

READING IN RURAL SPACE BETWEEN CLASSIC AND DIGITAL TRANSFORMATION

Marius Alin IONICĂ¹, Elena TOMA², Alexandru SIPICĂ^{3,4}

¹University "1 Decembrie 1918" from Alba Iulia, 5 Gabriel Bethlen Street, 510009, Alba Iulia, Romania, Phone: +40258806272, Fax: +40258812630, E-mail: ionicamariusalin@yahoo.com;

²University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59 Marasti Blvd., District 1, 11464, Bucharest, Romania, Phone/Fax: 00 40 744 6474 10; E-mail: elenatoma2001@yahoo.com

³National Institute of Research and Development in Informatics ICI Bucharest, 8-10, Maresal Averescu Avenue, sector 1, 011455, Bucharest, Romania, Phone: +40 21 316 52 62, E-mail: alexandru.sipica@ici.ro

⁴National Institute for Research and Development in Construction, Urbanism and Sustainable Territorial Development URBAN-INCERC, E-mail: alexandru.sipică@gmail.com

Corresponding author: alexandru.sipica@ici.ro, ionicamariusalin@yahoo.com

Abstract

In the context of the era of digitalization and the new industrial revolution – Industry 4.0 – the Romanian village is facing a historic opportunity: the transition to the smart village. This process involves the integration of modern technology into rural infrastructure to improve the lives of residents, streamline public services and stimulate sustainable development. In this regard, the purpose of this research was to assess to what extent students value reading after school hours. This paper was structured in four parts, namely: a part in which it was analysed the situation of reading providers, the second part in which it was analysed the type of reading requested by students and (printed or digital book), as well as the category of topics of the requested readings, and the third part in which there were studied the reasons that stimulate students to consume readings after school hours. The last part was dedicated to the conclusions obtained.

Key words: reading, culture, printed book, digital book, rural environment, smart village.

INTRODUCTION

Reading has, over time, been an essential pillar in the intellectual, cultural and moral development of the individual, representing a bridge between generations, cultures and eras. In rural areas, this activity has also undergone significant transformations, evolving from traditional forms, based on printed books, to new digital reading methods, influenced by the rapid technological advances of the last period. Thus, reading in rural areas is today at the intersection of classic and modern, between traditional and digital, gradually adapting to the needs and possibilities of new generations. Traditionally, reading in villages was closely linked to the school library, small communal libraries or personal collections passed down from generation to generation. The physical book was a concrete, tangible presence, which

stimulated not only the intellect, but also a certain affective relationship with reading. Collective reading, storytelling evenings or even sporadic literary meetings contributed to keeping this habit alive, even in conditions of limited access to diversified cultural resources. Nowadays, however, the digital transformation has started to make its presence felt more and more in rural areas. Access to the internet, the proliferation of mobile devices, the emergence of online reading platforms and virtual libraries offer new opportunities for access to information, but also new challenges. Digitalization has democratized reading to a certain extent, offering the possibility for anyone to read anytime and anywhere, provided that the necessary infrastructure exists. However, this process also comes with risks: a decrease in interest in deep reading, the replacement of literary reading with rapid

information consumption or difficulties in digital literacy for some categories of the population.

Therefore, the objective of this article is to analyze how students in rural Romania value reading outside of class and what motivations or obstacles they encounter in forming a constant reading habit.

It is important to understand not only the changes produced, but also their implications for education, culture and community identity, in a constantly changing world.

The rapid rise of digital technologies has inaugurated a transformative era for the preservation and dissemination of classical literary heritage, presenting both unprecedented opportunities and formidable challenges.

The digitization of reading has generated many challenges over time. Peras et al. (2023) made a comparison between electronic reading (e-reading) and reading on paper. They aimed to evaluate "the current state of reading consumption in classic format compared to digital reading consumption among students aged 6 to 18" [8]. They extended the research by analyzing the learning style of these students by evaluating the impact of certain factors such as: "(gender, socioeconomic status and school location) in explaining the differences between the two learning modes" [8].

