Revista Latina de Comunicación Social
ISSN 1138-5820 / No. 83, 1-22.
https://doi.org/10.4185/rlcs-2025-2447

Media and information literacy and citizenship education in university students

Osbaldo Turpo-Gebera
Universidad Nacional de San Agustín de Arequipa. Peru.
oturpo@unsa.edu.pe

Cinthia Rosales-Márquez
Universidad César Vallejo. Peru.
crosalesma@ucvvirtual.edu.pe

Olger Gutiérrez-Aguilar
Universidad Católica de Santa María. Peru.
ogutierrez@ucsm.edu.pe

Elmer Rivera-Mansilla
Universidad Nacional Jorge Basadre Grohmann. Peru.
eriveram@unjbg.edu.pe

How to cite this article / Standard reference:

Turpo-Gebera, Osbaldo; Rosales-Márquez, Cinthia; Gutiérrez-Aguilar, Olger, & Rivera-Mansilla, Elmer (2025). Media and information literacy and citizenship education in university students. *Revista Latina de Comunicación Social*, 83, 1-22. https://doi.org/10.4185/RLCS-2025-2447

Date of Receipt: 24/12/2024
Date of Acceptance: 13/04/2025
Date of Publication: 13/05/2025

ABSTRACT

Introduction: Media and Information Literacy (MIL) and Civic Formation (CF) are essential competencies for critical and ethical democratic participation. This research aims to determine the causal relationship between these competencies in university students, exploring their correlation, mediating factors, and explanatory effects. **Methodology:** Using a quantitative, correlational, and explanatory approach, the relationship between MIL and CF was analyzed in a sample of 906 students from a public university in Peru. Validated questionnaires, non-parametric techniques, and regression analysis were employed to assess direct and

indirect effects, ensuring representativeness, reliability, and adherence to ethical principles. **Results:** MIL shows a positive and significant relationship with CF (rho = 0.59), with a strong direct impact, highlighting the influence of Digital and Informational Literacy on Responsibility and Citizen Participation, although critical competencies require strengthening and external factors have limited mediation. **Discussion:** The study confirms the causal relationship between MIL and CF, demonstrating a direct and significant impact that validates the initial hypothesis and emphasizes the need to strengthen education in digital competencies to shape critical, informed, and engaged citizens in the digital age. **Conclusions:** The positive relationship between MIL and CF is confirmed, highlighting the need to more effectively integrate the critical competencies of MIL into educational programs to shape critical, ethical, and engaged citizens who are committed to global challenges and sustainable development.

Keywords: Media and Information Literacy; Civic Formation; Media Convergence; Democratic Participation Digital Literacy; University Students; Peru.

1. INTRODUCTION

Media and Information Literacy (‘MIL’) and Citizenship Education (‘CE’) are essential competencies in the Information and Knowledge Society (‘'IKS’'), as they promote active, critical and ethical participation in democratic processes at the local and global levels. The integration of MIL in educational systems reinforces the critical capacity of citizens and develops skills to access, evaluate and produce information in a reflective manner, contributing to the construction of fairer and more democratic societies (López-González et al., 2023). In a complex media environment where Information and Communication Technologies (ICTs) play a central role, these competencies allow confronting misinformation, fostering reflective thinking and handling information critically and autonomously (Pérez-Tornero, 2015; Bellatti et al., 2023; Sánchez-Acedo et al., 2024). Beyond basic literacy, MIL and CF recognize access to ICTs as a fundamental right that enables informed, critical and responsible participation in the social and media sphere (Garro-Rojas, 2020). This comprehensive approach seeks to form active and critical citizens, strengthening social capital through flexible and contextualized educational actions, which promote cohesion and collective action as pillars of democratic consolidation (Durston, 2000; García-Ruiz et al., 2020; Salcines-Talledo et al., 2023).

MIL and CF are essential for building a critical and participatory citizenship in the digital era, since the advance of technologies and digital platforms demands new skills and knowledge for full integration in a media and digitized society (Rendón-Gil et al., 2023). MIL, which encompasses competencies of analysis, evaluation and content creation, not only makes media management easier, but also provides tools for active and reflective participation in society, consolidating itself as a central component of CF (Gómez & Yañez de Aldecoa, 2023). The relationship between MIL and CF is based on the common goal of promoting an ethical and safe use of technology, democratizing access to information and fostering a conscious digital citizenship. However, there are challenges such as the diversity of attitudes towards technology, especially among university students, which underlines the need to strengthen education in digital competencies for a full digital citizenship (Rendón et al., 2023). Both practices coincide in their ethical approach to technology, promoting a personal and social transformation towards an inclusive and democratic digital environment.

The boom of ICTs and the massive use of the Internet have generated new forms of exclusion that challenge full digital citizenship, evidencing the need for a digital CF or e-citizenship that fosters a critical awareness of global phenomena such as climate change and migration from an ethical and responsible perspective (Boni et al., 2020). This requires an MIL that develops the critical sense of individuals (Feridouni & Ahmed-Mohamed, 2024) and overcomes the limitations of current educational tools in the face of risks such as cyberbullying (Aran-Ramspott et al., 2024). Global citizenship requires an inclusive educational approach, aligned with the

Sustainable Development Goals (SDGs), that turns educational institutions into centers of innovation and social mobilization, promoting the critical use of digital media and emerging platforms such as YouTube (Notley et al., 2023). Teachers and universities play a key role as mediators, promoting continuing education programs, international cooperation, democratic participation and sustainable development to foster solidarity-based social change (García-Ruiz & Pérez-Escoda, 2019; Touriñán-López, 2020; Godoy, 2024; Sanabria & Longueira, 2022).

The interrelationship between MIL and CF is essential for individuals to become responsible actors within democratic processes. In a world highly influenced by social networks and digital media, critical capacity is crucial to address issues such as democracy, politics and ethics. MIL not only teaches how to consume information critically, but also how to create and disseminate ethical and verified content, promoting active and responsible citizenship. In this context, universities play a key role as fundamental agents for sustainable development and the construction of a conscious citizenship. In addition, MIL develops a critical awareness of global issues and promotes an ethical understanding, essential for the exercise of citizenship in democracies based on participation and social justice. In the face of misinformation, it is vital to implement actions to counteract it, as power structures attempt to manipulate socio-cultural representations. Thus, MIL strengthens the critical capacity of citizens and supports democracy and social justice (Abril & Aguado, 2020; Araújo dos Santos, 2023). For this integration to be effective, it is essential that educational policies support the pedagogical autonomy of teachers, allowing for a flexible and coherent approach that combines IMA and CF in the curriculum (Sanabria & Longueira, 2022).

CF for digital society is essential due to the omnipresence of technology in everyday life. When exploring youth perceptions of their (trans) media competencies on platforms such as YouTube and Instagram, it was highlighted that the most relevant skills were Interaction and Production and Dissemination Dynamics, with gender variations: males emphasized Production, Dissemination and Technology, while females highlighted Ideology, Ethics and Interaction, stressing the importance of safe practices and conscious consumption on social networks (Korkmazer et al., 2022; Aran-Ramspott et al., 2024). CF faces challenges such as the digital divide, limited teacher training, institutional resistance, and concerns about student privacy, underscoring the need for MIL for social and individual development in a technological and media context (Kačinová & Sádaba-Chalezquer, 2022). Integrating MIL into the curriculum prepares students for the labor market, fosters critical thinking, and promotes ethical and civic participation. However, it faces challenges such as difficulty in generating quality content and variability in student competencies, which requires additional support from educators (Yee & Huey, 2024). Project-Based Learning and Guided Inquiry are essential to strengthen digital competencies and critical evaluation of information, while continuous teacher training and inclusive policies are basic for its effective implementation (Guevara-Andino & Delgado-Salas, 2024).

The interrelation of MIL and CF is fundamental to form critical and committed citizens in a democratic and media society. MIL focuses on skills to search, evaluate and create information, while CF promotes knowledge and participation in public and democratic life (Estellés, 2024; Estellés et al., 2021). This integration is fundamental in the framework of the SDGs, which demand ethical and political education to face global challenges. In Latin America, MIL has prioritized digital and informational competencies, focusing on technological skills and the management of media access in educational centers, which requires active government collaboration to ensure its effective and equitable implementation (Durán, 2016; Romero-Romero et al., 2024). Pedagogical autonomy must be aligned with effective approaches that promote contextualized CF, fostering critical media literacy to develop analytical skills and active participation in democracy (Mésquita and Fernández, 2023). The development of MIL is key to strengthening democracy and CF, as it is closely linked to communicative competence. Its absence can generate problems such as misinformation and inaccuracies, especially in a rapidly evolving media context (Matos & Barroso-Osuna, 2024).

