Motivation to the behavior of use and exchange of digital educational resources by rural teachers.

(es) Motivación al comportamiento de uso e intercambio de los recursos educativos digitales por parte de los profesores rurales.

(Port) Motivação para o comportamento de uso e troca de recursos educacionais digitais por professores rurais.

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Abstract (en)

This study analyzes the technical-educational problems that prevent or enable information to be shared within the faculty of rural educational units. They have generated data that evidences the need to create a space for the distribution of knowledge and content associated with the Digital Educational Resources (DER) proposed by Wang, Tigelaar and Wilfried in their text "Rural teachers sharing of digital educational resources: From motivation to behavior".

The work identified the style of socialization of information or literature conceived in four educational units of the Ecuadorian community located in the provinces of Los Ríos and Guayas respectively.

A demographic and experiential sampling was carried out with 127 samples executed and 123 samples validated through a reliability index of Cronbach and Robustness-aware 2-bit quantization in real time. The results indicate that the internal and external motivation of the faculty allow to visualize the understanding and behavior of the human resource to share knowledge. These indicate that it is possible to achieve a strategic curriculum plan through the mitigation of barriers, promoting an improvement in educational quality.

Keywords: educational communication, teacher professional development, shared information, networks, teaching-learning

Resumen

Este estudio analiza los problemas técnico-educativos que impiden o posibilitan, se comparta información dentro del cuerpo docente de las unidades educativas rurales. Se han generado datos que evidencian la necesidad de crear un espacio para la distribución de conocimientos y contenidos asociados con los Recursos Educativo Digitales (DER) propuestas por Wang, Tigelaar y Wilfried en su texto "*Rural teachers sharing of digital educational resources: From motivation to behavior*".

El trabajo identificó el estilo de socialización de información o literatura concebida en cuatro unidades educativas de la costa ecuatoriana ubicadas en las provincias de Los Ríos y Guayas respectivamente.

Se realizó un muestreo demográfico y experiencial con 127 muestras ejecutadas y 123 muestras validadas a través de un índice de confiabilidad de *Cronbach y Robustness-aware 2-bit quantization* en tiempo real. Los resultados indican que la motivación interna y externa del cuerpo docente permiten visualizar la comprensión y el comportamiento del recurso humano para compartir conocimientos. Estos señalan que es posible lograr una concreción de plan estratégico curricular a través de la mitigación de barreras, propiciando una mejora en la calidad educativa.

Palabras claves: comunicación educativa, desarrollo profesional docente, información compartida, redes, enseñanza-aprendizaje.

Summary

Este estudo analisa os problemas técnico-educacionais que impedem ou possibilitam o compartilhamento de informações dentro do corpo docente das unidades educacionais rurais. Eles geraram dados que evidenciam a necessidade de criar um espaço para a distribuição de conhecimento e conteúdo associado aos Recursos Educacionais Digitais (DER) propostos por Wang, Tigelaar e Wilfried em seu texto "Professores rurais compartilhando recursos educacionais digitais: da motivação ao comportamento".

O trabalho identificou o estilo de socialização da informação ou da literatura concebido em quatro unidades educacionais da comunidade equatoriana localizadas nas províncias de Los Ríos e Guayas, respectivamente.

Foi realizada uma amostragem demográfica e experiencial com 127 amostras executadas e 123 amostras validadas por meio de um índice de confiabilidade de Cronbach e quantização de 2 bits com consciência de robustez em tempo real. Os resultados indicam que a motivação interna e externa do corpo docente permite visualizar a compreensão e o comportamento do recurso humano para compartilhar conhecimento. Estes indicam que é possível alcançar um plano estratégico curricular através da mitigação de barreiras, promovendo uma melhoria na qualidade educacional.

Palavras-chave: comunicação educativa, desenvolvimento profissional docente, informação compartilhada, redes, ensino-aprendizagem.

Introduction

The exchange of knowledge is directed towards professional development in a line in which teachers support programs of updating and continuous training. The objective is to identify the relationships of internal and external motivation with shared intention within the school and self-efficacy of comparted outside the school. The research process allowed us to observe that there is a tendency from the teaching staff of the rural educational units of the Ecuadorian region for not making use of digital tools or resources. The general argument supports the technological imposition, its geographical area, and socioeconomic factors. This study allows to clarify this attempt with concrete data to analyze the possibilities of exchange of knowledge related to teaching, the adoption of new perspectives and resolutions and the contribution to the implementation and operation (Campana, 2018; Liou and Canrinus, 2020).

The proposal to generate spaces for the distribution of knowledge, content associated with Digital Educational Resources (DER) requires a historical review of referents with parallel or similar research. Wang, Tigelaar and Admiraal, (2020) postulate that "identifying the relationships of internal and external motivation with shared intention within the school and self-efficacy mediated the relationship between internal motivation and shared intention outside the school" (p. 12) are a fundamental element when investigating distribution environments or intentionality for sharing.

