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ORIGINAL ARTICLE

Hybrid Model of Regional Educational Identity for marginalized areas in the Otomí Tepehua region, Mexico

Modelo Híbrido de Identidad Educativa Regional para zonas marginadas en la región Otomí Tepehua, México

Modelo híbrido de identidade educacional regional para áreas marginalizadas na região de Otomí Tepehua, México

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KEYWORDS

distance education,
hybrid, identity,
educational model,
poverty.

ABSTRACT. The objective of this work was to integrate a Hybrid Model of Regional Educational Identity for marginalized areas of the Otomí Tepehua region, in the east of the state of Hidalgo, Mexico, whose purpose is to reinforce distance education for areas with a high degree of vulnerability. It was a qualitative, descriptive, non-experimental, cross-sectional and in situ investigation based on theoretical references through grounded theory, the data collection technique was semi-structured in-depth interviews. The result was to integrate the endogenous and exogenous forces from the data obtained from the context in a model with each of its variables and the requirements for its implementation, it was concluded in a reflection of the attempts that governments of all levels and of Theoreticians have presented given the COVID-19 scenario, in the urgent need for adequate connectivity in the study area and in the need to consider holistic, flexible, regional and global learning, and include concepts that come from its uses, customs and form. of life integrated into an international reality.

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PALABRAS CLAVE

educación a distancia,
híbrido, identidad,
modelo educacional,
pobreza.

RESUMEN. El presente trabajo tuvo por objetivo integrar un Modelo Híbrido de Identidad Educativa Regional para zonas marginadas de la región Otomí Tepehua, en el oriente del estado de Hidalgo, México, cuyo propósito es reforzar la educación a distancia para áreas con un grado alto de vulnerabilidad. Fue una investigación de tipo cualitativa, descriptiva, no experimental y con corte transversal e in situ a partir de referentes teóricos mediante teoría fundamentada, la técnica de recolección de datos fue entrevistas semiestructuradas a profundidad. El resultado consistió en integrar las fuerzas endógenas y exógenas a partir de los datos obtenidos del contexto en un modelo con cada una de sus variables y los requerimientos para su implementación, se concluyó en una reflexión de los intentos que gobiernos de todos los niveles y de teóricos han presentado dado el escenario COVID-19, en la urgente necesidad de conectividad adecuada en la zona de estudio y en la necesidad de considerar al aprendizaje holístico, flexible, regional y global, e incluir conceptos que provengan de sus usos, costumbres y forma de vida integrados a una realidad internacional.

PALAVRAS-CHAVE

educação a distância,
híbrido, identidade,
modelo educacional,
pobreza.

RESUMO. O objetivo deste trabalho foi integrar um Modelo Híbrido de Identidade Educacional Regional para áreas marginalizadas da região de Otomí Tepehua, no leste do estado de Hidalgo, México, cujo objetivo é reforçar a educação a distância para áreas com alto grau de vulnerabilidade. Tratou-se de uma investigação qualitativa, descritiva, não experimental, transversal e in loco, fundamentada em referenciais teóricos por meio da teoria fundamentada, a técnica de coleta de dados foi a entrevista em profundidade semiestruturada. O resultado foi integrar as forças endógenas e exógenas dos dados obtidos do contexto em um modelo com cada uma de suas variáveis e os requisitos para sua implementação, concluiu-se em uma reflexão das tentativas que governos de todos os níveis e de Teóricos têm apresentado diante do cenário COVID-19, na necessidade urgente de conectividade adequada na área de estudo e na necessidade de considerar a aprendizagem holística, flexível, regional e global, e incluir conceitos que advêm de seus usos, costumes e forma. de vida integrada para uma realidade internacional.

1. INTRODUCTION

The Economic Commission for Latin America and the Caribbean (ECLAC) affirms that in Latin America the number of individuals who have internet has grown by more than 50 percent in 2016, however, according to the same source, more than 200 million Latin Americans do not have this service (ECLAC, 2018). In this sense, fixed broadband subscriptions (per 100 people) in Mexico were 15,029 percent in 2019 (World Bank, 2022).

According to the National Council for the Evaluation of Social Development Policy (CONEVAL, 2020), the Social Gap Index (IRS) manages to identify the municipalities and localities from higher to a lower degree in the variables of education, access to health services, basic housing services, its quality in household assets and provides a summary of these deficiencies. Marginalization is a multidimensional phenomenon where the lack of opportunities and unequal distribution of the progress of the productive structure is revealed, the marginalization index by state and municipality allows identifying the areas that lack basic services (CONAPO, 2020), In parallel, poverty is understood as a conceptual part of the standard of living below a certain threshold of life (Boltvinik, 2003).

Given the above, it is imperative to understand poverty and marginalization and how education and information technologies can support the development of educational delivery through hybrid processes to highly marginalized communities, especially in spaces that have experienced the gathering and educational backwardness given the COVID-19 pandemic, and how with adequate public policies innovative proposals can be generated, respectful of the uses, customs, traditions that preserve said knowledge that has existed for generations until today. In this sense, the constant and permanent presence of Information and Communication Technologies (ICT) is the opportunity and the challenge to achieve the development of hybrid learning

environments in marginalized areas and inclusive societies in the generation of knowledge, since education has been considered as an element that links cultural integration, social and productive development in communities (UNESCO, 2013). Emphasis should be placed on the digital divide and the implication it has on the unequal condition of development of countries and regions (Nolasco, 2017). Likewise, it is important to expose the relevance of ICTs for communities and their community development in an approach of digital technologies to minority ethnic groups, a situation that is important according to what is currently being addressed (Ramirez, 2018). In the strict sense of distance education, the theoretical reference is presented regarding the different authors who have built knowledge for this purpose.

