

Didactics of teaching the use of medicinal plants in the school medicinal garden.

Didáctica de la enseñanza sobre el uso de plantas medicinales en la huerta medicinal escolar



Bertha Hilda Bravo Mena*
Claudia Patricia Noscue Zapata*
María Gloria del Rosario Cuaran Chapid*

Abstract

The objective of this project is to implement a school medicinal garden where students carry out practical activities that lead to the cultural strengthening of the Cofán people. For this purpose, a participatory action research is carried out using the instruments that lead to collect the necessary information. Among them, interviews and surveys were applied to a group of people from the community to identify the level of knowledge about the use of medicinal plants, the categories and population were defined taking into account the identified problem. The result obtained was the articulation of practical activities from the school medicinal garden where students are facilitated to manipulate and observe directly the plants to facilitate their learning in a meaningful way in the use and care of them. In such a way that the school is able to demonstrate the sense of belonging and love for their culture from their worldview, respect for the rules, valuing and caring for plants as they have always been of great benefit for millennia for humanity, especially for indigenous peoples. In addition, the participation of the community and the medicinal garden to continue practicing in the academic work of the students. In conclusion, there is a collection of information from the educational community as connoisseurs of the culture, which allows

*Master's Degree in Education from Corporación Universitaria Iberoamericana, taberbravo@gmail.com, <https://orcid.org/0000-0002-7780-4889>

*Master's Degree in Education from Corporación Universitaria Iberoamericana, Patyc1423@hotmail.com, <https://orcid.org/0000-0001-6911-6210>

*Master's Degree in Education from Corporación Universitaria Iberoamericana, <https://orcid.org/0000-0002-0706-1004>

Sinergias educativas

January - March Vol. 9 - 1 - 2024

<http://sinergiaseducativas.mx/index.php/revista/>
eISSN: 2661-6661

revistasinergias@soyuo.mx

Page 31-46

Received: October 08 , 2023

Approved: December 09 , 2023

to have as a contribution to the institution information according to the needs of the community.

Keywords: Medicinal plants, cultural strengthening, Cofán indigenous people, pedagogical didactics.

Resumen

El objetivo de este proyecto es implementar una huerta medicinal escolar en donde los estudiantes realicen actividades prácticas que conlleven al fortalecimiento cultural del pueblo Cofán. Para ello, se realiza una investigación acción participativa haciendo uso de los instrumentos que conlleven a recolectar la información necesaria. Entre ellas se tiene en cuenta las entrevistas y encuestas que se aplicaron a un grupo de personas de la comunidad para identificar el nivel de conocimiento sobre el uso de plantas medicinales, las categorías y población se definen teniendo en cuenta el problema identificado. Como resultado obtenido fue la articulación de actividades practicas desde la huerta medicinal escolar en donde los estudiantes se les facilita manipular y observar de manera directa las plantas para facilitar su aprendizaje de manera significativa en el uso y cuidado de las mismas. De tal manera que desde la escuela se logra evidenciar el sentido de pertenencia y amor por su cultura desde su cosmovisión, el respeto por las normas, valorar y cuidar de las plantas ya que siempre han sido de gran beneficio por épocas milenarias para la humanidad en especial para los pueblos indígenas. Además, la participación de la comunidad y la huerta medicinal para seguir practicando en el quehacer académico de los estudiantes. En conclusión, se cuenta con la recopilación de información de la comunidad educativa como conocedores de la cultura lo que permite tener como aporte a la institución una información acorde a la necesidad de dicha comunidad.

Palabras clave: Plantas medicinales, fortalecimiento cultural, pueblo indígena Cofán, didácticas pedagógicas.

Introduction

The objective of this article is to present a strategy aimed at the cultural strengthening of the Cofán people through the use of medicinal plants with fourth grade students. This work is characterized for being a fundamental element in the cultural identity according to their cosmovision, since the knowledge could be identified as botanical knowledge that gathers an extensive knowledge about diverse plants that through specific preparation recipes can alleviate and cure physical and spiritual illnesses. From

this perspective, it is said that cultural knowledge about medicinal plants is traditionally transmitted by grandparents and parents to children in the home or other community spaces. For this culture it is said that when medicinal plants are cultivated, cultural practices are taught, but also community work is practiced, which is a very important value for the culture.

