the process, with a view to assessing the successes and failures that arise in the implementation of the proposed actions, as well as the moment when the cultural and educational institutions of the community begin to

become involved in the use of ICTs, based on the recognition of the broad possibilities that they can offer.

Guideline 4: Reformulation of actions in the face of undesired results

It is important to assess undesired results in order to readjust those actions that have had an impact on them. The existence or non-existence of the necessary technological infrastructure should be analyzed in order to strengthen the information and communication of the culture accumulated in the community.

In this way, it is essential to evaluate the causes that may have caused the setback or stagnation of the expected results, with a view to determining:

- The elements that favour or hinder the use of ICTs by community actors in relation to university actors linked to the extension process, which hinders the necessary dialogue between them.
- To analyze the timeframes for evaluating the fulfilment of the programmed actions and the level of acceptance by the community.

Based on the above, it should be noted that the methodological guidelines described above were socialized by this researcher in the context of the rural community of San Benito, with the participation of directors of cultural and educational institutions in the community, who recognized the relevance of these guidelines to promote socio-cultural transformation in the community.

In the community context, the need for systematic training of local community actors in ICTs and the wide range of possibilities offered by these technologies was emphasized in order to promote not only the acquisition of knowledge about them, but also the development of skills, abilities, values and evaluations in relation to these technologies, so as to encourage their appropriate use with a view to promoting the rescue, preservation and dissemination of the entire community culture.

In general, the exchange with local actors revealed a high level of motivation and satisfaction with the proposed actions in terms of the socio-cultural development of their community, although, although the majority recognized the existence of the necessary technological infrastructure for the practical implementation of these actions, they also insisted on the importance of updating and renewing the technological equipment currently in use in the community.

Conclusions

The methodological guidelines designed serve as a prelude to and at the same time support a pedagogical strategy for university extension, through the use of ICTs in rural communities, which presupposes a new dynamic for this process based on permanent dialogue, mediated by these technologies, between the university actors linked to the extension process and local actors.

The methodological guidelines designed corroborate the need for a more flexible and diversified ICT-mediated extension process dynamic, based on the multiple possibilities that these technologies can offer in relation to efficient and expeditious information and communication related to the rural community in question and take advantage of it in terms of its socio-cultural transformation and development.

The proposed methodological guidelines contribute to the successive levels of achievement of participants in the ICT-mediated extension process in rural communities.

The favourable opinions expressed by local actors in the rural community of San Benito, in the municipality of Second Front, in Santiago de Cuba, showed the relevance and feasibility of this result, making it a viable alternative for improving the university extension process, with the use of ICTs, which can be generalized to other communities, taking into account the particularities of each one.

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