Firstly, emphasis should be placed on the creation of a distance model with adequate platforms that responds to the new paradigms of education in response to universities, this quantitative research sought the detection of educational needs through multiple linear regression, it is striking how presents distance knowledge and its comparison with the variables of classroom learning through a digital platform in educational management, the same research shows how ICT can solve educational needs in the commitment of Higher Education Institutions (IES) with educational quality in what the author mentions as Distance Education (EaD). The research makes a diagnosis in three educational programs that are offered in the non-school and distance modality of the Cuautitlán Izcalli Professional Academic Unit of the Autonomous University of the State of Mexico (AUPCI of the UAEM) (Gutiérrez-Pallares et al., 2020).

In parallel, the proposal of the Digital Nodes, whose purpose is to intervene socially for the progress of vulnerable communities, at the same time a digital node model and its incursion into non-formal education is presented, where it is worth noting 8 levels of service that it presents which descendingly (Nolasco-Vázquez & Edel-Navarro, 2020), focuses its model on contemporary adults and 13-year-olds without access to any type of education and direct their efforts to a blended model in a context where historically and whose Marginal conditions justify working on a learning proposal through digital nodes where, although it is necessary to provide basic services such as electricity, health, security and general services, education is essential for community prosperity.

On the other hand, the educational policies implemented by the Mexican government in the face of COVID-19 are lacking in ICT culture, as well as in connectivity and availability of technology in education and to reformulate the curriculum for basic education (Navarrete Cazales et al., 2020).

According to the context, it is pertinent to mention the indicators of inequality: the Gini Coefficient where Mexico is located among the countries with the highest levels of inequality, that is, in the 119th place out of 151 and the income that is between the 90th percentile and the 10 and indicates the number of times of income that a person receives in its upper limit with another person in the lower limit, in addition to the Palma index that consists of obtaining the arithmetic relationship between the income share of the 10 percent with the highest income and the participation of the 40 percent with the least income (Esquivel, 2020).

It is convenient for this research to mention the appropriation of ICTs by communities in an active way, always respecting their customs and traditions (le Mur, 2018).

The concept of community development and encouraging human beings to promote their own development to improve their standards of living without abandoning global requirements has been key to this research, always taking into account roots and belonging (Serrano & Gómez del Campo, 2006).

The current problems slow down the development of distance education and propose elements for the instances responsible for venturing into blended modalities (García et al., 2020). At the same time, the teacher must make an approach to the context, in addition to clarifying the purpose and verifying the means that will contribute to it, the author considers that the fact that cybernetics replaces the teacher is far away, however, he believes that the teacher must diversify their skills with other resources (Mendoza Castillo, 2020), in addition to migrating from face-to-face to virtual (distance) education without trained teachers and adequate infrastructure is a challenge, in addition to the lack of guidance to the student on how to behave without the presence of the teacher (Fernández et al., 2020).

It is important to mention how the pedagogical and curricular concepts of a face-to-face model are brought into a virtual model where there are inconsistencies related to evaluation criteria and techniques, activities and study methods (Parra, 2020). In addition, how the role of the teacher influences to obtain success in the student's training and how the student autonomously develops technological skills where he is the protagonist of his own development in his activities and work (Rizo, 2020). It should be noted that the so-called "emergency" pedagogical practices are useful for revising models and creating new learning environments where new technologies are made the most of (Lugo & Loíacono, 2020).

The design of hybrid models that facilitate the fluid transition between face-to-face and non-face-to-face design, seeing the school in an integral way, where analog and digital elements focused on the studied context are included (Sangrà, 2020). The proposal to complement an educational model of the Armed Forces in a hybrid way where, through qualitative research, they identify elements such as shortcomings, adaptations, training and improvement, as suggested by hybrid education in the face of changing reality (Cárdenas et al., 2021).

88.3% of the students agree with new modalities, also showing that 44.6% want to continue in a hybrid and blended modality and thus be able to have time with their family or work (Yacchirema et al., 2021). The understanding of humans and their environment based on the knowledge of their communities to propose hybrid approaches to education based on their reality by relating current education with the traditions and ancient knowledge of their region were fundamental concepts in the present investigation (Mera et al., 2021).

Not all current techno-pedagogical models are applied, in addition to being traditional, they do not take advantage of digital technologies and there is a pressing need to improve teaching skills in techno-pedagogy (Méndez Carpio & Pozo, 2021). Hybrid education must be differentiated, which must be developed in a way that the inhabitants of this planet know as normal before the pandemic, in a process of adapting activities without the need to appear in the physical facilities of the institution (Prince, 2021), attending to the challenges of Latin American universities in education and how universities should face the challenge of less face-to-face education (Vélez, 2020).

For its part, the Government of Honduras 'strategy where, through the project "We Want You Studying from Home" promotes support for fathers and mothers coordinated with teachers by using virtual classes, activity notebooks, however, it was not achieved. develop adequately given the educational policy affirms the author (Mejia, 2021). The first Chilean experience in the evaluation of Massive Online Open Courses (MOOC) to reach the entire country to help change behavior and prevent overweight and chronic diseases was extremely important (Salinas et al., 2021).

At the same time, the Bolivian government, faced with the confinement due to COVID-19, gave way to the e-learning model where it encountered many challenges since it suddenly went from a face-to-face model to an online model, which was not so satisfactory at first, however, the obstacles were overcome (Ramírez et al., 2020).