In Latin America, including Peru, the development of MIL and its relationship with CF is at an early stage and is not yet formally incorporated into educational curricula. Citizenship, which encompasses coexistence, dialogue, tolerance, and rights and duties, is fundamental to CF, and freedom of expression plays a key role in facilitating communication and the full exercise of citizen rights (Suing & Marín-Gutiérrez, 2023). However, few nations have implemented non-formal education policies to train citizens in the analysis and production of media messages (Mateus & Suárez-Guerrero, 2017), leaving much of the population without the necessary skills to face the risks of media consumption and take advantage of the opportunities of the digital environment, especially with the expansion of online life (Torrego & Buitrago, 2017; Pari-Tito et al., 2024). Among university students, MIL varies significantly between countries: Colombians stand out in aesthetic competencies and interaction, while Peruvians show lower scores in these and other domains, such as language, technologies, and production and dissemination; in contrast, Brazilians excel in language and Colombians in technology, production and dissemination (Marín-Gutiérrez et al., 2019). Improving MIL in Latin America requires strengthening political, cultural and legal structures, while political activism and social cohesion, focused on civil rights and culture, reinforce public policies and encourage a critical and participatory response (Quiroz, 2018; Mansoor, 2024). This reflects a growing integration of MIL in education, communication and e-government, strengthening its role in digital culture and promoting greater political and social participation (Turpo-Gebera et al., 2022).

2. OBJECTIVES

The main purpose of this research is to establish the causal relationship between MIL and CF in students of a Peruvian university. To this end, it is proposed to analyze the correlation between the level of performance in MIL and CF, as well as to identify how the different dimensions of MIL are related to specific aspects of CF in these students. In addition, the study seeks to characterize the sample according to socio-formative factors through the distribution of frequencies, to evaluate the mediating role of these factors in the relationship between MIL and CF, and to calculate the regression coefficient that allows measuring the explanatory effect of MIL on CF. The hypothesis guiding the study is that there is a causal relationship in which a higher performance in MIL has a significant impact on CF, contributing to its strengthening in the Peruvian university context.

3. METHODOLOGY

The study adopted a quantitative, inferential, correlational and explanatory approach, with a cross-sectional scope, with the main objective of evaluating the relationships and influences between MIL and the CF of students at a public university located in the southern region of Peru. This methodological design made it possible not only to identify the correlations between the variables, but also to analyze the causal effects that MIL could have on CF. The sample, randomly selected, consisted of 906 students from a total population of 26,410 enrolled in different careers in the faculties of Social Sciences, Basic and Engineering Sciences, and Biomedical Sciences, which ensures the representativeness and external validity of the results.

To understand the mediating factors in the relationship between MIL and CF, additional socio-formative variables were included, which allowed a more complete analysis of possible indirect effects. Because the data did not follow a normal distribution, the use of nonparametric tests and polychoric correlations, which are suitable for ordinal variables, was chosen (Freiberg et al., 2013). These techniques are essential when assumptions of normality are not met, as they allow a robust assessment of the relationships between variables in educational and social contexts. In addition, regression analyses were applied to explore both direct relationships and influences of MIL dimensions on CF. This methodological approach, by controlling for other variables, facilitated a more accurate interpretation of the results, enabling the unraveling of the underlying mechanisms in the relationship between MIL and CF in the university setting.

To assess MIL and CF, three questionnaires were used: the first, focused on socio-formative factors (personal, social, technological and formative) of students; the second, oriented to the assessment of MIL, developed from a comprehensive review of literature and theoretical frameworks, such as those of the UNESCO MIL Curriculum (Wilson et al., 2011; Grizzle et al., 2023), composed of 28 items with a 5-point Likert scale; and the third, a questionnaire on CF or e-Citizenship, based on proposals by various authors (Galván-Cabello et al., 2022; Fernández-de-Castro et al., 2021; Carrera, 2021, among others). It consisted of 28 items on a 5-point Likert scale, and it was designed to assess the CF of Peruvian university students, adapted to the cultural diversity of the country and the complexity of digital citizenship.

The instruments used in the study were rigorously validated to ensure their quality, relevance and reliability. Through expert judgment, an Aiken V coefficient of 0.85 was obtained, demonstrating high inter-rater agreement on the relevance of the items, ensuring their conceptual and cultural appropriateness for measuring MIL and CF. In addition, Cronbach's Alpha coefficients of 0.860 for MIL and 0.948 for CF evidenced excellent internal consistency, reducing the risk of measurement errors. The validity of the constructs was confirmed, which supports the relevance of the questionnaires in the Peruvian university context and reinforces confidence in the results obtained.

Fundamental ethical principles for research involving human subjects were ensured, such as institutional authorization, voluntary participation, data confidentiality, informed consent, beneficence and privacy. Sample subjects were informed about the objectives, procedures, risks and benefits of the study, ensuring that all participants fully understood the nature of the study (Weil, 2015). The data obtained were organized in an Excel spreadsheet for processing in Jamovi 2.3.28 software, using the add-on packages of its MedMod 1.1.0 library. To analyze the mediating effect of the socio-training factors among the variables, appropriate statistical techniques were applied. In addition, using the Regression module, the direct effect of MIL on CF was calculated, allowing an accurate assessment of their relationships.

4. RESULTS

The research analyzed the relationship between MIL and CF in students of a public university in southern Peru, through a rigorous approach that included bivariate correlation analysis to identify significant associations, a mediation analysis to explore socio-training factors that influence this relationship, and an evaluation of the causal effect to estimate how MIL competencies impact the development of civic values, critical thinking and ethical participation, evidencing their contribution to the formation of responsible and critical citizens in the university environment.

4.1. Correlation analysis between study variables

Normality tests showed that the data did not follow a normal distribution, so nonparametric tests were used, employing Spearman's Rho coefficient for correlation analysis.

Table 1. *Correlation coefficients of the dimensions of Media and Information Literacy (MIL) and Citizenship Formation (CF) in students of a Peruvian public university.*

Rho Spearman	MIL_D1	MIL_D2	MIL_D3	MIL_D4	MIL_D5	CF_D1	CF_D2	CF_D3	CF_D4	CF_D5
MIL_D1	1.000									
MIL_D2	-0.060	1.000								
MIL_D3	-0.060	0.300**	1.000							
MIL_D4	0.689**	-0.054	0.045	1.000						
MIL_D5	0.578**	0.085*	-0.005	0.496**	1.000					
CF_D1	0.487**	0.022	0,077*	0.620**	0.390**	1.000				
CF_D2	0.552**	-0.033	-0.006	0.506**	0.408**	0.581**	1.000			
CF_D3	0.443**	0.004	0.003	0.564**	0.372**	0.729**	0.636**	1.000		
CF_D4	0.708**	-0.071*	-0.069*	0.580**	0.471**	0.673**	0.632**	0.601**	1.000	
CF_D5	0.624**	0.069*	-0.007	0.535**	0.385**	0.614**	0.540**	0.447**	0.710**	1.000

MIL_D1: MIL (Digital and Informational Literacy), MIL_D2: MIL (Critical Media Literacy), MIL_D3: (Critical Media Competence), MIL_D4: (Content Production Competence), MIL_D5: (Critical Media Thinking), CF_D1: (Digital Citizen Participation), CF_D2:(Activism in Virtual Communities), CF_D3: (Communication and Collaborative Development), CF_D4:(Digital Citizen Responsibility), CF_D5: (Digital Literacy Competence).
*Significance at 0.05
**Significance at 0.01

Source: Own elaboration.

Table 1 shows the Spearman correlation coefficients (rho) between the MIL and CF dimensions, highlighting several significant relationships. The intra-MIL dimensions show that MIL_D1 (Digital and Informational Literacy) is positively correlated with MIL_D4 (Content Production Competence (rho = 0.689, $p < 0.01$) and MIL_D5 (Critical Media Thinking, rho = 0.578, $p < 0.01$), suggesting that higher media literacy is associated with advanced skills in content creation and analysis. On the other hand, intra-CF relationships reveal strong associations between dimensions, such as between CF_D1 (Digital Citizen Participation) and CF_D3 (Communication and Collaborative Development, rho = 0.729, $p < 0.01$), and between CF_D4 (Digital Citizen Responsibility) and CF_D5 (Digital Literacy Competence, rho = 0.710, $p < 0.01$), reflecting an interconnection between the components of the CF.