In addition, it strengthens the learning of the mother tongue, that is, A'ingae, to name their world in their mother tongue. In other words, it seeks to awaken their interest and appropriation of their culture by putting into practice the use and care of medicinal plants to cure the most common diseases in their context. To do this, a group of students, teachers and parents of the institution is taken into account, knowing that they are the right people to provide the necessary information.

Regarding the concept of cultural strengthening, (RUIZ, 2007). For its part, traditional and popular culture was defined by UNESCO in the Recommendation on the Safeguarding of Traditional Culture and Folklore (1989) as: The set of creations emanating from a cultural community based on tradition, expressed by a group or individuals and recognized as responding to the expectations of the community as an expression of its cultural and social identity; norms and values are transmitted orally, by imitation or in other ways. Their forms include, among others, language, literature, music, dance, games, mythology, rituals, customs, handicrafts, architecture and other arts.

The preamble to the above-mentioned UNESCO Recommendation states that traditional or popular culture "forms part of the universal heritage of humanity and is a powerful means of bringing peoples and existing social groups closer together and of affirming their cultural identity. The two aforementioned concepts (culture and traditional and popular culture) state that there is not a single culture but a multiplicity of cultures that share or do not share a certain time and space. "This diversity is manifested in the originality and plurality of the identities that characterize the groups and societies that make up humanity".4 (196).

This work is relevant for the indigenous communities of the Cofán people because it is aimed at creating a sense of belonging to their culture, strengthening cultural identity as a legacy of the elders who have left us to transmit to each generation according to the law of origin. Based on the above, a series of activities are presented which will be appropriate to their cultural context where they can develop purely cultural knowledge, in such a way that cultural values are given relevance and the survival of the native peoples is guaranteed, where the school as a promoter of critical knowledge and colonial

thinking is the means by which this valuable knowledge is shared with future generations. It is a resource of great importance since it has a direct connection with Mother Nature.

Materials and methods

The author (Cavariá, 2006). In qualitative research, knowledge of reality is constructed and reconstructed through the interactions that take place between different actors. Negotiation refers to the consensus reached before, during and after fieldwork to establish certain conditions and ethical principles in which data production, analysis, discussion and socialization take place. It is ensured that all the people participating in the research accept the research as an act that produces knowledge and therefore has a potential to improve educational or social practices. It is guaranteed that the information that may involve some risk will be confidential.

Access to the field also requires other negotiations, although research problems can be studied in different particular contexts, we seek some criteria to choose the field where the research will be developed, which does not depend only on us but on other factors such as access to institutions and personal and documentary sources among others , (PP,46).

This research takes into account participant observation, survey and interview. Participant observation consists of the systematic observation of situations, behaviors, perceptions, which are visualized in the students during the development of the proposed activities, which allows an analysis of the impact on the community during the development of the proposal. For this, one of them will be the participant observation, the interview and the survey. Based on the above, this concept is strengthened by the contribution made by, (Badilla Cavariá, 2006)(Badilla Cavariá, 2006), in his journal where: for this, research is supported by methods and techniques that allow analyzing, explaining and interpreting thoughts that make sense to the people who participate in the research (PP. 46).

On the other hand, (Godinez, 2010 (5),). Speaking of the technique, this is explained as the way to go through the path outlined in the method; they are the strategies used to collect the required information and thus build the knowledge of what is being investigated, while the procedure refers to the conditions for the execution of the technique. The technique proposes the rules for ordering the stages of the research process, likewise, it provides instruments for collecting, classifying, measuring, correlating and analyzing data, and provides science with the means to apply the

method. Techniques allow the collection of information and help the method to exist.

In this way, as research instruments for the collection of information, the research group has selected the survey and interview to carry out a diagnostic information to identify the level of knowledge in the use of medicinal plants, in the staff of the educational community of the Santa Rosa del Guamuez Ethnoeducational Institution. It is mainly carried out in a group of people that have been focused to develop the project through surveys to parents, students, teachers and wise men and women or grandparents. The interview to the traditional doctors since they are the ones who have all their knowledge of traditional medicine from their wisdom and cosmovision.

Among the instruments used was the field diary, which helped us to keep more detailed information on each of the activities, allowing us to record the interests, strengths, weaknesses, and difficulties of the students. The camera to record the photographs and to have as evidence during the implementation of the project, the recorder allowed us to obtain the necessary information narrated by the traditional doctors from their ancestral wisdom and thus be able to record in the necessary documentaries to then capture in the research project. It should be clarified that each one is essential to record the observed facts.