Along the same lines, the Venezuelan educational reality, once virtual education began due to the effects of the pandemic, showed how aspects of education were altered in the face of this situation and how the authorities reacted to it (Muñoz, 2020).

COVID-19 had effects on the economy and education, in the case of Colombia it shows what the effects were and the strategies to face it (Quintero, 2020). Being the Colombian State who must create conditions for the training of educational personnel in a virtual way (Suárez & Moreno, 2021).

For its part, the Ecuadorian case where the proposal that the government formulates cannot be carried out given its reality in the particular and fiscal contexts and not all students are in a position to change the educational model (Bonilla, 2020). However, studying the adjustment of the educational model to the particularities of the Ecuadorian context for both students and teachers is the challenge (Sánchez, 2022).

Students perceive the hybrid model as a model that allowed them to overcome the obstacles of time and space, favoring learning from an inverted hybrid approach (Caro et al., 2020).

The Mexican educational system has been transformed in the pandemic, the "Learn at Home" project has highlighted the lack of equity and efficiency, by showing the need for a comprehensive vision in the face of various social and economic conditions (Chen & Zhao, 2021). Finally, Mexico and its educators face a scenario of uncertainty and a challenge to continue distance study programs given the lack of training in online and hybrid education (Contreras et al., 2022).

Regarding the regional context of the Otomí-Tepehua Zone and considering that it is essential to care for girls, boys and young people under 18 years of age in situations of extreme poverty and who study in a public school, from initial education to higher education, in addition to the support for young people between 18 and 29 years of age who do not work or study through public policies that improve their quality of life (Presidencia de la República, 2019).

Hidalgo has regions where the problems of poverty, marginalization and migration converge with the population of indigenous origin, these have a direct impact on the educational achievement of high school students. The Otomí-Tepehua zone that includes the municipalities of Tenango de Doria, Agua Blanca, Huehuetla, San Bartolo and Acaxochitlán and is considered highly marginalized by INEGI, CONAPO and CONEVAL. Due to its geographical location in the Sierra Oriental, natural wealth and poverty contrast, becoming one of the most vulnerable areas of the state, the Otomí-Tepehua area has 27 secondary schools (Gobierno del estado de Hidalgo, 2020)

On the other hand, the educational gap in this region is a problem, since 65% of individuals over 15 years of age do not complete basic education, the municipalities with the highest rate of this problem are: Acaxochitlán with 67%, San Bartolo Tutotepec 67% and Huehuetla with 66%. For its part, at the baccalaureate level, the region has a terminal efficiency index of 57%, which indicates that only a little more than half of the young people have the opportunity to attend a higher education institution, given the above, then, the population of young people

have to emigrate or simply do not continue with higher education, it is important to underline the terminal efficiency of primary school, which is 93.2% and 85% in secondary school. (INEGI, 2020).

Given the description of the problem and the background, the research question and its objective are presented.

How should a Hybrid Model of Regional Educational Identity for marginalized areas be integrated?

General objective: Integrate a Hybrid Model of Regional Educational Identity in education for marginalized areas of the Otomí-Tepehua region located in the east of the state of Hidalgo through knowledge of the uses, customs and way of life, as well as the paradigm of Grounded Theory, as a proposal to achieve effective online learning.

Statement of the research assumption. The research assumption is generated, which is stated as follows: "Students in a vulnerable situation conceptualize the significance of hybrid education as a new learning opportunity without abandoning the identity that their regional environment offers them."

2. METHOD

This research was developed based on qualitative methodology following the Grounded Theory paradigm (Glaser & Strauss, 2012) in a dialectical perspective, concentrating on knowing what works? for marginalized areas based on the research question (Raymond, 2005).

This paradigm was selected since it works in social phenomena and allows a wide spectrum of techniques in the study area, the typology is qualitative and the steps taken are proposed:

1. Approach of a qualitative approach. A problem was raised where the qualitative approach is outlined, through the following steps: a) Research object, b) Theoretical sensitivity, c) Determination of the study group, d) Theoretical sampling, e) Development of categories, f) Codification and g) Substantive theory (Raymond, 2005).
2. Literary review to elaborate the state of the art.
3. Development of the research assumption.
4. Research design. Typology: qualitative, non-experimental, descriptive, transversal, in situ.
5. Unit of analysis. Otomí-Tepehua region located in the east of the state of Hidalgo, Mexico, specifically in the municipalities of Tenango de Doria, Agua Blanca, Huehuetla, San Bartolo and Acaxochitlán with a total of 27 secondary schools and a population of 2,508 students.
6. Sampling. It was by criteria and hermeneutics, the criteria used were: 1. Being a high school student from the Otomí-Tepehua zone, 2. Living in a community with a high degree of marginalization in the Otomí-Tepehua zone, 3. Having indigenous origin from the zone Otomí-Tepehua, 4. Living most of his life in the Otomí-Tepehua region.
7. Data analysis. Nvivo was used given the qualitative approach.
8. Results. The results were obtained in situ to seek convergence and answer the research question, observation and direct interpretation of the phenomenon were used, in addition, the discursive analysis was constantly compared with the reality of the phenomenon regarding the coincidences and differences that emerged during the investigation. research, the discrepancy of the findings does not reduce the

validity in the interpretation, on the contrary, it is complemented, in addition, the validity of the analysis was supported in the theoretical saturation and in that the research subjects agreed on what was reflected in the collection instrument.