The expansion of digital communications together with the possibility of replacing traditional sources of study can influence the behavior of teachers inside and outside the classroom space, where the "EVA" Virtual Learning Environment (VLE) and in turn the Massive Open Online Course (MOOC) that include autonomous characteristics which share that education could be digitized in its entirety (Bruillard, 2017) because the didactic potential of technological resources promote educational needs (Santana-Bonilla and Rodríguez-Rodríguez, 2019).

The authors highlight that "often" the documentation that is collected as a research exercise serves for issues that lead to administrative processes, and these, almost always, are an obstacle because they do not usually fit the sociocultural and socioeconomic realities of the space in which they will work (Al-Huneini, et al., 2020). Carrying out a data collection process according to Ahmed et., (2019) evidences the series of potential obstacles among which the lack of willingness to share, time, previous knowledge, the risk of losing their own advantages and even makes the act of participation in the exchange of knowledge difficult.

The study determines the existence of a degree of distrust about the forms of participation and sharing of verified information, which in general terms discourages the exchange of knowledge among teachers. It should be remembered that participation in the exchange is crucial, given that those who share knowledge benefit much more than recipients (Zhu, et al., 2018) and this should be possible regardless of knowledge or technology gaps that may exist in an educational ecosystem.

The degree of distrust about the forms of participation and the sharing of verified information, discourages the exchange of knowledge between teachers, participation in the exchange is crucial, since those who share knowledge benefit much more than the recipients (Zhu, et al., 2018), this exchange is independent of the knowledge or technology gaps that may exist in an educational ecosystem

Therefore, it is important for researchers and policymakers to consider whether teachers (especially those in rural settings) share REDs, and therefore establish potential ways for teachers to share.

It is proposed to understand how the exchange of knowledge under the consideration that this action represents "a core activity for the improvement of organizational capabilities, as well as team performance" according to Singh (2019); Zhu, Chiu and Holguin-Veras (2018). This exchange is absent in our context, despite being aligned with the way of doing education and the updating programs offered by the governing body of education in Ecuador.

Despite the importance of digital educational resources within the teaching-learning process, rural educational units "have problems when it comes to carrying out a correct socialization inside and outside the community" (Akosile and Olatokun, 2020). The lack of communication infrastructure, both in the establishment and in the community, has caused a detachment from the basic practices of educational action, which makes these conditions blockages for the generation and dissemination of information (Charband, et al., 2016), and, consequently, less availability of knowledge for children and adolescents and adolescents. the intrinsic and extrinsic influence of motivation, self-efficacy, attitude, intention, so that we talk about the organizational climate and the significant supports of knowledge exchange (Hagger et al., 2006).

There is a tendency from the teaching staff, in the rural educational units of the Ecuadorian coast not to make use of digital educational resources which has been an obstacle imposed by technology, its geographical area, among others. For this reason, it is proposed to generate a space to share, distribute knowledge and content associated with the DER following the proposal of Wang, Tigelaar and Wilfried, all with the aim of "identifying the relationships of internal and external motivation with the shared intention within the school together with the self-efficacy that mediated the relationship between internal and shared motivation outside of school" (Wang et al., 2021. p. 12).

Attitude to share.

To understand this tendency organizational behavior, it is necessary to start from the concept of IMBP model where attitudes to transmit knowledge are described as determinant by the intention to share. As a result, teachers come to tend to avoid and contribute to knowledge, it is considered that this may become unnecessary.

In this context, it is necessary to think about educational subjects, who possess innovative characteristics since they are the ones who choose to adapt new forms of communication, interaction and therefore associativity with new technologies that can be adhered to education. However, the samples obtained in our research showed that it is possible, due to the geographical delimitations of Ecuador, to inherit aspects that in other contexts correspond to only rural realities.

Part of the study collected by Yang, Song, Zhao and Yu, (2018) referring to the attitudes that can be taken towards the act of sharing and exchanging knowledge, are constituted as important positive attitudes to improve teachers and their performance. Zhang and Liu (2019) found that the more valuable the sharing behavior of teachers, the greater the effort that was presented during the act of learning, especially in digital interfaces. However, it was identified that the lack of empathy and familiarity in digital resources results as a personal sponge that absorbs negative attitudes from one's own research activity that discourages participation and knowledge sharing.

Cooperative work

Although this can be associated with collaborative work because both have a coincidence in the way in which, as a set of instructional or training methods, they can be used by working groups as a methodological strategy to promote (facilitate or promote) a growth of skills related to social learning and personal development (mixed skills).