The Santa Rosa del Guamuez Rural Ethnoeducational Institution was created by resolution No. 00365 of March 11, 2003. It is located in the Santa Rosa del Guamuez reservation, municipality of Valle del Guamuez, department of Putumayo, its municipal seat is known as La Hormiga and is located 150 km from Mocoa. It is the fourth most populated municipality in the department, with a population of 51,842 according to the census. The municipality has a land area of 871 km and borders the municipalities of Orito, Puerto Asis, Ipiales and San Miguel on the border with neighboring Ecuador. Most of the municipality's inhabitants make a living from agriculture, fish farming, poultry farming, livestock, and raising small livestock. The people are friendly and supportive; unfortunately, they have had to live through times of conflict due to the coca bonanza, the presence of illegal armed groups, and oil exploitation, which has caused an imbalance in Putumayo's territory. Within the population served, it is detected that most of the families are heads of households, there is also family disintegration due to the same conflict, most fathers and mothers have not completed higher education, some went to primary school and others to high school, 80% of students belong to the socioeconomic stratum zero (0) and 20% extract one (1), the

livelihood is based on planting and sales of agricultural products, others in small vendors in the municipal capital.

Regarding the context in which the research is carried out, we rely on a concept of

(Cavaría, 2006) Reality is constructed and reconstructed, therefore it is necessary to know the phenomena that occur in it, to explain them, to understand them in order to interpret them. The context is important. It is not interesting to reach generic conclusions, but what is interesting is to know in depth each situation, each particularity, (p. 44).

The population of the institution is mostly of Cofán culture and to apply this project a group of 16 fourth grade students was selected, who are between the ages of 9 and 14 years old. The schooling level of the parents is between second and fifth grade of elementary school, although very few have up to sixth grade, the education provided is intercultural bilingual. In view of the fact that the institution has nine widely dispersed sites with different cultures Cofán, Embera Chamí, Pastos, Nasas, settlers, Venezuelans and Afro-descendants, it was necessary to implement a boarding school strategy to better serve indigenous students. In addition, the majority population is served, thus allowing inclusion in this ethno-educational institution. Taking into account that the institution is located in Cofán territory, a group of students from the Cofán population has been selected for the implementation of the project and to strengthen the culture of this people according to their worldview.

According to the concepts found regarding the variables, (Freire1, 2018). The elaboration of the theoretical design, which requires the determination of the problem, the object of research, the field of action, the objective, the hypothesis and its variables, or scientific questions or ideas to defend, the tasks and the schedule. The hypothesis is a conjecture, supposition or previous answer to the scientific problem under investigation, it is expressed in the form of an affirmative statement, generally linking two elements or aspects, which are called variables.

The variables intervene as cause or effect in the research process. The variables to be investigated are identified from the moment the problem is defined.

The hypothesis, the scientific questions, or the idea to be defended, establishes that aspect that characterizes the relationship between the object and the problem.

Variables are factors that intervene either as a cause or as a result within the process or phenomenon of reality, forming an essential part of the structure of the experiment.

When studying the hypothesis we express the term variable which we define as the quality or property of an object that is changeable or improvable in some way and summarizes what we want to know about the object of research, (PP, 40).

We sought to observe how medicinal plants in the space of a school medicinal garden have a positive or negative impact on the process of cultural strengthening and revitalization of the Cofán people. For this purpose, two categories were defined that support this project and lead to cultural strengthening. Each category is strengthened in a theoretical way at international, national and local level in order to collect contributions to the proposed project, thus achieving the objective by unifying the contributions of authors who share their experience and thoughts through technological means and are valuable for society.

The procedures for this research are carried out taking into account the order of the objectives and the instruments that are taken into account are in accordance with the research, which allows collecting the necessary information and thus obtaining good results after the application of the project.

Among the information techniques are: participant observation, survey and interview. Participant observation consists of the systematic observation of situations, behaviors, perceptions, situations and behaviors experienced by the students during the development of the proposed activities, which will allow detecting the difficulties or shortcomings presented by the students during the implementation and development of the research on the use and recognition of medicinal plants in the environment.

About the author's field diary, (Carbó, 2007) Field diaries are written texts in which the scientist and/or professional (or student in training) records those events that occur in the day to day of his/her professional or academic experience and that are particularly significant to him/her (PP 14).