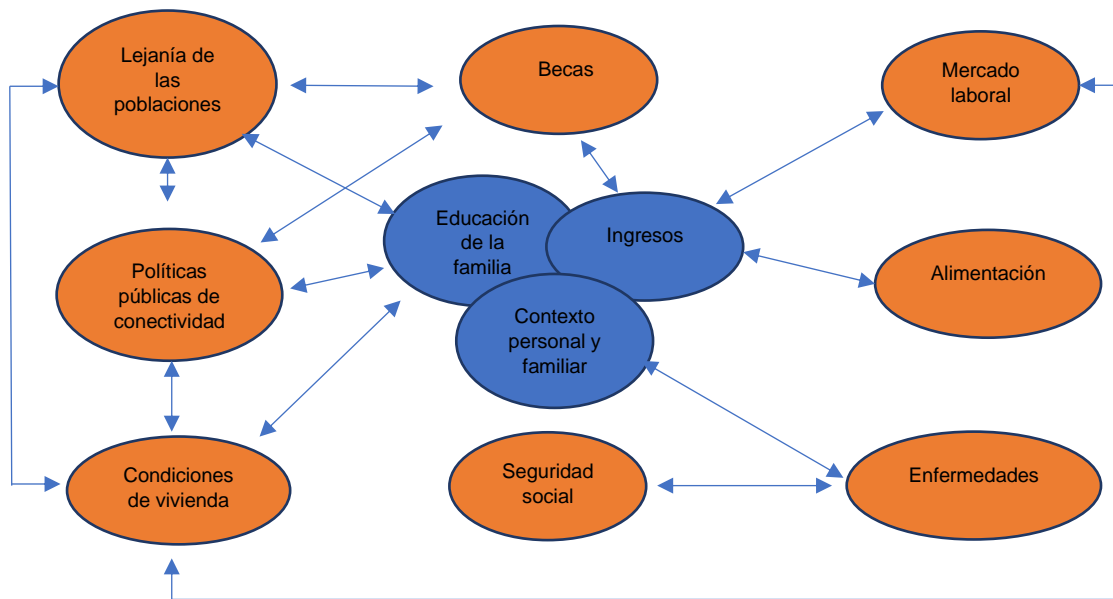
The data collection technique was based on the method since in-depth semi-structured interviews were carried out with 20 questions whose answers were recorded with prior authorization from the research subjects to form what is called a "data bank" and generate from there the hermeneutical variables, families and subfamilies necessary in the analysis of the data, the above aligned to the research question and the general objective, it should be mentioned regarding the research technique that sometimes walked with the students from their home to the school or vice versa, also when the location of the students' home was very far away, they remained in their homes living in their family environment, the above to know in greater depth the phenomenon to be studied, it was also non-experimental because the variables were not modified and the data was collected in the place where the phenomenon takes place, that is, in situ, the direct observation of the m lifestyle in the communities and the school settings allowed to describe the phenomenon in the study region, it was transversal because the interviews were applied in a single moment, the theoretical saturation allowed a rapid collection of the above due to the proximity of some communities and the distance of others, in addition to the conditions of insecurity that prevail in the region. It is worth mentioning that where there is no transportation, walking was the only option, and spending the night in the municipal capitals to take advantage of the time spent in the area under study.

3. RESULTS

Next, the results are presented based on the general objective described, in the first instance: Integrate a Hybrid Model of Regional Educational Identity in education for marginalized areas of the Otomí-Tepehua zone in the state of Hidalgo: in this regard and to schematically visualize the empirical elements that gave rise to the proposed model, the variables associated with learning are presented in figure 1 with which the model begins according to the criteria of (CONAPO, 2013).

Figure 1

The schematization of the variables associated with the learning of students in a vulnerable situation



The scheme is described in a particular way by its elements, but at the same time in a chained way following the theory that was taken as a basis in the present investigation, it is also presented in two parts as exogenous variables and endogenous variables.

In the second instance and regarding Integrating a Hybrid Model of Regional Educational Identity through knowledge of the uses, customs, and way of life, each of the variables that are amalgamated into endogenous and exogenous forces are described as follows:

endogenous forces. The education of the family is preponderant because, in the students who have mothers or fathers with the highest degree of study at the primary or secondary level, the family environment focuses on said school aspiration, and the parents indeed seek to improve their children the school level that they obtained, however, the desire to have material goods more immediately is greater than the benefit of studying a long-term university career, perhaps the new generations have a different and greater perspective than that of their parents, that is to say, that the new generations have a higher meaning of life given the level of education of their parents.

Income is a determining factor and trigger of attitudes and behaviors related to the dissatisfaction of the subject concerning connectivity, in this process, the student is more concerned about solving the problems derived from this variable and leaves school performance in the background, it is of observing how young people emigrate to the United States of America and prefer not to continue their studies in Mexico because it is more profitable for them in the short term, however, there is no promotion of the culture of rooting in their land and neither of the culture Entrepreneur of regional proposals despite the efforts to generate new projects in schools, these works remain only in that attempt.

One of the most important forces resulting from this research is related to the question and the general objective is the family and personal context, it should be noted that the discursive analysis confirms the fact that one of the variables that mostly incur in learning It is the emotional aspect of the subject, which results from the linking of endogenous and exogenous forces that causes a personal impairment, bringing as consequences that the

individual has to fragment in solving family, school and personal problems that can result in not being resolved in the abandonment of his school career, the student is busy looking for how to solve his difficulties, this coupled with the school occupational demand unload an emotional torrent of conflicting ideas, it is here where the individual must decide whether to continue his studies or abandon them to work just to bring money to his family environment but to evade his own reality.