The particularity of collaborative work is that, during its projection or planning, each participant of the group or team is responsible for their learning, but at the same time, it is also closely related to the learning of the other members of the table or work team, "articulating and creating connections of information and sharing of knowledge" (Sedighi et al., 2018).

Communication

Ileana Audum-Rodríguez (2018) investigated the work of J. Teixidó (1999) from which she rescues that, within the communicational aspects for the sharing of inputs, it is necessary to express everything that allows the transmission and exchange of ideas, thoughts, knowledge, feelings, and information between groups of people and through different media (Adum-Rodríguez, 2018).

Part of the communicative actions are those that allow an educational center that functions properly with the aim of increasing the possibility and favoring the act of distributing information among teachers, so "it is a fundamental aspect to submit it to study" (Hew and Hara, 2007) understanding that, without adequate and fluid communication, it is impossible to think about knowledge sharing.

Coexistence.

The reflections on coexistence in the XXI Century propose that it be based on the retrospective proposed by Torrego, (2001), defines coexistence as the interaction of modern society indicating that ", it is an exercise of conflict resolution, it is a creative process and of indagating within the limits of respect. Its objective is to prevent the occurrence of conflict or to avoid escalation when it has already arisen" (p. 22).

Torrego's reflection is threaded with the mention and work by UNESCO that through the International Commission on Education (CIE) for the XXI Century. In the report entitled "Rethinking Education: Towards a Global Common Good? "published in 201 5, and in which appears n two of the four pillars for coexistence (UNESCO, 2015., p. 23) that Martí-Noguera et al, would collect to mention the importance of "learning to live together" and "learning to be" as necessary bridges for the education of the future then, "interconnect networks of knowledge through digital spaces" (2018, p.16).

On "learning to be", Eirín-Nemiña (2018) has explained that this implies that the subjects carry out a conscious reflection from and for their learning experiences which, according to Eirín, "cannot be conceived or planned without their respective guidance" (Eirín-Nemiña, 2018, p. 261) or that they cannot build bridges of interaction with which the principle of "learning to be" could be sustained for the increase of knowledge in network.

That said, "we must start living together" Eirín-Nemiña requires that one of the main missions of education in a democratic society be made effective and that it is related to the symbolic connotation of "forming citizens" (Eirín-Nemiña, p. 262).

Urbanity and rurality

When talking about sociodemographic aspects that divide the habits of appropriation and cultural coexistence, it is necessary to review the particularities that make up urban circuits or spaces and what their distinctions are from the rural. To this end, the interpretation of these two categories has been reviewed through an exploration of the studies carried out by Heyneman and Loxley (1983), Harbison and Hanushek (1992), Fuller and Clarke (1994), Gamoran and Long (2006) and Behrman (2010) who agree that the school -with respect to its structure- has a significant effect on school performance in developing countries.

Coleman and Hoffer (1987), Hanushek (1986), Stevans and Sessions (2000), Vandernberghe and Robin (2004) Opdenakker and Van Damme (2006) among others who have published their reflections, agree that students obtain a higher performance in generally urban schools – except for small examples of large private institutions that are built in spaces far from urbanity – that In the case of rural areas, despite this, all the authors referenced agree that the effect of school size on student performance does not influence much because each one gave different types of definition to their analyzed contexts and that in some cases they represent milestones of rurality where their institutions are more technological than urban ones.

Due to this, it is considered pertinent to argue from the generalities established by the UN and on which the different models of socioeconomic measurement have been constituted, detail that rurality would be conformed "by a very high percentage of population classified as economically active and that occupationally has agriculture as an activity, generally lacks electricity, drinking water (installed inside the dwelling), limitations of access to the health care system, schools, recreational facilities (parks) according to the weighted distinctions in the ONU-Habitad conference of 2017" (ONU, 2017).

The style of socialization of the information of five educational units of the Ecuadorian coast in the provinces located as: Los Ríos and Guayas, respectively, will be observed. The selection process of two educational units in Guayaquil to complement the sample. It is important that all elements of the education curriculum are in place to promote educational quality and have resources for teaching staff.

The study

This body of research aimed to analyze the increase in knowledge and whether this occurs due to the factors that influence the distribution and sharing of DER among teachers at rural schools. Based on the literature regarding the distribution of teacher behavior and relying on the IMBP model of Wang, Tigelaar and Wilfried (2021) and which can be seen in Figure 1.

In the context of this research, the list of determinants follows Wang's model and expands with motivation, since the literature indicates that for teachers "sharing behavior cannot be fully understood without taking individuals to contrast" (Wang et al., 2021. p. 5).

In addition, inspired by the distinction between the exchange of interpersonal knowledge and being based on the Internet through foundations carried out in the study of Van Acker cited by Tigelaar we obtain that the relative effects of the determinants for the exchange of knowledge occur in two different contexts: the first has to do with the sharing with colleagues within their school and with the others outside their school.