Thus, they used quantitative or mixed methods to compare digital reading with reading on paper. The results of the study show that there are "no significant differences in the comprehension of the texts read between the two learning modes, while others suggest the inferiority of the screen, thus favoring reading on paper". The research conducted is exiting, so they also analyze the learning style of students in the target group, evaluating the impact of certain factors "such as: (gender, socioeconomic status and school location) in explaining the differences between the two learning modes". The authors use quantitative methods, even mixed ones, to compare digital reading with reading on paper. The results obtained show that "there are no significant differences in the comprehension of the texts read between the learning modes, while others

suggest the inferiority of the screen, thus favoring reading

on paper". The authors show that certain predictive factors at the individual level, "such as previous text comprehension skills and reading habits", are essential and play a crucial role in increasing reading performance in different teaching modes. At the same time, certain factors at the family level, "such as the number of books at home, and factors at the school level, such as the use of ICT resources", influence both the comprehension of text on paper and digital. The authors showed that, "gender differences are evident in attitudes and performance towards different reading modes" According to Peras et al. (2023), "comparing electronic and paper-based reading modes reveals a complex interplay of individual and contextual factors that influence text comprehension and attitudes" [8].

Nikolayevna (2024) explored "the nuanced dynamics of digitization in the field of classical literature, focusing on three critical aspects: accessibility, perception, and interpretation by the new generation of readers" [6]. Using mixed methods, Nikolayevna integrated "quantitative surveys and qualitative interviews to comprehensively explore digital interaction with classical texts among a diverse demographic of readers". The results highlight a "significant improvement in the accessibility of classical works through digital platforms, albeit marked by disparities in genre representation and the fidelity of digital reproductions" [6]. Furthermore, the research reveals a "complex landscape of reader perception, with digital formats promoting a new paradigm of interaction characterized by convenience and interactive exploration, but sometimes hampered by technological limitations and the loss of tactile interaction". The study reveals a "notable shift in the interpretation of classical texts, as digital media facilitate collaborative and dynamic interpretive practices among the new generation, diverging from traditional solitary reading experiences". These insights underscore the essential role of "digital literacy in shaping the interaction with and understanding of classical literature in the digital age" [6].

The study published by Spjeldnæs et al (2022) extends "beyond empirical findings to reflect on broader implications for educators, librarians, and digital platform developers, advocating for strategic improvements to digital literary ecosystems to enrich the reader's experience" [11]. The digitization of classical literary heritage "represents a crucial moment, offering both challenges and opportunities for revitalizing the legacy of classical texts for future generations, requiring a concerted effort to harmonize technological advances with the pedagogical and cultural stewardship of our literary past" [11].

The study conducted by Hu et al. (2023) showed that the introduction of digital technology will greatly enrich the resources of rural education, promote equity in education and cultivate students' innovative ability [4]. The education system "is not without challenges" [4], so the authors pointed out that there are some deficiencies such as the lack of "digital educational resources, the cognitive deficiency of digital education, the homogenization of digital education programs and the insufficient digital literacy of teachers" [4]. In order to meet these challenges, the authors propose "to fully utilize the advantages of digital technology in rural education, it is necessary to formulate comprehensive support policies, improve infrastructure construction, strengthen teacher training and promote the popularization of digital literacy, so as to achieve the sustainable development of the digital transformation of rural education" [4]. The fourth industrial revolution (industry 4.0) and the trend of digital transformation "have created many changes, brought many values, and also raised many challenges in the formulation and improvement of policies on culture in general and policies for the development of reading culture in particular". The research proposed by Son (2024) through the analysis of secondary data, "especially the current policies on the development of reading culture, analytical research assesses the compatibility between current policies and the requirements of cultural development, guiding people towards the creation of a learning society in the context of the fourth industrial revolution" [10].

The author proposed "a set of approaches and solutions to the policy implications for promoting a reading culture, development towards the creation of a learning society in the context of the fourth industrial revolution and the trend of digital transformation" [10]. In this context, the study assesses to what extent students value reading after school hours.

MATERIALS AND METHODS

The transition from the traditional village to the smart village involves a long-term process through which all the elements of the classic must find their counterpart in the digital world. Our research focuses on the valorisation of reading by students in rural Romania. In this research, we followed the way in which students read in their free time, reading between classic and digital as an element of supporting the transition to the smart village, as well as the motivational elements to direct students towards reading. In this sense, we conducted a study in schools in 3 villages in Dâmbovița County, where with the agreement of the school we formed 3 groups, namely students between 8-10 years old, 10 – 12 years old and 12 – 15 years old. With the agreement of the parents, the children answered the questions in the questionnaire and we managed to gather over 100 respondents.