Exogenous Forces. In the public policies of educational connectivity, when considering the importance they represent for research, it is symbolized as a factor that must be taken into account to develop educational processes, it was observed in the development of the project that the connectivity in the communities is deficient and that in the best of cases, the activities are sent via cell phones (WhatsApp) and that when carrying out the feedback by the teachers, these are limited or null.

For its part, the remoteness of the towns, the lack of social infrastructure and their way of life alternately correspond and generate a meaning of withdrawal, in which the student seeks a way to leave the region to improve their lifestyle and learn about other latitudes, this variable is compelling because the distance is solved by improving income, that is, with the purchase of vehicles and it is regularly solved when, when emigrating to the United States, they can buy vans to transport themselves.

The position that scholarships hold in research is interesting since all the study subjects state that they have some type of support, whether or not they have a failing situation. It should be noted that the purpose of this is for students to be able to solve educational needs to a certain extent, however, it was observed that the money is allocated to another cause that is not necessarily academic, in addition, that they are granted even if they have failed subjects, it should be noted that although in many cases it is an additional source of income the family sometimes use it for data recharges for streaming or social networks and not for educational purposes.

Little knowledge of the labor market directly influences the future of young people concerning their current and future income, however, when the income that a job in the United States represents is balanced against the income that the field can offer employment in Mexico discourages interest in continuing their school education.

The conditions of the house are related to the phenomenon that is studied decisively since it has an outstanding meaning since not having a sufficient standard of living to have an adequate connection represents a burden for the student. It is worth noting that young people must give a greater effort when facing school obligations and the needs of their home, it is here where the student, in addition to their school load, must face an overload of work and emotions that leads to discouragement and causes a lack of interest in their studies, in addition, to try to solve the problems inherent to their age

Food is embodied as an exogenous force given that it influences partially, since all the subjects have this need solved in a basic way, however, following symbolic interactionism, it is chained biunivocally to the breath of hope for the improvement of the family context.

The sub-chain refers to diseases and social security influences in the same way, as an exogenous force, since the communities have resolved health services and it does not represent, only due to serious illness, a factor of disinterest in learning and that result in failing or dropping out of school.

It is important to show the chain of endogenous and exogenous forces derived from the analysis of the findings, in this sense it is necessary to make clear that the interviewees manifest generating anxiety problems that cause

a poor connection in the area. The core of the study phenomenon is represented by a dynamic linkage of the variables without the order meaning a higher priority one with the other.

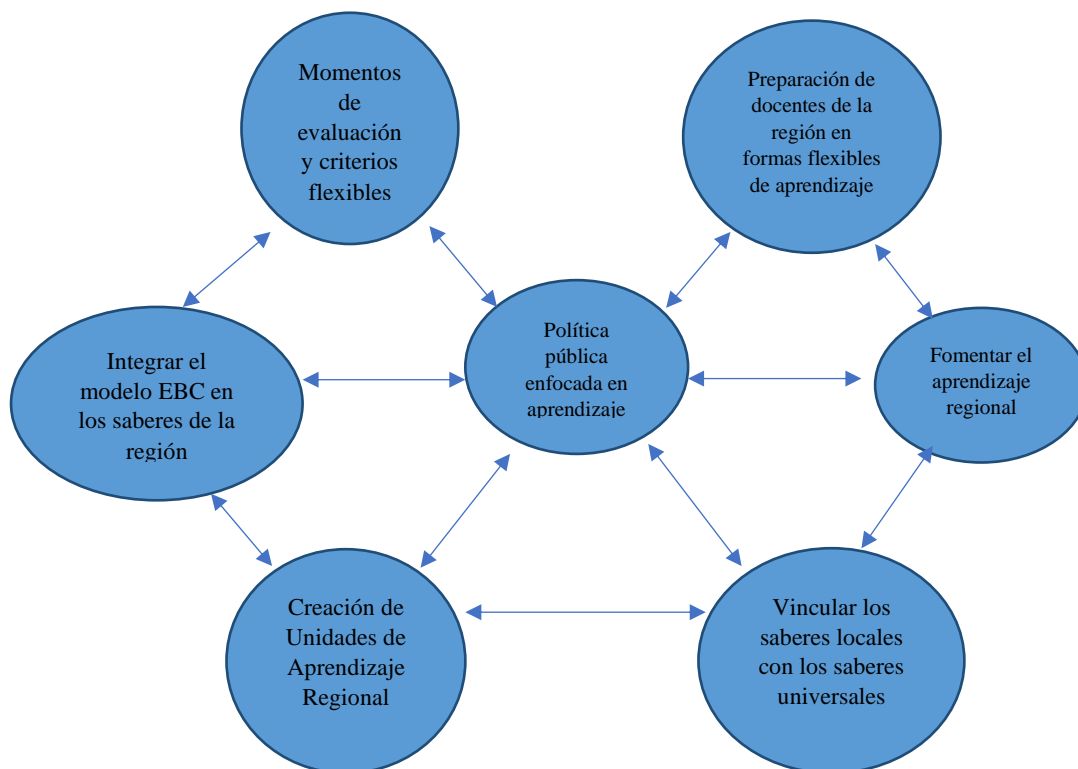
It should be made clear the urgent need that young people and children have for effective connectivity and the convenience of promoting public policies that guide their efforts to have places with internet that are precisely for the educational purpose, it has already been commented that it has been found that scholarships are income that mitigates the economic problem of families, however, this is not always the case because they are used to spend on cell phones for social networks.