In that sense and due to the high correlations between knowledge and skills and self-efficacy, we leave out knowledge and skills and only include self-efficacy and that is detailed with the following systematization:

RQ1. Is motivation related to each of the dispositional variables (a) self-efficacy, (b) attitudes and (c) subjective norm, (d) sharing intention within the school, and sharing behavior within the school?
RQ2. Is motivation related to each of the dispositional variables (a) self-efficacy, (b) attitudes and (c) subjective norm, (d) sharing intention, and e) sharing behavior outside of school?
RQ3. Is it (a) sharing intention, (b) sharing climate, and (c) work pressure related to sharing behavior within the school?
RQ4. Is it (a) sharing intention, (b) sharing climate, and (c) work pressure related to sharing behavior outside of school?
RQ5. Is there an indirect effect of motivation on the intention to share within the school through dispositional variables?
RQ6. Is there an indirect effect of motivation on intention to share outside of school through dispositional variables?

Methodology

Except for the demographic information of the respondents, the questionnaire included all the constructs of the model proposed by Wang, Tigelaar and Wilfried. All measures come from existing instruments with a high level of validity and reliability based on similar studies.

To better contextualize the instrument, some semantic modifications were made in relation to the sociodemographic and sociocultural reality of the spaces where the instrument was applied. To avoid semantic biases, a researcher with extensive command of the language translated the original instruments in English into Spanish and provided us with a series of alternatives for cultural and contextual adaptation. At the end of this research body, the elements of each variable have been included and maintained in the final analyses, which can be seen in Table 1.

The arguments of the sample allowed to delimit the measurement model and articulate the motivation indicators according to the size of the probabilistic sample where *x*, and *q* are used for the analysis of quantile vectors and where *p* was used to measure the reliability of the probability vector of the sample.

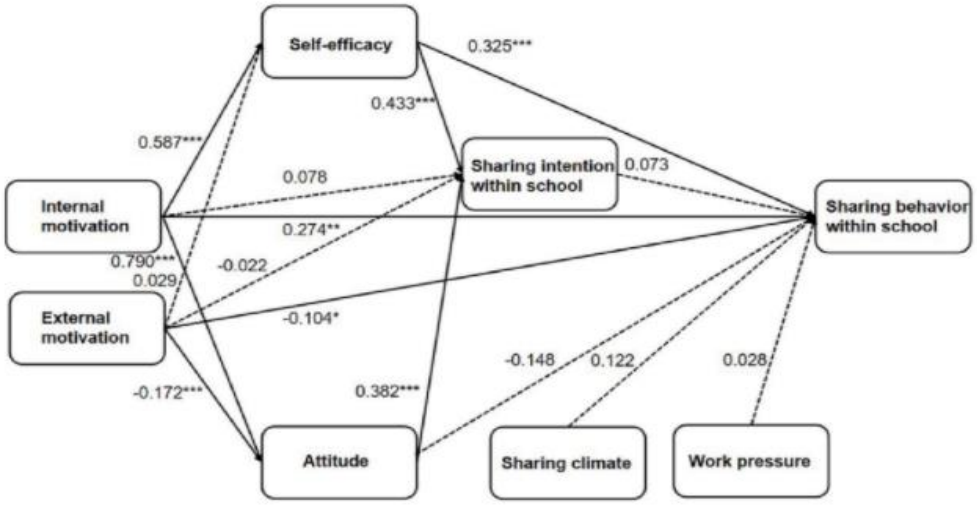
In this way in corresponding to the number of observations (variables used) corresponded to the following formula in the length of the number required for the value of length (n) > 1, having this a total of 127 samples executed and 123 samples validated and where the degrees of freedom df (> 0, maybe non-integer). df = Inf is allowed and allow the determination of an *ncp* as worked in the sample and collection of Wang, Tigelaar and Wilfried where the centrality parameters allow recurrent exceptions on the value of *rt* (), only for *abs*(ncp) < = 127 is omitted and uses the central distribution of T log, and log. *p logical*; where is TRUE (true), where the probabilities *pt* are given as log(p). of the bottom point and logic; the true value TRUE (default), probabilities in which P [X ≤ x], otherwise P [X > x] and which determine that the distribution with *gl* = *n* determine the following formula detailed in equation 1:

As can be seen in the graphic simulation, according to the number of validated interviews, the growth data for intentionality to be shared are visually evident, however, it is also clear that this is an escalated intentionality, that is, it does not necessarily correspond to a personal notion, but there is an influence from collective factors.

This scalability suggests that it is necessary to consider group or external factors to individuals that go beyond intentionality and that these depend on structural factors at the educational level which are linked to the attributions that a teacher may have to exercise the research activity -even to be able to prepare their classes-. To analyze the internal and external motivations of the act of sharing and the climate generated in educational subjects the dissemination and interrelation of information that can be used in the educational environment, the results have been processed in the illustration.