Regarding the survey, a contribution was found from: (Licea3, 2020) On the other hand, Acosta (2016) states that the questionnaire constitutes a series of questions, in order to apply them within a survey or an interview. In this same sense, in Difference between survey and interview (2018), the same is assumed as the structural component of the former, which allows the collection of

information. This epistemological position exposed in the paragraph is the one functionally shared by the authors of this paper: the questionnaire as the structural component of both methods.

Each of these techniques was supported by instruments such as participant observation and field diaries, as a means to collect detailed information and its respective decoding, which will be decoded and concepts will be elaborated from the real perspective.

Results

The result of this research is directed in the detailed description of the findings of the general objective (Strengthen the cultural knowledge on identification, care and use of medicinal plants through the implementation of the school medicinal garden with children of fourth grade of the IER Santa Rosa del Guamuéz - municipality of Valle del Guamuéz) using the instruments selected for each activity.

As the first objective (To identify with the elders the medicinal plants of the Cofán people existing in the Cofán reservation of Santa Rosa del Guamuéz where the central headquarters of IERSRG is located), the application of surveys is taken into account in order to obtain a diagnosis on the level of cultural knowledge based on the knowledge and use of medicinal plants of the Cofán culture in the educational community. For this purpose, the support of traditional doctors and traditional medicine experts who provided the corresponding information was taken into account.

In the application of surveys to the selected people, it was found that their level of knowledge and use of medicinal plants is very low. They state that they know medicinal plants in general but not in their Cofán culture. In addition, they express that in the family they make little use of medicinal plants because they go more to pharmacies or the hospital. In other words, it is evident that most of them know about the importance of medicinal plants, but they do not put them into practice in their homes.

As for the parents, it can be said that they make little use of medicinal plants due to lack of knowledge and another reason is because they turn to external medicine because they believe it is easier, others think that both medicines are important, practicing their own first, since sometimes they are diseases caused by nature and that only spiritual doctors can cure. On the other hand, very few people make use of them and mention that they are important because of their effectiveness in curing the most common diseases in their family.

They also propose that it is necessary to teach the children at home and in the community to give talks to exchange knowledge, in order to strengthen the cultural identity of the Cofán people.

Next, it was found that the knowledge and use of medicinal plants among teachers is very low because, according to the results, they mention that nowadays they give more value to medicines from pharmacies because they think that they heal faster. In other words, the creation of diverse EPS has allowed to forget the own thing since each one goes to a treatment with specialists and to withdraw their medicines. On the other hand, it is said that from the institution this value and use of medicinal plants is not practiced, that is why it is believed necessary to do research and create a medicinal garden from the institution to direct the students from there in the cultural strengthening.

During the interview with the traditional doctors of the Cofán people, it is evident that there is a lot of knowledge from which we were able to collect much of the information because they handle medicinal plants. They also stated that they make use of them to cure different diseases, but the youth no longer value them and rarely use them. In addition, they see the need to strengthen this important knowledge in the children of the institution so that this value is not lost and is transmitted to other generations. In this way the plants are strengthened because they are also ending and there are no plants that existed in the past, among several plants of which they make use the most essential is the yagé plant with which the Cofán people are identified to cure many diseases for several centuries since its origin.

However, there are people in the community, especially the elderly, who still make use of medicinal plants to treat illnesses, so it is necessary for children and young people to learn from school by organizing a medicinal garden to collect plants and thus be able to preserve them, as well as to practice their knowledge.

On the other hand, it was found that parents and community no longer value traditional medicine because they prefer other medicine, parents do not let their children know the use of medicinal plants because they accept other customs forgetting their own. In other words, it is unfortunate but the knowledge leaves a vacuum in each village, because the grandparents and traditional doctors are leaving.

The implementation of the school medicinal garden is carried out in compliance with the second objective after having collected information through surveys, interviews, field diary, photographic records and then proceeding to planting under the guidance of

traditional doctors, and taking into account the rules in the use, care and planting of the same. For this purpose, fourth grade students were targeted and each of the activities were carried out with them. Then, we talked with the rector for the destination of the place where the garden will be installed, which is a space of 7m wide X 20 m long; once the land was located, we proceeded to the adequacy or preparation of the same.