In the third instance and finally, it should be noted that the previous variables were obtained once the investigation was carried out in addition to the constant comparison of the hermeneutic variables as the Grounded Theory explains, the above to fulfill the general objective.

The proposal of the Hybrid Model of Regional Educational Identity" (MHIER) is integrated first in a schematic way in figure 2, which as an integrating concept refers to returning to holistic, flexible, regional, and global learning, that is, including concepts that come from their uses, customs and way of life integrated into an international reality in education standards so that with this the areas with problems in the marginalization index, without losing their identity, are immersed in a global context.

Figure 2

The schematization of the Hybrid Model of Regional Educational Identity (MHIER)



Next, each of the elements of the model is described based on the variables presented above:

Prepare teachers of the region. To train teaching human capital of the region in educational technologies according to learning for the region, who know the local problems and who have solutions derived from living in it, with an international vision, the training must be comprehensive, that is, in the language maternal, Spanish and English so that the evaluation instruments can be elaborated on this same topic.

Promote regional learning. This concept means that both education authorities, institutions, teachers, parents, and students must become aware of the new forms of appropriation of knowledge in a flexible way with a "glocal" (global-local) approach, which allows learning with global concepts without abandoning the customs and traditions that must be preserved and promoted, in addition, they can be used by the student for a business vision without disregarding the learning that has been transmitted for generations and that is the bastion of the community.

To bind local knowledge with universal knowledge. Achieving a syncretism of regional knowledge and universal knowledge is a way to complement the knowledge, it is proposed then, that knowledge synchronously complements each other so that at the same time that the student studies a foreign language, he alternately conserves his mother tongue, and that in the process of knowledge of scientific progress it does not abandon its ancient knowledge that, far from being both contradictory, amalgamates them as complementary.

The reagents of the evaluations must include their knowledge of the region and generalized knowledge from the perspective of entrepreneurs of their own region in an international environment and at least trilingual (mother tongue, Spanish and English).

Creation of the Regional Learning Units. One of the contributions of the model is the creation of the Regional Learning Units (UAR), which must have the technology, connection, software, and hardware, as well as human resources (face-to-face advisors) from the region that can guide the use of the platforms and knowledge management to the student, it is important to mention that the proposed units will have to their credit the learning platforms previously elaborated by specialists in education, amalgamating the empirical knowledge of the region and scientific knowledge.

In this sense, it is mentioned that in print there are already basic education textbooks prepared by different states of the republic, in effect, taking advantage of these publications and improving them in such a way that they can not only be digitized but also be interactive.

Likewise, having online tutoring that allows you to achieve the transversality of the emotional attention of the student from the moment he is a candidate until he achieves significant learning by reinforcing his self-esteem, to achieve and counteract the possible causes of academic desertion, is sought then that the tutors are trained integrally and that they have their certification in this area the above to have committed tutors.

Integrate the EBC model into the knowledge of the region. It is proposed to preserve the forms of evaluation by competencies (diagnostic, summative, and formative) with the evaluation instruments that the same model establishes to demonstrate knowledge, know-how, and know-how, taking into account in a mandatory way the mother tongues in use, reading and writing giving the same academic weight as the other subjects of its grid. It is also proposed to venture into the EBC Model in the productive and knowledge uses and customs of the region, it should be clarified that the incursion must be complementary where there is no mutual exclusion, much less subordination or conceptual superiority.

Evaluation times and flexible criteria. Make the evaluation times proposed by the federation more flexible, taking into account the uses, customs, and internal agreements of the communities, the ancient knowledge, and the secular nature of education, involve the "ejidatarios", moral leaders and elders in the issues that serve as a basis to preserve the above with an international entrepreneurship perspective.

It is proposed that the evaluations consider the generic knowledge and the knowledge of international standards and in addition to this, a cybernetic space is privileged to evaluate the development of the student in their region, uses, and customs, as well as proposals for improvement in the same community. The inclusion of regional reagents and their characteristics must be justified to the federation.

The results of the evaluations must be presented in the manner in which the competency model determines, however, efforts will be made to implement the formative evaluation issues related to the conservation and increase of uses and customs as well as ancestral knowledge in production processes, In addition, an evaluation that shows if the person acquired the competence with qualitative and quantitative elements of the student's personal development, all of the above so that the authorities focus their efforts on public policies that promote regional learning.

4. DISCUSSIONS

It is necessary to keep in mind within the discussion that there have been public policies at the federal level, aimed at obtaining an inclusion in the digital part of education (see figure 3) starting from the basic educational levels, within the programs that stand out there are a: School network from 1997 to 2004, Digital Skills for All (HDT) program that ran from 2009 to 2012 focused on the incursion of ICTs, through an interactive learning program that sought to continue the Enciclomedia program launched march in 2004-2011, promoted in the six-year term of Vicente Fox Quezada, in this program computers with thematic classrooms were placed at the primary level and for the secondary level the objective was to develop digital skills, it should be clarified that this program included a context which is very valuable to consider since it sees inclusive education, that is, a regional education in an international context, later this was followed by the mi compu.mx program for 2013-2014; Pilot Program for Digital Inclusion (PPID) in 2013-2015 and the @prende program in 2014-2016, the latter with content (SEP, 2016).