Figure 1

Result of the structural model within the school



Note: *** p < 0.001, ** p < 0.01, *p < 0.05 based on the structure model of the research model of Wang, Tigelaar and Wilfried (2021)

The structure foreseen for the act of sharing and presented by Wang, Tigelaar and Wilfred suggests a percentage of %28.8 acceptance based on a scale of *Cronbach and Robustness-aware 2-bit quantization* where the approximation of each of the coefficients allows us to predict how much it is possible or not the existence of an intentionality to share both internal and external factors and that it is validated through review of the two coefficients, the one for the reliability of the sample and the second for the interpretation of the results.

Measurement model

The model of measurement and information collection was based on a structure of simplification of three sub-constructions for the indicators of motivation, to these was added a contextual study to evaluate the sociocultural and sociodemographic conditions but supported by the models that the CFA provided to Wang, Tigelaar and Wilfried to factor the results of the first order and that are linked to the representation of the attitude towards sharing when it is known. and that acts as a motivational source, a situation that is verified through the residual variance of the sampling and that is detailed in the histogram of Figure 2 of an equivalent to minus 10 where N = 123.

To favor the explanation of the motivational factor, we decided to eliminate introjected regulation from the main model and stick to the recommendations of Wang, Tigelaar and Wilfried and include only two first-order factors in which external regulation was considered as external motivation and intrinsic motivation was considered as internal motivation. The relationships were adjusted, resulting in the final model presented in the vocational inclination curve and which can be verified in figure 4.

The referential elements in the instrument can be verified in Appendix B as evidence of the applied model and the description of the demographic variables for the determination of space and perception of the educational environment. For the intra-school model, the Continuing Education Analysis (AFC) included 19 variables, of which 8 are related to external indicators of perception and the rest was closed to routine educational practice.

The results of the analysis show a convergent and acceptable validity of internal reliability of the measurement model. The standardized factor loads of all measurement items range from 0.645 to 0.919, and all are significant at the p-level <0.001.

The composite reliability (CR) values are greater than 0.8 out of 1, confirming that all constructs have good reliability. The extracted average variance values (AVE) for all constructs are above 0.5, supporting convergent validity (Cabello, Ringle, & Sarstedt, 2011). In addition, all los Cronbach ' The values of "k" are greater than 0.8, which indicates that all constructs have an adequate internal consistency following the application of Nunnally in 1978) and applied by Wang, Tigelaar and Wilfried, main references of this study and presented in Figure 5.

Discussion:

The process of collecting information allowed to identify how teachers and the participation they must share affects the educational processes and therefore the possibilities of innovation within it. The reluctance on the part of teachers to share their knowledge is underpinned by what seems to be a problem of the "public system" and its provisions for educational action.

Table 1

Analysis of scales diagrammed on methodological notions.

Scales	Does sharing represent a meaningful decision for me?	Do I consider sharing an important goal for me?	If I share information, do I think I enjoy doing so?	Do I find the act of sharing entertaining for me?	If I share my digital educational resources, do I feel satisfied?
1 Strongly disagree	4,9%	2,4%	4,7%	1,6%	3,3%
2 disagree	1,6%	1,6%	1,6%	11,4%	3,3%
3 agree	38,2%	38,2%	43,1%	56,9%	46,3%
4 strongly agree	57,7%	57,7%	51,2%	30,1%	47,2%

Sharing knowledge results, both by interaction and predisposition, a difficulty derived from costs, access to appropriate literature and of course spaces that allow a conscious and professional exploration.

It was possible to precisely see the access to open access sources or adequate repositories, it is one of the main problems when generating working groups due to the incompatibility of the spaces with the teaching research action.

Table 2

Analysis of the scales diagrammed on the "I" as a collective subject.

Scales	If I share my digital educational resources, do I feel good about myself?	If I share my digital educational resources, do I feel valuable?	If I share my digital educational resources, do I feel benefited to any degree?
1 Strongly disagree	1,6%	1,6%	3,3%
2 disagree	2,4%	13%	10,6%
3 agree	48%	47,2%	56,1%
4 strongly agree	48%	38,2%	30,1%

That is, in the local context one of the main problems does not have to do with capacity, intentionality or the need to share; but there is a need that has sought and tries to the extent of its own possibilities, share, and create niches of collaborative work.

This is directly related to the common mistake of believing or assuming that the use of ICTs empowers the act of sharing knowledge, since it represents one more factor in the long dynamic to build collective knowledge. The generation of values based on knowledge and the inquiry regarding possible innovations come to be understood as an expanded field of the act of sharing and organizational knowledge.