Next, we continued with the visit to some grandmothers and wise men of the community to collect the plants that will be planted in the institution's vegetable garden. The plants that were collected were named in their own language by the grandmothers and doctors of the culture, through this visit the grandparents or wise men stated that the language can also be taught through the manipulation of the plants. Therefore, the students are motivated to pronounce the name of each plant in their own language and in Spanish, achieving an intercultural learning to comply with the profile that the communities always dream of. On the other hand, the active participation of the majority of students is evident as a result, of 16 students focused only three show disinterest in going to work in the garden, expressing phrases asking the time of departure from work, and gestures of laziness. But the others participate and ask questions related to the learning and use of medicinal plants, they show gestures of encouragement, attention, concentration when the doctor is narrating the orientations.

When the students arrived at the respective garden, the doctor oriented them to sow by eras to make it more orderly, then each student was given a plant to sow and take care of it, the students were again highly motivated in sowing and a minimum amount showed disinterest. As they sow, the doctor motivates them in the pronunciation of the name of the plant in the language to facilitate their learning.

the structure of the name of each one in the Cofán language was implemented. To do this, each student was given a 10 cm wide and 25 cm long tablet on which to place the name in both the Cofán and Spanish languages. Then, place on each plant its respective name. It should be noted that, through manipulation, interaction and continuous dialogue, the knowledge imparted is better assimilated; as the work was being done, the doctor oriented from his cosmovision the importance of the plants within the indigenous cultures, especially for the Cofán people, as well as the cultural norms to be taken into account in planting. He also reminds them to keep in mind that each plant must be planted facing the sun and to be aware that during the first days of planting, water must be poured

every day so that it does not dry out. Then, a visit is made once a week or when necessary to verify the growth of each plant, as well as the replanting of those that have not germinated. Thus, the planting was done and this work was a great contribution to the student population, especially for the Cofán people. It also gave them the opportunity to visualize and manipulate the plants and to make good use of them when they need to cure a disease. According to the version of the educational community, the medicinal garden is a great contribution to the institution as a strategy for meaningful learning from the cultural part for the student population, so that they appropriate this knowledge and are the ones who impart it to other generations.

To allow them to take care of the territory as a sacred space that the creator left to take care of them since it is there where the diversity of medicinal plants and all the cultural identity of indigenous peoples are found, to love nature as the cultural environment that produces all kinds of living beings for the survival of humanity, including spirituality.

Fulfilling the third objective which deals with the elaboration of a didactic recipe book to cure the most common diseases that occur in the school population of the institution. This activity takes into account the results of interviews with traditional and wise doctors who make use of medicinal plants and know the rules from their worldview. After having the information and having implemented the sowing of the school medicinal garden, a recipe booklet was elaborated as a didactic material for the population of the institution where they have the opportunity to acquire better knowledge in a theoretical and practical way. The recipe book contains the plant with its respective name in their own language for cultural strengthening of the Cofán people; in order to make learning more meaningful from the cultural part that leads to be students defenders of the culture, guardians of the territory, who love and value their culture. In this way the institution has children and young people competent in intercultural knowledge, and they will be the bearers of knowledge to other generations, transcend their knowledge through the practice and use of medicinal plants.

Discussion

Relating the research project, what was observed during the application of activities and the analysis of the target population, it has been identified that there are positive similarities from the theoretical framework. With regard to the contributions on traditional medicine, it

was found that in a documentary film (online, 2021) on Cultural Empowerment in Indigenous Peoples. From the vision of the community where the project was applied, it is a community of Cofán nationality where there is an idea created by a group of elders of this culture, which originated in a ceremony of yagé, here they analyzed the problems that were being experienced which has to do with the loss of cultural identity and that the people were becoming extinct for various reasons that are currently being experienced; the elders are concerned because other external cultures have invaded their own, not only the culture but also the minds of the youth.

They express that the youth no longer think and act as indigenous people because they give value to the external and forget their culture, they are ashamed of their own. For this reason, they have created their own integrated and intercultural model that involves not only the Cofán people but also other indigenous and external cultures that make up today's society. For this reason, they organized themselves to create a proposal to strengthen the cultural identity through the practice of customs and traditions, an education according to their needs and context so that the Cofán people continue to survive along with other cultures with which they share the territory.