Figure 3

Public policies for digital inclusion

RED ESCOLAR 1997-2004	ENCICLOMEDIA 2004-2011	HABILIDADES DIGITALES PARA TODOS (HDT) 2009-2012	MI COMPU.MX 2013-2014	PROGRAMA PILOTO DE INCLUSIÓN DIGITAL (PPID) 2013-2015	PROGRAMA @prende 2014-2016
+ Proyectos	+ Capacitación docente	+ Indicadores de desempeño y certificación	+ Diversidad de contenidos	+ Modelo de capacitación docente	+ Contenidos multiplataforma
+ Expertos	+ Integración curricular	+ Dispositivo móvil	+ Inclusión digital para alumnos y familia	+ Conectividad adecuada	+ Mesa de ayuda
+ Investigación y colaboración	+ Mesa de ayuda			+ Herramienta de monitoreo en línea	
+ Primaria / Secundaria				+ Acompañamiento	
+ Aula de medios				+ Evaluación de habilidades digitales	
+ Asesor Técnico Pedagógico				+ Órgano desconcentrado	
+ Uso de internet					

● Formación docente
 ● Recursos educativos digitales
 ● Equipamiento
 ● Conectividad
 ● Evaluación y monitoreo

Note. Taken from SEP (2016)

As for a discussion at the state level, the government of the state of Hidalgo presented the Digital Agenda of the State of Hidalgo, to consolidate the State Connectivity Program for 2011-2016 at the three levels of government and of the communities through a telecommunications infrastructure with coverage at the state level, the foregoing to contribute to the social, economic and cultural development of the inhabitants, for this, the government proposed a project "Digital Skills for All (HDT)" with the "State System of Digital Communications (SECODI)" and the National Network for the Promotion of Broadband (NIBA Network), these organizations, in coordination with the Federal Electricity Commission, formed a state network in the fields of Education, Health, Public Safety and Government (Government of the State of Hidalgo, 2011).

The government of the state of Hidalgo, through the General Directorate of Information Technologies, has made the following programs and projects available (SEP, 2022):

- @prende 2.0, focused on sixth-grade students of basic education to promote learning processes and reduce digital gaps through access to technologies, it draws attention to the fact that it seeks to strengthen teaching methods in teachers through online courses
- México Conectado, aimed at managers, teachers, students, parents, and citizens in general, a project that, according to its objective, guarantees the right to broadband internet access according to article 6 of the Constitution, increasing connectivity in public spaces, focusing on basic education and society in general.
- Red EDUSAT, directed to telesecundarias schools and whose objective is to contribute with the educational programs of didactic support, training and updating.
- Technical Support, aimed at basic education schools, promoting the maintenance of computer equipment, networks, and internet service in basic education schools in optimal conditions.

- UNETE, aimed at preschool, primary and secondary schools, coordinating work to increase the efficiency and equality of education.
- Cuantrix Izzi Coding, aimed at people from 6 to 20 years old, seeking to achieve cybernetic, critical, and logical thinking in children for problem-solving.
- Blended Learning, is focused on teachers and managers of basic level media classrooms, where the aim is to improve the use and benefit of ICT and Technologies for Learning and Knowledge (TAC).

Next, a comparison is made of the results of the aforementioned programs with the results of the present investigation.

In the "my school network" program, the participation of experts for the preparation of content, media classroom, and a pedagogical technical advisor could already be glimpsed, elements similar to the proposed project, however, it lacked a good internet connection in marginalized areas.

For its part, the "Enciclomedia" program was limited to an electronic blackboard with preloaded thematic content, there was a lack of training and adequate use by teachers and students, and in addition to an adequate Internet connection, the program hardly reached marginalized areas.

Regarding the "HDT" program, although it was a more advanced program that focused its attention on the improvement of digital skills through ICT, it was only the continuity of the Enciclomedia six-year program and that also lacked specialists in the management of training platforms. of the teachers, in addition, the equipment installed in the schools ended up in their warehouses without being used efficiently, nor did this program adequately reach marginalized areas.

The "mi compu" program focused on the delivery of a laptop to fifth and sixth-grade children from government institutions. It should be noted that this program does consider the delivery of equipment to indigenous and migrant areas, however, in its first phase has only been delivered to the states of Colima, Sonora, and Tabasco, which seeks to keep children in schools, given the COVID-19 pandemic it was shown that there is no efficient internet connection in marginalized areas so many teams have been forgotten or have had another purpose.

The purpose of digital inclusion as a pilot program of the Federal Government (PPID) was to have a computerized educational policy with a focus on learning, provide computer equipment, preloaded tablets, and connectivity in schools, and promote the use of digital tools in the educational system, however, throughout the program, how indigenous areas could have access to the network was not found.

Although the @prende program tried to take advantage of the successes and failures of previous programs and considered the training of teachers on the platforms and interactive classroom connectivity, it was sponsored by the "Mexico Conectado" program, and the educational reform of that six-year term, the first with little presence in the country and the second already non-existent in the current six-year presidential term.

Red EDUSAT is perhaps one of the programs with the greatest coincidence with the proposed model since it is a model that, through satellite television, can reach secondary school students with 16 active channels. The consideration here is that it is only one-way, however, it is one of the programs that, if it has been able to reach and subsist in marginalized areas, it should be noted that it is only for the secondary level.

UNETE is a civil association that is aimed at preschool, primary and secondary schools that seeks to integrate teaching in students of government institutions in Mexico, it is perhaps one of the best efforts to bring digital inclusion closer to marginalized areas because they consider a trainer as support of face-to-face, this civil association considers: equipping classrooms, the development of digital skills, the development of critical thinking, and access to content, advice and technical support, perhaps the evil that afflicts all attempts is poor connectivity in marginalized areas.