In this way, collective work is linked in the sense of access to digital resources available to an educational institution. For this reason, the need to share has shown a high percentage of acceptability to be able to start, even despite institutional limitations.

Table 3

Analysis of diagrammed scales on institutional support

Scales	I believe that, in my educational unit, there is enough support to share digital educational resources.	I believe that in my educational unit, teachers share conceptions and ideas about their educational vision.	I consider that my educational unit, teachers share knowledge about the evolution of education.	In my educational unit, teachers share knowledge and experiences about the changes they implemented in their lesson practices.
1 Strongly disagree	8,1%	3,3%	3,3%	4,1%
2 disagree	22,8%	9,8%	11,4%	14,6%
3 agree	48%	65,9%	63,4%	57,7%
4 strongly agree	21,1%	21,1%	22%	23,6%

We can say then that the circumstances necessary to motivate or that there is a motivation in individuals to share or transfer knowledge depend in the case of the educational context of the Ecuadorian coast to factors more than cognitive, they depend on logistical factors that require understanding the dynamic

structure of sharing knowledge raised and that has been raised by Camelo-Ordaz and others, (2010) and taken up by Cabrera J. (2023) as detailed in Figure 6.

In this structure, the facilitators of motivation relate to those of facilitation of opportunities and levels of action when sharing knowledge from knowledge, influence, and ability to use ICT or other resources within virtual and physical databases or data.

Table 4

Analysis of scales diagrammed on intentionality.

Scales	Is there a greater possibility of sharing digital educational resources at school?	If you had the choice or not, would you share digital educational resources at school?	Would you intend to share digital educational resources at school?
1 Strongly disagree	4,1%	0,8%	1,6%
2 disagree	17,1%	13,8%	1,6%
3 agree	56,1%	52%	52,8%
4 strongly agree	22,8%	33,3%	43,9%

These links are the factors that enable an investigative process and that, as part of their immutable relationship, ends up being part of the act of sharing according to what was identified by Mujica et al., (2022) when talking about intentionality within teaching-learning practices at different educational levels.

Table 5

Analysis of scales diagrammed on diffusion.

Scales	What is the greatest possibility of sharing digital educational resources outside of school?	Do you plan to share digital educational resources outside of school?	Do you intend to share digital educational resources outside of school?
1 Strongly disagree	2,4%	2,4%	2,4%
2 disagree	17,9%	17,9%	18,7%
3 agree	56,9%	58,5%	58,5%
4 strongly agree	22,8%	21,1%	20,3%

The intention to share is interpreted from a clear need to look for different alternatives to carry out new methodologies for the development of the classes or even for their own research purposes. An average of 40% of the sample is willing to the possibility of sharing even outside the educational space and through virtual environments to facilitate their field of consequence.

The exchange of digital resources in rural educational units can be a process that presents complications, so it is important to know the way in which it is carried out. (Al-Huneini et al., 2020) These establishments have limited access to the optimal conditions for the learning process, in view of this it is essential to determine factors that contribute to the motivation of teachers to share these study tools with other members of the educational system of their unit and their community. (Yang et al., 2018).

Conclusions:

The results of the survey and the research allowed to identify part of the reality of teaching knowledge. In addition, it was evident that not necessarily a high rate of validation of knowledge implies a high desire for the act of sharing because the fear is clear, either due to discomfort or lack of confidence regarding what is known or not and even more so in the absence of logistical resources that allow interaction between subjects and knowledge.

The index of probability of sharing evidenced graphically in figure 5, shows us precisely this index which, was supported with the external review to obtain the formula that allowed to determine in the Alpha coefficient that the exchange of resources has a proximity to "1" but that, nevertheless, there is a tendency that only 20-25% of the respondents apply truly this interest in sharing information based on their knowledge.

The collection of this information is directly related to the training and updating guidelines provided by the educational authorities and that must do directly with the permanent training programs for teachers and the way in which these trainings influence the performance of these according to the degrees of dimensionality collected during sampling and research.

The programs that are promoted do not recognize or include the need to cooperate but to generate project-based work which, although it requires collective work, does not promote collective capacity from individualism, but articulates the strengths of each participant, something that is required for the act of sharing, especially for the construction of knowledge.

In this sense, it has been possible to detect that in the absence of a greater interest in sharing knowledge, it becomes quantifiable regardless of the number of courses or programs that are developed within the institutions, regardless of whether they are rural or urban, a connection between the faculty and the action of building knowledge networks or sharing information will not be achieved. All due to the fears generated possibly by generational gaps or the tendency to consider that information is not available to the researcher, in this case teaching.

We can conclude that it is necessary to promote a complementary study to this exploration in which not only the identification of motivational factors is sought, but also articulates the basic principles for the investigative act, which does have to do directly with the intentionality to share.