For this reason, we found that the arguments from the theoretical framework for the research group are one more contribution that enriches the process of self-education that the institution is applying. In other words, it has been identified that there are organizations from different parts of the world that make their contributions in favor of the cultural strengthening of the diverse indigenous peoples. Likewise, there are cultural policies, institutions and even legal frameworks that have advanced in processes of recognition of the diversity of indigenous peoples and safeguarding their heritage, their own languages that still exist despite the various causes and invasion that they have faced for several decades. In addition, we consider that the application of this project is a great contribution to motivate the educational community, generating another evidence within the educational process that is being developed in each of the cultures of which our institution is made up.

Next, another of the findings that lead to the strengthening of the cultural identity of our indigenous communities was the contribution made by (Maritza Gallegos-Zurita, 2016). Where she gives us a great argument about medicinal plants which for each of the peoples are a great element that guides towards cultural identity, it is life, health, welfare and survival many years of existence. It is one of the contributions with a similar vision to the one that is carried, since

our elders from their cosmovision, wisdom and own experience yearn that the youth from the family and school context put into practice the use of medicinal plants. That is why the contribution of this article is in accordance with the objective that was raised and related to the project, where it is about the importance of plants and the healing power they have in the cure of diseases called spiritual because they occur in nature caused by spirits and that only healers or taitas with their wisdom treat them, other diseases of the body are also cured with medicinal plants whether serious or mild.

Another contribution that was found within the theoretical framework was the recognition of the constitutional and legal rights that indigenous peoples have for their survival. (Botero, los pueblos indigeas en colombia , derechos politicos ydesafios, 2003) in his article gives us guarantees to continue existing as cultures or original peoples under the recognition of constitutional rights that protect us. That is why from this project as a research group we leave a seed in the targeted children to continue germinating towards the cultural strengthening from the appropriate use of medicinal plants, which are the bearers of cultural knowledge and can share with others to continue surviving in the defense of their rights.

Therefore, it also directs us in the way of putting into practice the beliefs as another fundamental element for the strengthening of the cultural identity, their ways of life, the practice of their native language, among a whole set of uses and customs from the law of origin of each people. That is why it was necessary to provide their own education in which they can be oriented from preschool to tenth grade, teaching from different spaces such as the medicinal garden, the chagra, the ceremonial house and other spaces provided by nature. Taking as a methodological strategy the games, stories, use of medicinal plants from the family and school context, crafts, spiritual ceremonies, songs and others. All this knowledge is based on their own education as expressed by the elders in their own intercultural educational model.

Also (TATTAY, 2012)in his article gives us a great contribution on the origin of the own education through the creation of an own educational model of the Nasas indigenous brothers of the department of Cauca, in the finding we can say they have the same vision in the defense of an own education that guides students in the cultural strengthening, defense of their rights, caretakers of the territory, who love their culture and if they keep their culture alive so that the peoples do not end.

From the background, we contrast the theories found in each of the two categories, from the international to the local part. In the first

category that refers to the school medicinal garden, one of the authors at the international level manifests in his article in front of contraindications and precautions of the use of medicinal plants. (QUINTERO, 2018). From our point of view we believe that the author has a little insecurity in front of the use of medicinal plants, since according to his concept medicinal plants should have a record of indications so that people can use and thus not have inconveniences. On the other hand, from his point of view he adds that there should be a registry of plants registered by INVIMA for such purposes, otherwise these can have negative consequences in people who use medicinal plants.

Faced with this concept and the versions that we have made to traditional doctors who many years carry their experience and wisdom that Mother Nature has given them, we believe that the author is right when he says that it must be a risk, but this happens when the plants are used and oriented by people who do not know well. Because if we go to a traditional doctor or taita as it is called according to the cosmovision to which he belongs, he knows the necessary quantities for the treatment according to the disease and the age of the person. From our concept we would say that it is advisable to go to a real wise man as the elders say in case we are going to be treated by a traditional doctor depending on the disease, because there are also diseases that western doctors do not have the ability to cure and a traditional doctor does, or it may be the opposite. In other words, it should be clarified that for us as indigenous people we have learned to value our own medicine and the external one, in the same way the doctors because both are important for society, from the knowledge acquired during this process of the master's degree it is said that there should not be exclusion, but there should be inclusion in different spaces or contexts, in this case the knowledge in health, both are important.