Regarding the relationships between MIL and CF, MIL_D1 (Informational Digital Literacy) correlates positively with all CF dimensions, especially with CF_D4 (Digital Civic Responsibility, rho = 0.708, $p < 0.01$), indicating that media literacy fosters greater civic responsibility. MIL_D4 (Content Production Competence) also shows moderate correlations with CF_D1 (Digital Citizen Participation, rho = 0.620, $p < 0.01$) and CF_D2 (Activism in Virtual Communities, rho = 0.506, $p < 0.01$), suggesting that the ability to generate media content strengthens civic engagement. However, low or negative correlations are observed between critical dimensions of MIL, such as MIL_D2 (Critical Media Literacy) and MIL_D3 (Critical Media Competence), pointing to the need to improve the integration of critical MIL competencies in CF educational programs. Overall, the results show a strong connection between MIL and CF dimensions, but also highlight the need to improve the integration of critical skills to promote a more active and ethical citizenship..

Table 2. *Rho Spearman correlation coefficient between Media and Information Literacy (MIL) and Citizenship Formation (CF).*

Rho Spearman		Civic Formation (CF)
Media and Information Literacy (MIL)	Correlation coefficient	0.519**
	Sig. (bilateral)	0.000
	N	906

**Correlation is significant at the 0.01 level (2-aspects).

Source: Own elaboration.

The analysis in Table 2 reveals a moderate and positive correlation between MIL and CF, with a coefficient of rho = 0.519 and a significance value of p = 0.000, indicating a significant relationship between both variables. That is, as MIL skills improve, CF indicators also increase. This result highlights MIL as a key factor in the development of critical competencies and active citizenship, since strengthening MIL not only improves the skills to process and manage information but also fosters the ability to critically evaluate different contents and contexts, formulate solid arguments, and participate consciously in society. Thus, MIL is established as a fundamental pillar in a comprehensive CF, forming individuals capable of adapting to a digital and dynamic world, and contributing to the creation of more informed, responsible and critical citizens.

4.2. Analysis of the mediating effect of the socio-training factors on the study variables

The role of third variables in the relationship between MIL and CF is analyzed by assessing the mediation effects (direct, indirect and total) using path diagrams. This approach provides analytical tools for the scientific community to identify how socio-formative factors influence these key variables. The analysis is based on a prior description of the socio-formative factors, which will be tested as mediators in the MIL-CF relationship (Table 3). Hence, the understanding of how these factors modulate this relationship is broadened, enriching the research on the formative and social processes involved.

Table 3. *Distribution of socio-formative factors*

Personal factors		
Age (years)	**f**	**%**
17-21	571	63.0
22-26	264	29.1
27-31	55	6.1
32-36	12	1.3
52-56	0,4	0.4
Gender	**f**	**%**
Male	543	59.9
Female	363	40.1
Working, in addition to studying	**f**	**%**
Yes	421	46.5
No	485	53,5
Socio-economic factors		
Do you live with your parents?	**f**	**%**
Yes	658	72,6
No	248	27,4
Number of persons with whom you share the dwelling	**f**	**%**
You live alone	167	18,4

With less than 3 persons	234	25,8
Three or more persons	505	55,7
Household services	**f**	**%**
All basic services (water, electricity, sewage, Internet, ...)	643	71,0
Some basic services	258	28,5
No basic services	5	0.6
Regular	96	10.6
Good	270	29.8
Satisfaction with living conditions	**f**	**%**
Yes	615	67.9
No	291	32.1
Technological factors		
Number of computers in the dwelling	**f**	**%**
One	492	54.3
Two or more	325	35.9
None	89	9.8
Do you have a cell phone?	f	**%**
Yes	900	99.3
No	6	0.7
Do you have permanent Internet access?	**f**	**%**
Yes	790	87.2
No	116	12.8
Place of Internet access	**f**	**%**
Home	888	98.0
University	6	0.7
Community center	7	0.8
Work center	5	0.6
Average hours of Internet use	**f**	**%**
Less than 4 hours	140	15.5
Between 4 and 8 hours	486	53.6
More than 8 hours	280	30.9
Recurrent Internet use	**f**	**%**
Academics	699	77.2
Entertainment	153	16.9
Information	39	4.3
Other	15	1.7
Educational factors		
Area of knowledge		**%**
Social sciences	366	40.4
Basic sciences and engineering	371	40.9
Biomedical sciences	169	18.7
Stage of study (according to semester)	**f**	**%**
Initial stage (1st - 4th)	567	62.6
Intermediate stage (5th - 8th)	206	22.7
Final stage (9th or more)	133	14.7

Source: Own elaboration.

Table 3 provides a detailed representation of a diverse university sample, highlighting several key factors that influence students' academic experience. The majority, 17 to 21- year-old students, face the typical challenges of that transitional stage, and a slight male predominance may suggest patterns across participation. The fact that almost half of the students (46.5%) combine studies with work reflects the difficulties in managing time and the additional pressures this implies. In addition, although a majority live with their parents, the conditions

of shared housing with multiple people could negatively affect privacy and the appropriate environment for studying. Although the majority have access to basic services, a significant percentage face shortages that could affect their academic performance, underscoring the importance of improving socioeconomic conditions to maximize students' potential.

The students in the sample have high technological access, with 99.3% owning a cell phone and 87.2% having constant access to the Internet, mainly for academic purposes (77.2%). Despite this favorable infrastructure, the areas of knowledge are balanced between Social Sciences (40.4%) and Basic Sciences and Engineering (40.9%), with a lower representation in Biomedical Sciences (18.7%), and most are in initial stages of training (62.6%). These data reflect a context of access to digital tools, but with persistent socioeconomic inequalities that could affect equitable access and the quality of learning.

Table 4. *Mediation of personal factors between Media Information Literacy (MLI) and Civic Formation (CF).)*.

Analysis route		β unstandardized	Lower CI	Upper CI	*P*
Indirect	MIL ⇒ EDAD ⇒ CF	-0.01117	-0.03253	-0.00103	0.037
	MIL ⇒ SEXO ⇒ CF	-5.86e−4	-0.00401	0.00225	0.581
	MIL ⇒ TRABAJA ⇒ CF	1.35e-4	-0.00225	0.00266	0.871
Direct	MIL ⇒ CF	0.49908	0.66484	0.83444	< .001
Total	MIL ⇒ CF	0.49908	0.66484	0.83444	< .001

*** p < .001 Z: Z score. CI: Confidence Interval

Source: Own elaboration.

Table 4 shows the mediation pathways of personal factors in the relationship between MIL and CF. It is highlighted that age has a significant, albeit negative, mediating effect (β = -0.01117, p = 0.037), suggesting that, as age increases, the influence of MIL on CF decreases slightly. This finding could indicate that younger students, who are in the initial stages of their training, benefit to a greater extent from the development of informational skills in relation to citizenship training. On the other hand, the pathways that include gender and the fact of working do not show significant mediating effects, which implies that these personal factors do not substantially affect the relationship between MIL and CF.

Despite the significant mediation of age, the direct relationship between MIL and CF remains strong and highly significant (β = 0.49908, p < 0.001), reinforcing the importance of MIL as a crucial factor for the development of citizenship competencies. The total result is also significant (β = 0.49908, p < 0.001), underscoring that MIL has an overall positive impact on CF, even when considering the effects of personal factors. Overall, although age slightly influences the relationship between MIL and CF, the sex and work variables do not significantly mediate this link. The results highlight that MIL is crucial for responsible CF, as its direct impact on CF is significant, regardless of personal factors such as age, which underlines the need to strengthen informational competencies in the formative process.

Table 5. *Mediation of socioeconomic factors between Media and Information Literacy (MAI) and Civic Formation (CF)*

Analysis route		β unstandardized	Lower CI	Upper CI	*P*
Indirect	MIL ⇒ LIVING WITH PARENTS ⇒ CF	0.00416	-0.0135	0.02603	0.536
	MIL ⇒ NUMBER OF PEOPLE LIVING WITH ⇒ CF	0.00621	-0.0028	0.02156	0.135
	MIL⇒ HOUSING SERVICES ⇒ CF	0.00105	-0.0030	0.00615	0.501
	MIL⇒ SATISFACTION WITH HOUSING ⇒ CF	-6.95e−4	-0.0126	0.01055	0.860
Direct	MIL ⇒ CF	0.48835	0.64833	0.81874	< .001
Total	MIL⇒ CF	0.49908	0.66484	0.83444	< .001

*** p < .001 Z: Z score. CI: Confidence Interval

Source: Own elaboration.