This will allow to investigate the intentionality to investigate in the interest for the leveling of both pedagogical and educommunicational criteria generating knowledge circuits based on the principles of open communication and mastery of new digital trends, which are not necessarily related to ICT.

In this way, this study surpassed the primary initiatives and allows us to urge those who approach this body of research to reflect on the ways in which we do research and collect literature for our students.

Likewise, this study met our expectations regarding the collection of data in a primary way to verify the rate of sharing of the faculty at the different levels of education and, added new vital information to determine that not necessarily sharing or lack of intentionality to share this is a problem of rural education, but of the educational models that are developed in Ecuador.

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ANNEXES

Equations. -

Equation 1

Robustness-aware 2-bit quantización en tiempo real,
https://www.sciencedirect.com/science/article/pii/S0925231221007177

$$f(x) = \Gamma((n+1)/2) / (\sqrt{}(n\pi)\,\Gamma(n/2))\,(1 + x\text{^}2/n)\,\text{^} - ((n+1)/2)$$

Tables. -

Table 1

Demographic distribution of the study

Demographic statistics of participants (N = 123).

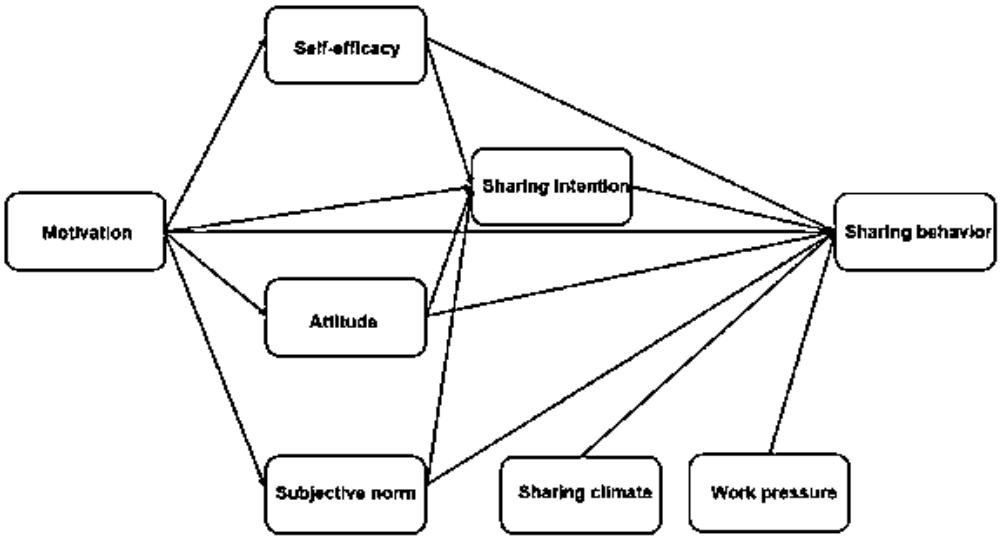
Measurement	item	Frequency	Percentage
Gender	Man	27	22%
	Woman	94	76,4%
	LGBTIQ+	2	1,6%
Educational Level	1EGB	8	6,5%
	2EGB	3	2,4%
	3EGB	8	6,5%
	4EGB	9	7,3%
	5EGB	5	4,1%
	6EGB	8	6,5%
	7EGB	11	8,9%
	8EGB	8	6,5%
	9EGB	9	7,3%
	10EGB	13	10,6%
	1BGU	6	4,9%
	2BGU	5	4,1%
	3BGU	19	15,4%
	OTHER	11	8,9%
Demographic dimension	Rural	97	78,9%
	Urban	26	21,1%

Note: Demographic statistics adapted to sociodemographic instances in the local context.

Figures:

Figure 2

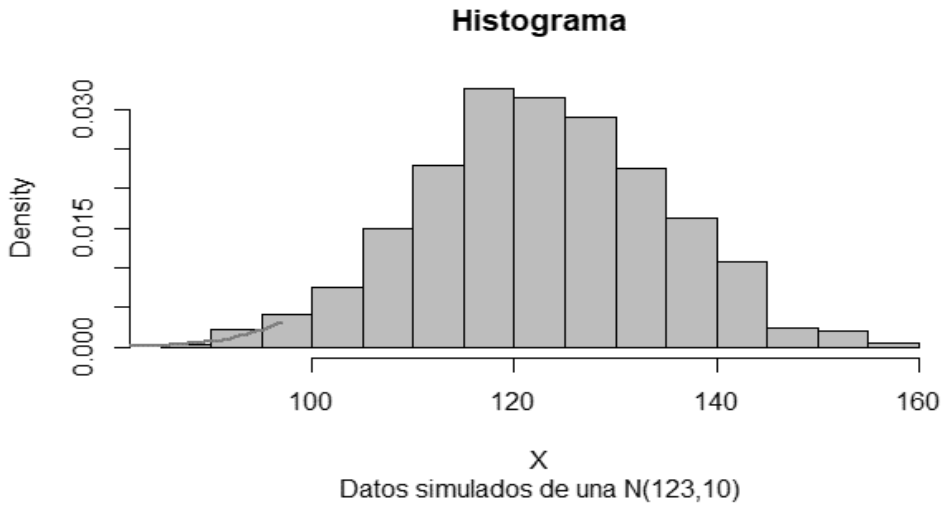
Structure of the research model of Wang, Tigelaar and Wilfried (2021)



Structure proposed by Wang et. al. (2021) for the process of sharing.