On the other hand, there are other concepts that continue to be contributions to the proper and intercultural education that our institution imparts in order to comply with the mandate of the elders. Because they are similar theories to what our wise men have thought that if knowledge is not practiced, cultures disappear. Therefore, it is necessary to implement the school medicinal garden and even in the curricula of natural sciences as a teaching strategy from the school as well contributes an author at national level in his article. Reasons that justify the inclusion of ethnobotany teaching in natural science curricula. (EMIRA., 2019). Now, given the usefulness of medicinal plants for the manufacture of medicines and the cure of many pathologies; Bermúdez A, Oliveira M and Velázquez D; (2005) justify the inclusion of ethnobotany teaching in natural

science curricula, as a way to rescue ancestral knowledge and to have documented information on useful species for the development of new medicines. Other authors who highlight the importance of including the teaching of ethnobotany in the curriculum are: Berrio A & Panare V;(2017), who present an intercultural curricular proposal for the teaching of ancestral knowledge, in such a way that it integrates the teaching of scientific school knowledge and ancestral knowledge; Gómez, A, (2011 p 522) says that the teaching of biology should contain elements that are not necessarily in the curricula and that students of science, in general and biology in particular, are expected to acquire a scientific literacy that goes far beyond the knowledge of content.

This is how our institution has been projected in providing education according to the needs of the communities where the concepts contributed by the authors in this research are consistent with what is lived and practiced in the institution, therefore, there are already some area plans articulated in the own and western themes taking into account the inclusion. It is very satisfying for the research group to have found the contributions known and with the same thought in favor of the defense of our rights, to watch over the cultural strengthening of the different cultures that still exist in the whole Colombian territory.

At the local level it was also found that Jajoy Jajoy, cruz Evelin; Jajoy Jajoy, Segundo Basilio (2020), La chagra inga como escenario de aprendizaje de las ciencias naturales. As can be seen it is a contribution of our indigenous brothers on the importance of the orchard in the institution, that is, there is an opportunity to share knowledge to students in a practical way, sharing knowledge in the chagra allows another way of teaching, it is a space of significant cultural knowledge that makes a difference to other educational institutions.

References

- Badilla Cavaría, L. (2006). FUNDAMENTALS OF THE QUALITATIVE PARADIGM IN EDUCATIONAL RESEARCH. *Revista de Ciencias del Ejercicio y la Salud*, 4(1), 42-51. Madrid: Síntesis.
- Botero, E. S. (October 8, 2003). INDIGENOUS PEOPLES IN COLOMBIA Rights, Policies and Challenges.
- Carbó, P. A. (2007). REFLECTIVE TRAINING AS A PROFESSIONAL COMPETENCE. PSYCHOSOCIAL

CONDITIONS FOR A REFLECTIVE PRACTICE. THE FIELD DIARY AS A TOOL (30).

EMIRA, P. M. (2019). The teaching of biological ancestral knowledge- "ethnobotany". Debate on the need, how and why to include them in the curriculum of natural sciences in Colombia- particular case of ethnobotany Chocoana. Degree work: presented as a partial requirement to obtain the degree of: Universidad Pedagógica.

Jajoy Jajoy, C. E. (2020). The Inga chagra as a natural science learning scenario.

Godínez, V. L. (2010 (5)). https://d1wqtxts1xzle7.cloudfront.net/36745474/Metodos_tecnicas_e_instrumentos_de_investigacion_1-libre.pdf?

Retrieved from https://d1wqtxts1xzle7.cloudfront.net/36745474/Metodos_tecnicas_e_instrumentos_de_investigacion_1-libre.pdf?

Cavariá, L. B. (2006). FUNDAMENTALS OF THE QUALITATIVE PARADIGM IN QUALITATIVE RESEARCH. *Journal of Exercise and Health Sciences*, 4(1), pp. 42-51.

Freire, E. E. (October 2018). <http://scielo.sld.cu/pdf/rc/v14s1/1990-8644-rc-14-s1-39.pdf>.

Retrieved from THE VARIABLES AND THEIR OPERATIONALIZATION IN EDUCATIONAL RESEARCH.

Maritza Gallegos-Zurita, a. (September 12, 2016). Medicinal plants: main alternative for health care, in the rural population of Babahoyo, Ecuador. original articles.

TATTAY, G. B. (May 24, 2012). Self-education: a reality of educational and cultural resistance of the peoples.

QUINTERO, C. F. (November 2018). ANALYSIS OF THE TRADITIONAL USE OF MEDICINAL PLANTS THAT ARE