The analysis in Table 5 shows that socioeconomic factors, such as living with parents, number of people living with, housing amenities, and housing satisfaction, do not significantly mediate the relationship between MIL and CF). The unstandardized coefficients are small, and the p values are greater than 0.05, indicating that these socioeconomic factors do not significantly influence the relationship between MIL and CF. In contrast, the direct pathway between MIL and CF shows a strong and significant effect (β = 0.48835, p < 0.001), highlighting the direct influence of MIL on CF. In addition, the total pathway is also significant (β = 0.49908, p < 0.001), which reinforces the idea that MIL directly impacts HR. The results indicate that, although socioeconomic factors affect student well-being, they do not mediate the development of civic competencies, underscoring the importance of prioritizing training in informational skills to foster active and critical citizenship.

Table 6. *Mediation of technological factors between Media and Information Literacy and Civic Formation of the study sample.*

Analysis route		β unstandardized	Lower CI	Upper CI	*P*
Indirect	MIL ⇒ N° of_COMPUTERS ⇒ CF	-0.00314	-0.0120	0.00258	0.205
	MIL ⇒ MOBILE_PHONE_ACCOUNT ⇒ CF	-0.00209	-0.0091	0.00285	0.304
	MIL⇒ INTERNET_ACCESS ⇒ CF	6.17e-4	-0.0025	0.00441	0.602
	MIL⇒ ACCESS_LOCATION ⇒ CF	-6.65e−5	-0.0013	0.00115	0.875
	MIL ⇒ INTERNET_HOURS ⇒ CF	-4.29e−4	-0.0033	0.00204	0.639
	MIL ⇒ ACCESS_PURPOSES ⇒ CF	0.00458	-0.0051	0.01887	0.261
Direct	MIL ⇒ CF	0.49961	0.66492	0.83595	< .001
Total	MIL⇒ CF	0.49908	0.66484	0.83444	< .001

*** p < .001 Z: Z score. CI: Confidence Interval

Source: Own elaboration.

Table 6 provides an interesting finding that challenges the common assumption that technological factors, such as the number of devices available, Internet access or time of use, have a direct impact on the relationship between MIL and CF. Although these elements were expected to have a significant influence, the results (p > 0.05) do not support that hypothesis, suggesting that technological infrastructure alone does not determine the connection between these variables. However, the analysis shows that MIL has a direct and strong effect on CF (β = 0.49961, p < .001), highlighting that information management-related skills are a more decisive factor in the development of civic competencies than access to technology. This finding underscores the importance of strengthening individuals' informational skills, indicating that, regardless of technological limitations, the

ability to analyze, manage and use information effectively is fundamental to promote active and critical citizenship. In this sense, MIL emerges as a key pillar for civic development, suggesting that educational programs should focus on these skills, especially in contexts with limited technological resources.

This result has profound theoretical and practical implications. From a theoretical perspective, it reinforces the idea that the development of competencies does not depend exclusively on the availability of technology, but rather on cognitive skills, which justifies the importance of educational approaches focused on strengthening infomedial skills. In practical terms, it underscores the urgency of implementing pedagogical strategies that prioritize efficient information management, especially in contexts where access to technological resources is limited. This finding demonstrates that investment in MIL is a more effective and accessible strategy to enhance competencies, even in environments with insufficient technological infrastructure.

Table 7. *Mediation of formative factors between Media and Information Literacy and Civic Formation of the study sample.*

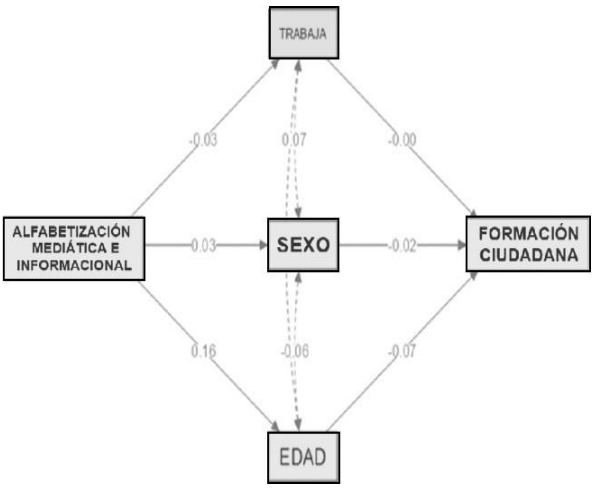
Analysis route		β unstandardized	Lower CI	Upper CI	*P*
Indirect	MIL ⇒ CAREER_ATTENDING⇒ CF	0.00300	-0.00511	0.01413	0.358
	MIL⇒ CAREER _STAGE⇒ CF	0.00102	-0.00404	0.00710	0.590
Direct	MIL ⇒ CF	0.49506	0.65943	0.82777	< .001
Total	MIL⇒ CF	0.49908	0.66484	0.83444	< .001

*** p < .001 Z: Z score. CI: Confidence Interval

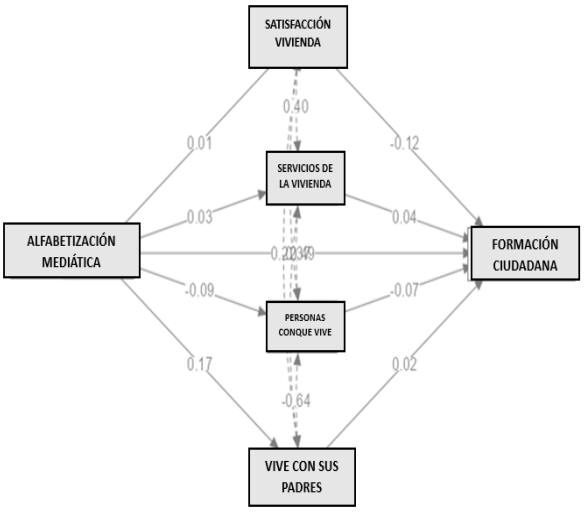
Source: Own elaboration.

Table 7 reveals that, although the formative factors: Career and Career Stage do not significantly mediate the relationship between MIL and CF, since the indirect paths do not reach statistical significance, the direct relationship between both variables remains strong and significant (β = 0.49506, p < 0.001). This suggests that the level of information management skills directly influences the development of competencies, without the career or academic stage in which the students are playing a relevant mediating role. This finding underscores the importance of training in MIL as a determining factor in the development of competencies, regardless of the discipline or semester students are in. Informational skills, such as the ability to search for, evaluate and use information effectively, are essential for academic success and the integral formation of students, which reinforces the need to prioritize the improvement of these skills in educational strategies, given their transversal impact on the development of key competencies for learning and citizenship.

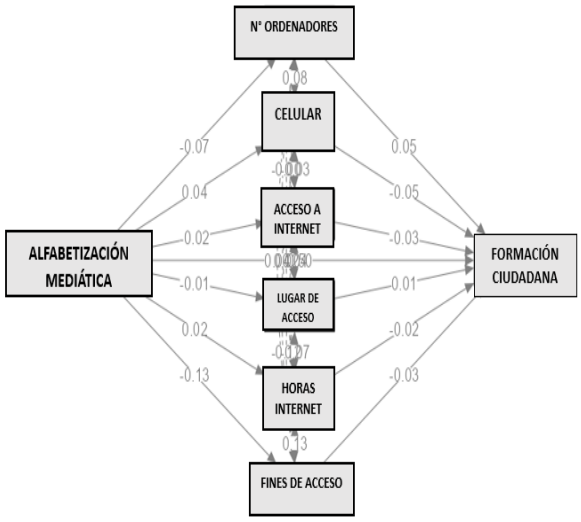
Figure 1. *Integration of mediation of socio-educational factors between Media and Information Literacy and Civic Formation*.



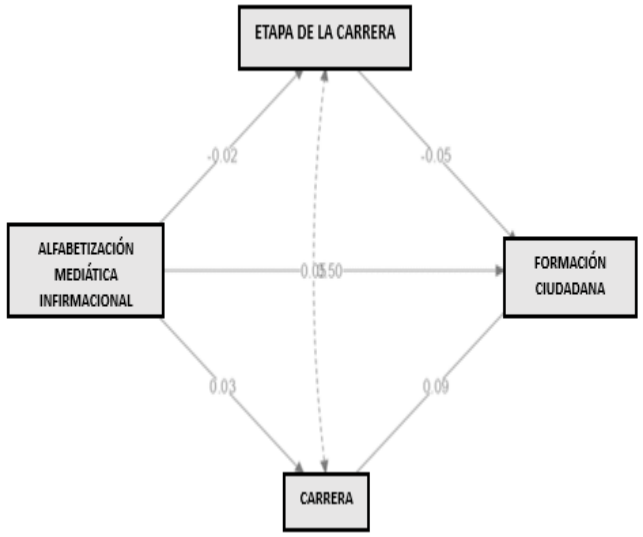
Mediation of personal factors between Media Information Literacy and Civic Formation.