Regarding Cuantrix Izzi Coding, it is a program that tries to develop creativity in the programming area and that is the result of one of the largest television stations in Mexico.

To all of the above, it should be mentioned that one of the deficiencies found in a general way is the public policy proposal that solves the problem of connectivity, also considering the ways of life of ethnic groups through their customs and traditions where they venture the digital learning proposals, although the cybernetic programs do not solve the problem of food in the short term, it is important to consider it because the students of the communities are more concerned about knowing what they are going to eat than about accrediting a subject, it is important to mention that the endogenous variables are valuable for the educational development of the student that have not been observed in the programs proposed by the government, although the attempts of the governments in turn are valuable, it is of the utmost importance to dwell on contextualizing online education so as not to lose given the importance of it with sense and regional belonging without this c lead to isolation, on the contrary, retaking the strengths of the context to achieve a global education is the challenge of this proposal.

It should be noted that the model proposed in this research is inclusive of all concepts, both endogenous and exogenous, perfectible in its proposals and cyclical, but not closed.

This is how, after evaluating the qualitative information and the data provided in the present investigation, series of concepts are proposed that, far from becoming statistical data, are elements of judgment so that the cognitive spiral of education is fed in the generation of new knowledge.

Understanding the educational future in marginalized areas will serve to strengthen education and educational lag, especially for the poorest and hybrid education, given the above, the work of the future of face-to-face education in secondary schools is suggested for a better understanding of the data presented. of Mexico (Gallegos de Dios, 2021), it is also necessary to be aware of the future of education in the areas of emerging technology, flexibility and research (Almanza J., 2021), it is imperative to understand the chain of factors that intervene in the learning of a student in a vulnerable situation, so thinking about the factors separately is to encourage public policy to continue dealing with this phenomenon in a particular way with results that we continue to see today, on the contrary, it must be seen in an integral way, that is to say , uses, customs, feelings are preponderant factors in the student's achievement, so it is also suggested to read the factors associated with the evaluation of vulnerable students in the areas of education and housing (Lozano Rosales et al., 2018).

5. CONCLUSION

The studies analyzed in relation to hybrid education show the attempts of governments and theoreticians in an effort to improve learning conditions remotely, novel proposals and government proposals were found that, given the COVID-19 pandemic, find their opportunity to take a quantum leap and position itself in society and institutions on a daily basis, it is expected that this world event will be used by society and by federal and state governments to achieve an effective incursion of ICTs and TACs in the significant learning of the students that

is based on distance education in a hybrid way in public policy, investment in infrastructure, teacher training and culture in information technologies as an alternative and effective method of appropriation of knowledge.

The understanding of hybrid education in Mexico necessarily leads in the first instance to a reflection of its historical development in which it has been observed that, in effect, the Mexican government has made important efforts to achieve the inclusion of the population in this form of learning. , from the investment in technology to the attempts to train teaching and support staff, however, this has not been enough because the attempt to have an efficient network that allows the connectivity of all the municipalities did not offer the expected results and much least to vulnerable communities.

This is how the municipalities of the Otomí-Tepehua zone, being diverse in their geography, can have some type of connectivity in their municipal capitals, however, in distant areas connectivity is deficient and sometimes null, in this, it is necessary to think in public policies that allow access to good connectivity in a region that has historically been an opportunity for electoral discourse but that in reality continues to have great deficiencies, as well as an investment in satellite connectivity for places that do not have some type of infrastructure that offers online connectivity, in addition to offering the opportunity for the facilitators of the hybrid education proposal to be people from the same region to promote endogenous employment.

Thus, the method used allowed us to find the conceptual elements of analysis to carry out a series of constant comparisons where coincidences and divergences of the data found were found, the latter, far from being a weakness of the investigation, became a strength since it was sought to deepen it to find the reasons for social disagreement, thought and way of life.

Once the analysis was carried out, the variables that in the dimension of the present study are embodied as endogenous were obtained: elements of the student's environment that directly affect the phenomenon studied, exogenous: social elements that also affect the phenomenon, the above in an intertwined whole that allowed learning to be conceptualized in a hybrid way as a chain of factors that actively converge from their spatial and circumstantial context and shows that they must be considered holistically and not in isolation, that is where the presented model contributes to public policy to include the elements shown in the learning of vulnerable areas.

In an effort to seek the incursion of customs, traditions and way of life in significant learning of vulnerable regions, in technological development and to stimulate research in the generation of regional economic entities, a Hybrid Model of Regional Educational Identity has been proposed. both schematically and in writing where it includes infrastructure, family and social elements so that the permanence of young people in the regions where they were born is strengthened and thus mitigate migration to other states and countries, the generation of endogenous knowledge, from their own social context.

Finally, if the theme of education today is "learning to learn" then it is time to learn from the knowledge that has sustained our people for millennia, whose wisdom has survived time, and the cultural influences of other people's so that in this education is a motor of identity and national pride.

The following studies are suggested that are linked to the results "Description of the socio-cultural factors associated with the evaluation process of students in a vulnerable situation in the Otomí-Tepehua zone" project financed by the National Council of Science and Technology and the Institute of Evaluation of Education in Mexico 276856.

Likewise, Challenges for the dissemination and promotion of the use of PLANEA evaluations in community primary schools, a text that was prepared within the framework of the FLACSO/INEE Educational Evaluation Policy and Management document. Finally, the work called a qualitative approach to the return of results of the Plana test of the Sectoral Research Fund for the CONACYT-INEE Evaluation.

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