Frequencies and correlations were interpreted and analysed using statistical processing applications, such as SPSS, and finally the main conclusions were formulated.

RESULTS AND DISCUSSIONS

Generically, the rural environment can be defined as the set of territories and localities outside cities, characterized by low population density, the predominance of agricultural activities and a traditional lifestyle.

Bogos et al. (2023) affirmed that "for Romania, rural areas are of particular importance, partly because a significant percentage of the country's population lives in villages, but also because rural areas are the place where ancient traditions and customs are preserved, which

provides a clear image of the identity of the Romanian people" [2].

A real challenge for rural students is the developing infrastructure that supports restrictions on access to information. Thus, Popescu et al. (2022) consider that "rural schools have smaller facilities and infrastructure due to reduced funding, teachers have limited opportunities for professional development, bookstores and libraries are missing in many cases, and schools are located far from cultural centers" [9].

In the era of accelerated digitalization, in which industry 4.0 represents the trend of evolution, reading is in full transition between traditional and modern. In rural areas, this transition is felt in a special way, where printed books still have an important place, but the increasing access to technology brings new opportunities for digital reading. The proposed theme aims to highlight how students and rural communities navigate between classic reading and new digital forms, as well as the impact of these changes on reading habits.

Reading is an essential component in the intellectual and personal development of students. In rural areas, the habit of reading in leisure time is influenced by several factors, such as access to books, family support or available educational resources. In this article, we aimed to analyse to what extent students in Romanian villages value reading outside of class and what motivations or obstacles they encounter in forming a constant reading habit. In order to have a complete picture of access to reading in rural areas, we will analyse some statistical data regarding the infrastructure that provides access to reading in rural areas. In this regard, data published by edupedu.ro show that in the period 2021–2022, the number of school libraries in rural areas decreased from 7,119 (nationally) to 6,022, due to the fact that over 1,000 libraries closed. In 2022, 60% of rural schools did not have a functional library at all. From the data presented in Table 1, it appears that of the schools that had a library, (39%) had an endowment below the minimum level (few titles and a small number of copies).

According to Table 1, even in 2023, the situation did not improve much, even though investment funds were still accessed (on

average 6 out of 10 rural schools did not provide an adequate reading space, and the library, if it existed, was most often non-functional and with old collections).

Table 1. Situation of reading providers in the period 2021 – 2024

Indicator	2021	2022	2023
Households with internet	69.7 %	82.1 %	85.7 %
Internet users	89.7 %	~92 %	92.5 %
Daily users	69.2 %	—	~70 %
Rural schools without a functional library	—	60 %	60 %
Schools with poorly equipped libraries	—	39 %	39 %
Closed libraries (rural schools)	—	-1,097 (2021 vs. 2022)	—

Source: Processed based on data provided by NIS [5].

Children in rural areas often spend their free time on:

- household activities - where 30–35% of children aged 8–14 in rural areas spend at least 1–2 hours [3];
- using computer applications and internet access - in 2023, ~80% of rural households had a connection [5];
- reading activities, where (according to worldvision.ro/), only 15–20% of children read in their free time.

In the Romanian village, reading has traditionally been supported by village libraries, schools, churches and by the important role of the teacher and priest in promoting written culture. However, in recent decades, as stated on the website <https://worldvision.ro/> "reading in rural areas has faced a significant decline, due to population migration, lack of modern infrastructure and reduced access to updated cultural resources" [12].

As shown in Figure 1, reading at the village level is provided through bookstores (mainly through those of schools) but also through book fairs. The beneficiaries of these services, the students, are practically the bridge of transition between the classic village and the smart village. This transition to the smart village is channelled through efforts to digitize

libraries, provide an internet access infrastructure, digital educational programs and even promote digital culture.

Patnaik et al. (2020) emphasizes that the main dimensions of a smart village are “culture, education, health, sanitation, information connectivity, electrification, establishment of cottage and small-scale industries”, consequently “the whole world is striving today for a “Sustainable Development” agenda that would include smart villages” [7].

Figure 1 presents reading in a period of transition to smart village in the rural areas in our conception.