Mediation of socioeconomic factors between Media Information Literacy and Civic Formation.



Mediation of technological factors between Media Information Literacy and Civic Formation



Mediation of educational factors between Media Information Literacy and Civic Formation

Source: Own elaboration.

The graphs in Figure 1 show how personal, socioeconomic, technological and formative factors can influence the relationship between MIL and CF in Peruvian university students. However, the results indicate that the influence of these factors on the relationship between MIL and CF is mostly weak or not significant. Specifically, none of the sets of factors analyzed show a statistically relevant impact that effectively mediates this

relationship. This lack of mediation suggests that MIL has a strong and clear direct effect on CF, regardless of students' personal, socioeconomic, technological, or formative characteristics. That is, contextual factors do not appear to be determinant in strengthening the relationship between MIL and CF. This underscores that, in the case of Peruvian university students, the development of informational skills is a key and independent factor in fostering CF, which reinforces the importance of prioritizing training in MIL in educational plans.

4.3. Análisis del efecto explicativo de la Alfabetización Mediática e Informacional en la Formación Ciudadana

The explanatory effect of MIL on CF explores how the development of media competencies influences citizenship competencies. This analysis focuses on identifying and understanding the relationships between both competencies, considering the internal and external factors that mediate this connection. Through a holistic approach, it seeks to unravel the mechanisms that reinforce the capacity of individuals to actively participate in society, understanding how MIL can contribute to a more critical, informed and engaged CF.

Table 8. *Regression coefficient for the explanatory effect of MIL on CF*

Predictor	Estimator	EE	t	*p*	Standard Estimator
Constant	22.075	4.7762	4.62	< .001	
MIL	0.749	0.0433	17.29	< .001	0.499
Significance at the 0.001 level					

Source: Own elaboration.

Table 8 provides the results of a regression assessing the impact of MIL on CF. The findings show that the coefficient for MIL is 0.749, indicating that a one unit increase in MIL is associated with a 0.749 unit increase in CF, suggesting a positive and significant relationship between the two variables. The p-value for MIL is < 0.001, confirming the high statistical significance of the model. Furthermore, the t-value of 17.29 reinforces that the effect of MIL on CF is not random, and the standard estimator of 0.499 points to a moderate but significant impact of MIL on CF. These results underscore that, as individuals develop MIL competencies, their ability to critically and actively participate in society also improves, highlighting the relevance of MIL on CF.

5. DISCUSSION AND CONCLUSIONS

The study clearly confirms that a better performance in MIL has a direct impact on the development of CF, validating the hypothesis that media-informational competencies strengthen citizenship competencies in the university context. Furthermore, the analysis of the correlation between MIL and CF and the characterization of the sample according to socio-formative factors reinforce the importance of MIL for the development of responsible CF in university students. Although the socioformative factors did not significantly mediate the relationship between MIL and CF, their analysis was performed correctly, demonstrating that these do not play a relevant role in the connection between both variables. Furthermore, the calculation of the regression coefficient reinforces the idea that MIL directly influences CF, without relying on mediators or factors that may alter this effect. Taken together, the findings support the importance of strengthening MIL training to promote an active, critical and informed CF.

The results of the study reveal a general alignment with key perspectives for building a critical and participatory citizenship in the digital age, as the advancement of technologies and digital platforms demands new skills and knowledge for effective integration in an increasingly mediatized and digitized society (Rendón-Gil, 2023; Notley et al., 2023). However, they also highlight areas that require further reflection, especially regarding the interaction between MIL and CF competencies in the educational field. This analysis not only confirms the need

to strengthen education in digital competencies to foster full digital citizenship (Gómez & Yañez de Aldecoa, 2023) but also underscores the urgency of adjusting current pedagogical approaches. To achieve a more effective integration of these competencies, it is crucial that educational programs not only include MIL and CF but also promote a closer and more applied connection between the two, in order to maximize their impact on the formation of critical, informed and engaged citizens.

According to Pérez-Tornero (2015) and Bellatti et al. (2023), both MIL and CF are key competencies to foster reflective participation in democratic processes, particularly in an increasingly digitized social and political context. The results of the study validate this assertion by showing that higher performance in MIL is directly associated with higher CF. The moderate correlation observed between MIL and CF ($\rho = 0.519$) underscores the importance of these competencies in the active participation of individuals. However, the low correlation between some critical MIL competencies, such as Critical Media Thinking, and fundamental aspects of CF suggests that, although there is a general relationship, not all MIL dimensions equally reinforce CF. This highlights the need for a deeper and more structured integration of these competencies in educational programs, where closer collaboration between MIL and CF could enhance their mutual impact.

In the face of disinformation, it is vital to implement actions to counteract it, since power structures try to manipulate socio-cultural representations. In this way, MIL strengthens the critical capacity of citizens and supports democracy and social justice (Abril & Aguado, 2020; Araújo dos Santos, 2023). For this integration to be effective, it is essential that educational policies support the pedagogical autonomy of teachers, allowing a flexible and coherent approach that combines MIL and CF in the curriculum (Sanabria & Longueira, 2022). In this way, it seeks to empower citizens through a critical use of digital media, promoting a new approach to MIL that prioritizes platforms such as YouTube over traditional institutions (Garro-Rojas, 2020). In addition, MIL plays a crucial role in the development of advanced cognitive skills, particularly those necessary to evaluate and produce information in a critical and reflective manner (Notley et al., 2023). The results of the study support this view, showing that dimensions such as Digital and Informational Literacy and Content Production Competence are positively correlated with CF. However, the lack of a significant correlation between other MIL dimensions, such as Critical Media Literacy and Critical Media Competence, and CF suggests that the development of critical competencies does not always translate into stronger citizen participation. This finding raises the need to rethink the relationship between MIL critical competencies and CF. It is crucial to adopt a comprehensive educational approach that promotes critical thinking and links it to citizen participation, strengthening students' ability to act in an informed and responsible manner in society (López-González et al., 2023).

From the perspective of García-Ruiz et al. (2020), MIL should be understood as a fundamental right that guarantees participation and responsibility in the digital society. The findings reinforce this idea, demonstrating that MIL is key to CF or digital citizenship. However, it is also observed that socioeconomic and technological factors do not significantly mediate the relationship between MIL and CF, which challenges the notion that access to technology and other external factors are primary determinants for the development of citizenship competencies. Rather, the findings suggest that the improvement of CF depends to a greater extent on the quality of education in MIL than on socioeconomic or technological factors. This result highlights the need to rethink pedagogical approaches, ensuring that MIL teaching focuses on quality and is not limited by external conditions (Sanabria & Longueira, 2022).

On the other hand, the studies by Rendón et al. (2023) and Estellés (2024), which address the challenges derived from the digital divide and the diversity of attitudes towards technology, find support in the results of this study. In particular, it is confirmed that socioeconomic and technological factors have a limited impact on mediating the relationship between MIL and CF, which reinforces the idea that, although these factors

influence the educational context, they are not determinants in the direct and significant link between MIL and CF. This finding highlights that, rather than relying on external factors, the real opportunity lies in strengthening MIL training within educational programs. A more equitable and robust approach to teaching MIL would overcome technological inequalities and foster a more active, critical and responsible citizenry, better prepared for the challenges presented by the digital age (Aran-Ramspott et al., 2024).

Furthermore, Boni et al. (2020) and Touriñán-López (2020) argue that MIL not only promotes political and social participation but also provides an ethical framework for addressing global challenges such as climate change, migration, and environmental crises. The results of the study reinforce this view, confirming that MIL has a direct and significant impact on CF. This impact not only fosters participation in the political arena but also contributes to building a critical and ethical citizenry, capable of addressing global challenges, while aligning with the SDGs. In this way, MIL emerges as an essential tool for a responsible and committed to sustainability CF.