Figure 3

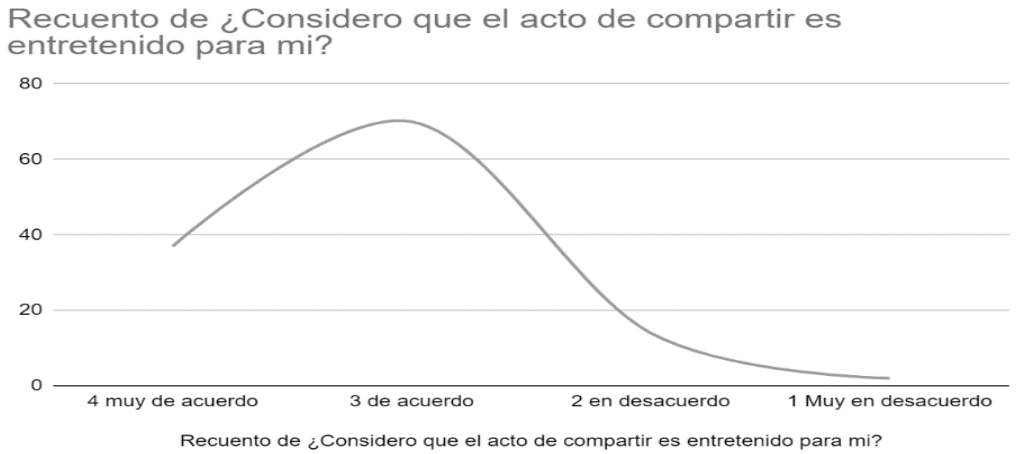
The student t Distribution, http://stat.ethz.ch/R-manual/R-devel/library/stats/html/TDist.html.



Note: Histogram RStudio Source: Lenth, R. V. (1989).

Figure 5

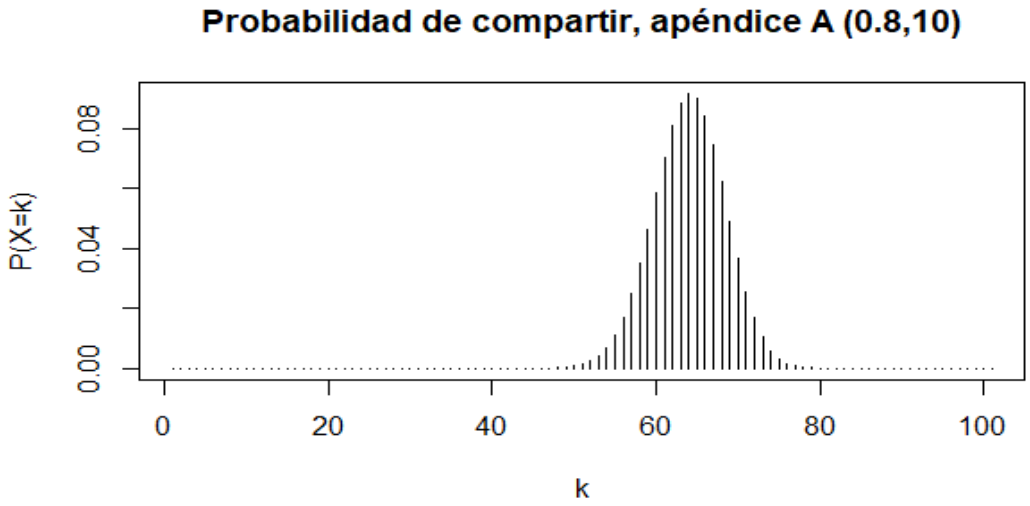
Inclination curve towards sharing from the vocational



Note: Result of the sample and structured application from the latent variables and their respective indicators.

Figure 6

Likelihood of sharing based on survey results



probability index to share based on Alpha coefficient designed in RStudio, the formula was obtained from the revision of Cabrera Amaiquema (2021) and its note in RStudio with the following plot equation (*dbinom* (0 *:100,90,0.7), type*="h",*xlab*="k",*ylab*="*P(X=k)", main= "Probability of sharing, appendix A (0.8,10)")*

Appendix:

Appendix A