The study highlights the need to strengthen MIL to form informed, ethical citizens capable of facing global challenges such as climate change and social crises (Bellatti et al., 2023). This approach should go beyond access to information, promoting critical skills to analyze and use information responsibly. MIL and CF are interrelated, playing an essential role in the construction of an active citizenship committed to social justice (Garro-Rojas, 2020). Socially, MIL promotes critical analysis, informed decision-making and digital inclusion, while educationally, its integration into curricula requires curricular reconfiguration, continuous teacher training and evaluations that measure the impact on critical thinking and civic participation (Salcines-Talledo et al., 2023). Universities should lead this process through interdisciplinary programs, technological inclusion policies and collaborative spaces, supported by cross-cutting educational policies and aligned with the SDGs, positioning MIL as a fundamental pillar for an inclusive and sustainable society (Rendón-Gil, 2023).

The limitations of this study are mainly in its exclusive focus on students at a Peruvian university, which restricts the generalizability of the findings to other educational contexts, age groups or regions with different socioeconomic and cultural characteristics. The cultural, political and technological diversity present in Latin American countries, such as Peru, suggests that the relationship between MIL and CF could be significantly influenced by these contextual factors. In contexts where policies for access to technology and digital education are limited, such as in rural or hard-to-reach areas, there are additional barriers that hinder the integration of these competencies, such as the lack of technological infrastructure and low teacher training in digital competencies.

Furthermore, although the study included mediators such as personal, socioeconomic, technological and formative factors, crucial aspects such as educational policies, unequal access to the Internet and cultural influences were not fully contemplated. National and local educational policies can have a determining impact on the integration of MIL into curricula, which directly influences how students develop critical and participatory competency-based CF. On the other hand, cultural influences vary across nations in the region, which also affects how students perceive and use technologies for their citizenship training. This aspect highlights the need to adapt pedagogical strategies to the cultural and contextual realities of each region.

To overcome current limitations and better understand the relationship between MIL and CF in different contexts, it is crucial to investigate the cultural, political and technological factors that influence their integration. Local traditions and cultural values that affect the adoption of MIL and CF could be explored, in addition to analyzing how public policies, especially those related to access to technology, impact the development of civic and informational competencies. It is also critical to address inequalities in access to technology, particularly in rural areas, to understand how these disparities affect informed and ethical civic participation. Pedagogical methodologies that integrate MIL and CF, such as Project Based Learning, could play

a key role in the formation of critical citizens in the digital environment.

Universities can address the limitations in the critical competencies of MIL through educational strategies that strengthen students' academic training and daily practice. It is essential to develop continuing education programs that go beyond basic ICT literacy, fostering critical competencies in media use, information analysis, identification of misinformation and the production of reflective content. Furthermore, the cross-cutting integration of MIL in all disciplines is fundamental, and the creation of spaces for participation and debate on issues related to ICTs and associated ethical problems is key to promoting critical thinking. It is equally necessary to foster advanced technological skills, training students in the responsible and critical use of digital platforms and social networks.

To close the gaps in MIL, educational policies must guarantee its incorporation as part of the mandatory curriculum from basic to higher education, with clear standards for its teaching. It is also crucial to ensure equitable access to technologies for all students, regardless of their socioeconomic background. Universities should prioritize continuous teacher training in MIL to integrate these competencies in the classroom and promote inter-institutional collaboration with government agencies, social organizations and technology companies. In addition, policies should be inclusive and accessible, adapting resources and approaches to the needs of students with disabilities and diverse cultural contexts. With these strategies and policies, universities will contribute to the development of a more informed, ethical and responsible citizenry, promoting active participation and strengthening democracy.

University institutions and their faculty can integrate MIL into educational programs through several key strategies. One is to consider MIL as a cross-cutting component in all disciplines, incorporating activities that promote the critical analysis of information, the identification of misinformation and the production of reflective content. To this end, specific curricular units can be created that not only address basic digital literacy, but also more advanced approaches to the impact of media on society and digital ethics. In addition, it is advisable to use active methodologies such as Project Based Learning, in which students research and develop campaigns on issues related to ICT, disinformation or media manipulation.

Ongoing teacher training is also important, not only in the use of ICTs, but also in methodologies for teaching critical thinking and information analysis skills. Teachers should be trained to identify and address misinformation, teach students to be responsible consumers and producers of content, and provide tools to assess the reliability of digital sources. It is crucial to foster spaces for debate and critical discussion where students analyze cases of disinformation, reflect on the use of social networks, and discuss ethical issues in digital media. In addition, it is essential to include digital tools that allow students to practice fact-checking and the creation of ethical content, strengthening their critical competencies and their civic participation in an increasingly complex media environment.

To advance in this area, future research should expand the sample and context, including different educational levels and socio-cultural regions, using longitudinal designs that allow us to observe the evolution of the relationship between MIL and CF over time. It would also be important to investigate pedagogical strategies that integrate MIL and CF effectively into educational curricula, with a special focus on the impact of emerging technologies and global issues such as sustainability and digital ethics. In addition, it should be studied how inequalities in access to MIL affect the relationship with CF, which would allow the design of more inclusive and equitable educational programs. This research would contribute to the strengthening of a critical, informed and responsible CF, capable of addressing the challenges of the digital world and global issues.

In conclusion, the findings of the study reinforce the idea that MIL and CF competencies are essential to foster critical and participatory citizenship in the digital age. While the positive relationship between the two

competencies is confirmed, it highlights the need to strengthen the integration of critical MIL competencies in educational programs. Despite their relevance, these competencies are not applied in a sufficiently comprehensive manner in the educational curriculum, which limits their impact on the development of effective and fully informed citizen participation.

6. REFERENCES

Abril, D., & Aguado, T. (2022). El aprendizaje de la ciudadanía activa en el movimiento social: una mirada retrospectiva al 15-M en España. *Diálogo Andino*, 67, 79-87. https://dx.doi.org/10.4067/S0719-26812022000100079

Aran-Ramspott, S., Elexpuru-Albizuri, I., Korres-Alonso, O., Moro-Inchaurtieta, Á., & Bergillos, I. (2024). Young digital citizens: perception of their media and transmedia competence. *Profesional de la Información*, *33*(3), e330309. https://doi.org/10.3145/epi.2024.0309

Araújo dos Santos, C. (2023). Combate à desinformação e o protagonismo social do sujeito: inter-relação entre os estudos culturais de stuart hall e a competência em informação e em mídia. *Encontros Bibli*, 28, e92988 https://doi.org/10.5007/1518-2924.2023.e92988

Bellatti, I., Sabido-Codina, J., Sosa, L., & Hurtado, D. (2023). La enseñanza de las ciencias sociales para una ciudadanía digital. Estudio interdisciplinar sobre alfabetización mediática en los currículos de Educación Secundaria. *AREAS Revista Internacional de Ciencias Sociales*, 45, 75-88. https://doi.org/10.6018/areas.528641

Boni, M. (2020). *Formes et plateformes de la télévision à l'ère numérique*. Presses universitaires de Rennes.

Carrera, L. (2021). *La ciudadanía digital en una comunidad educativa del distrito de Chilca-Huancayo-2020*. [Tesis de Especialización]. Universidad Nacional de Huancavelica. https://acortar.link/0K4AXC

Durán, T. (2016). *AMI en Latinoamérica Aproximación, análisis y propuesta de medición sobre el contexto de la Alfabetización Mediática e Informacional en América Latina* [Tesis doctoral]. Universidad Autónoma de Barcelona. https://ddd.uab.cat/record/173980

Durston, J. (2000). Construyendo capital social comunitario. *Revista CEPAL*, 69, 103-118. https://acortar.link/eEL4sa

Estellés, M., Amo. F., & Romero, J. (2021). The Consensus on Citizenship Education Purposes in Teacher Education. *Social Sciences, 10*(5), 164. https://doi.org/10.3390/socsci10050164

Estellés, M. (2024). Imágenes sobre la educación para la ciudadanía en la formación inicial del profesorado. REIDICS. *Revista de Investigación en Didáctica de las Ciencias Sociales*, 1, 39-53. https://doi.org/10.17398/2531-0968.01.39

Feridouni, A., & Ahmed-Mohamed, K. (2024). Ciudadanía Digital: Niveles, Consumo y Confianza en la Información de los Jóvenes Españoles. *Media & Jornalismo*, *24*(45), e4509. https://doi.org/10.14195/2183-5462_45_9

Fernández-de-Castro, F., Aranda, D., Sampedro, V., Guerrero-Romera, C., Farné, A., & Sellés, A. (2021). Competencias para la ciudadanía digital: propuesta de cuestionario para profesionales de bibliotecas

públicas. *X Seminario Hispano Brasileño de Investigación en Información, Documentación y Sociedad*. Brasilia, 22-24 de noviembre de 2021. http://eprints.rclis.org/42685/

Freiberg, A., Stover, J., de la Iglesia, G., & Fernández, M. (2013). Correlaciones policóricas y tetracóricas en estudios factoriales exploratorios y confirmatorios. *Ciencias Psicológicas*, *7*(2), 151-164. https://acortar.link/B4zn4L

Galván-Cabello, M., Salazar, A., & Tereucan-Angulo, J. (2022). Nativos/as digitales en México: Evaluación de las Propiedades Psicométricas de la Escala de Ciudadanía Digital en estudiantes universitarios/as. *EDUTEC. Revista Electrónica de Tecnología Educativa*, 82, 119-135. https://doi.org/10.21556/edutec.2022.82.2635

García-Ruiz, R., Matos, A., Arenas-Fernández, A., & Ugalde, C. (2020). Alfabetización mediática en Educación Primaria. Perspectiva internacional del nivel de competencia mediática. *Pixel-Bit. Revista de Medios y Educación*, 58, 217-236. https://doi.org/10.12795/pixelbit.74535

García-Ruiz, R., & Pérez-Escoda, A. (2019). Empoderar a la ciudadanía mediante la educación en medios digitales. *Hamut´ay*, *6*(2), 7-23. http://dx.doi.org/10.21503/hamu.v6i2.1771

Garro-Rojas, L. 2020. Alfabetización mediática en América Latina. Revisión de literatura: temas y experiencias. *Revista Educación*, *44*(1), 520-532. https://doi.org/10.15517/revedu.v44i1.37708

Godoy, F. (2024). El uso de fuentes de información histórica para el desarrollo de competencias de alfabetización mediática e informacional en las aulas escolares: una investigación en la acción con profesores y estudiantes de educación secundaria en Chile y España. *Revista Ibérica de Sistemas e Tecnologias de Informação*, E71, 665-678. https://www.risti.xyz/issues/ristie71.pdf

Gómez, I., & Yañez de Aldecoa, C. (2023). La brecha digital en el contexto educativo: formación y aprendizaje de la ciudadanía digital. *Research in Education and Learning Innovation Archives*, 30, 39-45. https://doi.org/10.7203/realia.30.25898

Grizzle, A., Wilson, C., & Gordon, D. (eds.) (2023). *Ciudadanía alfabetizada en medios e información. Pensar críticamente, hacer clic sabiamente. Currículum de Alfabetización Mediática e Informacional para educadores y estudiantes*. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000385119

Guevara-Andino, J., & Delgado-Salas, J. (2024). Educación para la ciudadanía digital: Preparando a los estudiantes para una participación responsable y crítica en la sociedad conectada. *Journal Scientific MQRInvestigar*, *8*(2), 4320-4338. https://doi.org/10.56048/MQR20225.8.2.2024.4320-4338

Kačinová, V., & Sádaba-Chalezquer, C. (2022). Competencia mediática como una "competencia aumentada" *Revista Latina de Comunicación Social*, 80, 21-38. https://www.doi.org/10.4185/RLCS-2022-1514

Korkmazer, B., De Ridder, S., & Van Bauwel, S. (2022). Gender, culture and morality: A case study of young people's negotiations of sexual intimacy online. *Catalan Journal of Communication & Cultural Studies*, *14*(1), 3-21. https://doi.org/10.1386/cjcs_00057_1

López-González, H., Sosa, L., Sánchez, L., & Faure-Carvallo, A. (2023). Educación mediática e informacional y pensamiento crítico: una revisión sistemática. *Revista Latina de Comunicación Social*, 81, 399-423.

https://www.doi.org/10.4185/RLCS-2023-1939

Mansoor, H. (2024). Media and information literacy as a model of societal balance: A grounded meta-synthesis. *Helyon*, *10*(3), e25380. https://doi.org/10.1016/j.heliyon.2024.e25380

Marín-Gutiérrez, I., Rivera-Rogel, D., Velásquez Benavides, A., & García Ruíz, R. (2019). Competencias mediáticas en estudiantes universitarios/as de Iberoamérica. *Revista Prisma Social*, 26, 73-93. https://revistaprismasocial.es/article/view/3027

Mateus, J., & Suárez-Guerrero, C. (2017). La competencia TIC en el nuevo currículo peruano desde la perspectiva de la educación mediática. *EDMETIC Revista de Educación Mediática y TIC*, *6*(2), 129-147. https://doi.org/10.21071/edmetic.v6i2.6908

Matos, P., & Barroso-Osuna, J. (2024). Un modelo de alfabetización mediática e informacional para profesores dominicanos del Nivel Secundario. *EDMETIC, Revista de Educación Mediática y TIC*, *13*(1). https://doi.org/10.21071/edmetic.v13i1.16647

Mésquita, W., & Fernández, C. (2023). Retos actuales de la alfabetización mediática y tendencias para la formulación de propuestas pedagógicas. Una revisión bibliográfica. *Revista Academia y Virtualidad*, *16*(1), 51-69. https://doi.org/10.18359/ravi.5748

Notley, T., Dezuanni, M., Chambers, S., & Park, S. (2023). Using YouTube to seek answers and make decisions: Implications for Australian adult media and information literacy. *Comunicar*, 77, 73-84. https://doi.org/10.3916/C77-2023-06

Pari-Tito, F., Turpo-Gebera, O., Pérez-Postigo, G., & Díaz-Zavala, R. (2024). Autopercepción de la competencia informacional en estudiantes de educación física de una universidad peruana. *Revista de Ciencias Sociales*, 30, 117-136. https://doi.org/10.31876/rcs.v30i.42252

Pérez-Tornero, J. (2015). La emergencia de la alfabetización mediática e informacional. Un nuevo paradigma para las políticas públicas y la investigación. *Telos: Cuadernos de Comunicación e Innovación*, 100, 99-102. https://acortar.link/ofkOJ6

Quiroz, T. (2018). Universitarios, ciudadanía y competencias mediáticas. *Lumina Revista do Programa de Pós-graduação em Comunicação*, *12*(1), 6-16. https://doi.org/10.34019/1981-4070.2018.v12.21495

Rendón-Gil, J., Angulo, J., & Torres, C. (2023). Actitudes hacia la ciudadanía digital en estudiantes universitarios del sur de Sonora, México. *Apertura*, *15*(1), 70-83. https://doi.org/10.32870/ap.v15n1.2309

Romero-Romero, J., Hernando-Gómez, A., & Islas, O. (2024). Referentes iberoamericanos en la Alfabetización Mediática Informacional (AMI). *Alteridad. Revista de Educación*, *19*(1), 72-83 https://doi.org/10.17163/alt.v19n1.2024.06

Salcines-Talledo, I., González, N., Ramírez-García, A., & Pérez-Rodríguez, M. (2023). El impacto de la mejora de la alfabetización mediática e informacional en el Caribe. Diseño, validación y aplicación de un cuestionario sobre las competencias mediáticas de los docentes. *Anàlisi*, 69, 33-51. https://doi.org/10.5565/rev/analisi.3625

Sanabria, S., & Longueira, S. (2022). Educación para la ciudadanía global en las universidades. Retos y

oportunidades. *Revista Boletín REDIPE*, *11*(5), 144-153. https://revista.redipe.org/index.php/1/article/view/1822

Sánchez-Acedo, A., Carbonell-Alcocer, A., Gertrudix, M., & Rubio-Tamayo, J. (2024). Retos de la Alfabetización Mediática e Informacional en la ecología de la Inteligencia Artificial: deepfakes y desinformación, *Communication & Society*, *37*(4), 223-239. https://doi.org/10.15581/003.37.4.223-239

Suing, A., & Marín-Gutiérrez, I. (2023). Alfabetización mediática, lucha contra la discriminación y equidad de género son los ejes contemporáneos de la ciudadanía comunicacional emergente en Iberoamérica. *Contratexto*, 40, 21-27. https://doi.org/10.26439/contratexto2023.n40.6760

Torrego, A., & Buitrago, A. (2017). Hacia una implementación real y efectiva de la educación mediática en la ciudadanía. *EDMETIC Revista de Educación Mediática y TIC*, *6*(2), 3-9. https://journals.uco.es/edmetic/article/view/8367/7842

Touriñán-López, J. (2020). La 'tercera misión' de la universidad, transferencia de conocimiento y sociedades del conocimiento. Una aproximación desde la pedagogía. *Contextos Educativos Revista de Educación*, 26, 41-81. https://doi.org/10.18172/con.4446

Turpo-Gebera, O., Diaz-Zavala, R., Cuadros-Linares, L., & Ramírez-García, A. (2022). Alfabetización mediática e informacional y cultura digital en Perú. *RISTI Revista Ibérica de Sistemas e Tecnologias de Informação*, E48, 359-370. https://www.risti.xyz/issues/ristie48.pdf

Weil, W. (2015). Ética del investigador biomédico. Una reflexión sobre los principios rectores de la ciencia. *Revista Clínica de Periodoncia, Implantología y Rehabilitación Oral*, *8*(2), 173-175. http://dx.doi.org/10.1016/j.piro.2014.05.001

Wilson, C., Grizzle, A., Tuazon, R., Akyempong, K., & Cheung, C. (2011). *Alfabetización mediática e informacional: curriculum para profesores*. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000216099

Yee, K., & Huey, T. (2024). Problem-Based Learning: Media and Information Literacy Project to Combat Misinformation for Future Communicators. *Journalism & Mass Communication Educator*, *79*(3), 340-364. http://dx.doi.org/0.1177/10776958241256404

AUTHORS' CONTRIBUTIONS, FUNDING AND ACKNOWLEDGEMENTS

Authors' contributions:

Conceptualization: Turpo-Gebera, Osbaldo. **Software:** Rosales-Márquez, Cintha; Gutiérrez-Aguilar; Olger. **Validation:** Turpo-Gebera, Osbaldo and Rosales-Márquez, Cintha. . **Formal analysis:** Turpo-Gebera, Osbaldo and Rosales-Márquez, Cintha. **Data curation:** Rosales-Márquez, Cintha; Rivera-Mansilla, Elmer and Gutiérrez-Aguilar; Olger. **Drafting-Preparation of the original draft:** Turpo-Gebera, Osbaldo; Rosales-Márquez, Cintha; Gutiérrez-Aguilar, Olger and Rivera-Mansilla, Elmer. **Drafting-Revision and Editing:** Turpo-Gebera, Osbaldo; Rosales-Márquez, Cintha; Gutiérrez-Aguilar; Olger and Rivera-Mansilla, Elmer. **Visualization:** Turpo-Gebera, Osbaldo and Rivera-Mansilla, Elmer. **Supervision:** Rivera-Mansilla, Elmer. **Administración de proyectos:** Turpo-Gebera, Osbaldo. **All authors have read and accepted the published version of the manuscript:** Turpo-Gebera, Osbaldo; Rosales-Márquez, Cintha; Gutiérrez-Aguilar, Olger and Rivera-Mansilla, Elmer.

Funding: This research received no external funding.

Conflict of interest: None.

AUTHORS:

Osbaldo Turpo-Gebera
National University of San Agustin de Arequipa.

Educator. Socio-educational researcher accredited by the National Council of Science, Technology and Innovation (CONCYTEC, Peru). Professor in educational research at the National University of San Agustin de Arequipa (UNSA). Post-doctorate in Educational Sciences at the University of Coimbra (Portugal). Doctor in Education (National University of San Marcos, Peru). PhD in Education in the Knowledge Society (University of Salamanca, Spain). Past-Director of the Institute for Research, Development and Innovation in Educational Sciences (INEDU-UNSA). Member of the Board of Directors of the National Program for Scientific Research and Advanced Studies - PROCIENCIA (CONCYTEC, Peru).).
oturpo@unsa.edu.pe

Índice H: 27
Orcid ID: https://orcid.org/0000-0003-2199-561X
Scopus ID: https://www.scopus.com/authid/detail.uri?authorId=55635770200
Google Scholar: https://scholar.google.es/citations?user=98BFslMAAAAJ&hl=es
ResearchGate: https://www.researchgate.net/profile/Osbaldo-Turpo-Gebera
Academia.edu: https://independent.academia.edu/OsbaldoGebera

Cinthia Rosales Márquez
César Vallejo University.

Researcher holding RENACYT registration, specialized in Social Sciences, Health and Psychometrics. Nurse with a master's degree in scientific research and Innovation and a PhD in Education, Specialist in Statistics applied to Scientific Research. Extensive experience in design and execution of research projects, with publications in indexed journals. Proficient in statistical software with R language. University teacher in Health Sciences and research. With experience for training in statistics for research aimed at university teachers from various national universities in Peru. Research coordinator and member of the Ethics Committee of the César Vallejo University.
crosalesma@ucvvirtual.edu.pe

Índice H: 7
Orcid ID: https://doi.org/0000-0002-6642-512X
Scopus ID: https://www.scopus.com/authid/detail.uri?authorId=57962288600
Google Scholar: https://scholar.google.es/citations?hl=es&pli=1&user=G77QF3UAAAAJ
ResearchGate: https://www.researchgate.net/profile/Cinthia-Rosales-Marquez
Academia.edu: https://independent.academia.edu/CinthiaRosales7

Olger Gutiérrez-Aguilar
Catholic University of Santa Maria.

Professor qualified as a researcher RENACYT-Peru, Doctor in Communication and Development and Doctor in Social Sciences from the National University of San Agustin de Arequipa, he teaches at the Catholic University of Santa Maria in the subjects of research in advertising and marketing and also performs duties as Project Director. He is an evaluator of the National System of Evaluation, Accreditation and Certification of Educational Quality - SINEACE, for the University Education System in Peru, evaluating the quality conditions of educational services. His lines of research are related to communication and advertising, marketing and virtual environments for learning.
ogutierrez@ucsm.edu.pe

Índice H: 8
Orcid ID: https://orcid.org/0000-0002-6657-7529
Scopus ID: https://www.scopus.com/authid/detail.uri?authorId=57210589170
Google Scholar: https://scholar.google.com/citations?user=yLeNFh0AAAAJ&hl=es&oi=ao
ResearchGate: https://www.researchgate.net/profile/Olger-Gutierrez
Academia.edu: https://ucsm.academia.edu/OlgerGuti%C3%A9rrezAguilar

Elmer Rivera-Mansilla
Jorge Basadre Grohmann National University.

D. in Social Sciences from the UNSA, with doctoral studies in Regional Development Sciences at the UNSNH-Mexico and Master of Science in Rural Development from the UNA. Degree in Anthropology (UNSA) and a bachelor's degree in social sciences from ULADECH. He has completed specializations in universities in Peru, Mexico, Panama, Colombia, Cuba, Brazil and Spain. Experience as a teacher and researcher at the Ricardo Palma University and other institutions, participating as a speaker at international conferences. He was Past Director of Languages and Graduate Studies, as well as Dean of Educational Sciences. Author of books such as *Lecturas creativas para el aula* (Creative Readings for the Classroom) and *Procesos Pedagógicos* (Pedagogical Processes). Specialist in university evaluation, remote education tutoring and curricular design.
eriveram@unjbg.edu.pe

Índice H: 3
Orcid ID: https://orcid.org/0000-0002-6107-4164
Scopus ID: https://www.scopus.com/authid/detail.uri?authorId=57489700100
Google Scholar: https://scholar.google.com/citations?user=765XHsIAAAAJ&hl=es
ResearchGate: https://www.researchgate.net/profile/Elmer-Rivera-Mansilla

Related articles:

Fernández-Gómez, E., Segarra-Saavedra, J., & Feijoo, B. (2023). Alfabetización publicitaria y menores. Revisión bibliográfica a partir de la Web of Science (WOS) y Scopus (2010-2022). *Revista Latina de Comunicación Social*, 81, 1-22. https://doi.org/10.4185/rlcs.2023.1892

Gomez, D., & Freire, J. (2023). La emergencia de los laboratorios ciudadanos: Un modelo para la creación de comunidades de innovación. *European Public & Social Innovation Review*, *8*(2), 65-79. https://doi.org/10.31637/epsir-2023-248

Gómez-Rodríguez, G., & González Reyes, R. (2022). La construcción de un estado de la cuestión hemerográfico. Un ejemplo a partir de los conceptos fake news, posverdad y desinformación en el entorno de web of science (WoS). *Vivat Academia,* 155, 69-90. https://doi.org/10.15178/va.2022.155.e1335

Martínez-Sánchez, J. A. (2022). Prevención de la difusión de *fake news* y bulos durante la pandemia de COVID-19 en España. De la penalización al impulso de la alfabetización informacional. *Revista de Ciencias de la Comunicación e Información*, 27, 15-32. https://doi.org/10.35742/rcci.2022.27.e236

Muñoz Gallego, A., De Sousa Lacerda, J., & Costa Araujo, A. C. (2023). La divulgación científica en instagram: el reto del discurso audiovisual científico ante los contenidos efímeros. *Revista de Comunicación de la SEECI*, 56, 148-175. https://doi.org/10.15198/seeci.2023.56.e823