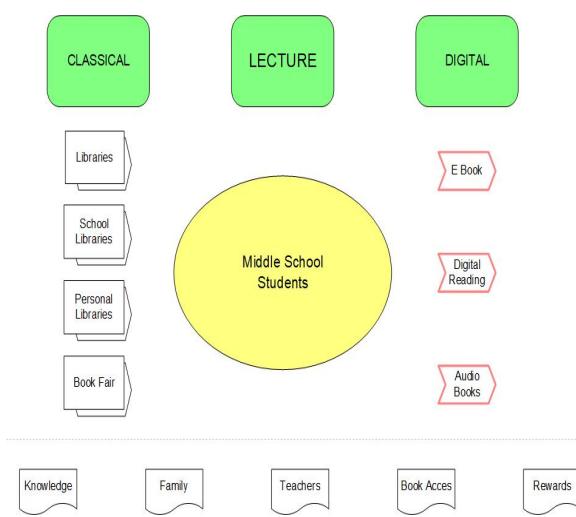


Fig. 1. Reading in transition to the smart village
Source: own-determination.

From the study conducted on rural students, as presented in Table 2, the inclination towards reading in their free time is more appreciated by students who are in primary school with a share of over 60%.

This trend is decreasing by age group, middle school students and those who are at the end of middle school (10-12 years and 12-15 years) are less attracted to reading in their free time, reaching a share of approximately 25%.

Table 2. Student reading in free time 2023 - 2024

Answer	% 8 - 10 10 - 12 12 - 15		
	8 - 10	10 - 12	12 - 15
Yes	64.00	56.86	24.64
No	16.00	13.73	21.74
Partial	20.00	29.41	53.62
TOTAL	100.00	100.00	100.00

Source: own-determination.

Most children have easier access to old physical books from family or school than to high-performance digital devices. Although we are going through an era of knowledge and digitalization, rural students mostly read printed books. Printed books are easier to understand and use for young students (8-10 years old), teachers and parents often encourage the classic form for homework, assessments or mandatory reading. As the data from our study, structured in Table 3, show, by age group, printed reading is more appreciated by primary school students with a share of over 70%. Thus, as students move towards middle school and even further towards the last stage of pre-university education, they tend to embrace both forms, both printed and digital.

Table 3. Reading type preference, 2024

Answer	%		
	8 - 10	10 - 12	12 - 15
Printed book	72.00	54.90	42.03
Digital reading	24.00	19.61	14.49
Both forms	4.00	25.49	43.48
Total	100.00	100.00	10.00

Source: own-determination.

The type of reading preferred by rural children reflects not only their access to educational resources, but also their level of personal and academic development. In general, children up to 15 years old in rural areas prefer printed books, especially in the first years of school. As they grow older, more and more of them also start to use digital reading, although access to technology remains, in some cases, limited. Reading, regardless of its form, has a profound impact on children's development. Through reading, they enrich their vocabulary, develop their imagination, critical thinking and ability to express themselves. In addition, constant contact with new stories and ideas stimulates their curiosity and desire to learn.

For children in rural areas, promoting both forms of reading can contribute to reducing educational gaps compared to those in urban areas. Access to digital reading, especially through schools and libraries, represents a chance for inclusion and adaptation to the demands of the modern world. Therefore,

reading is not only a means of spending free time, but an essential key for the harmonious development of children in rural areas.

The type of reading sought is important for the development of students in rural areas, but also for the provision of reading materials.

In Table 4, it is shown that not only are printed books preferred, but also that interest in fields such as science decreases with age, the most interested being children between the ages of 10 and 12 (20%). At the same time, the field of geography is a less sought-after field by primary school students, occupying over 21% of the reading space of middle school students. Although often closely related, fiction and science do not always determine the same interest. An interesting aspect is that reading with fiction topics is often more sought after by students who leave middle school (almost 40%).

Table 4. Preferred reading type in the period 2023 - 2024

Answer	%	%	%
	8 - 10	10 - 12	12 - 15
Scientifically	20.00	15.69	0.00
Travel	20.00	27.45	17.39
Geography	16.00	27.45	21.74
Fiction			
books/stories	32.00	21.57	37.68
Other	12.00	7.84	23.19
TOTAL	100.00	100.00	100.00

Source: own-determination.

In an increasingly digitalized world, artificial intelligence can play an important role in supporting the education of children in rural areas.

One of the most promising uses of this technology is the personalized recommendation of readings, adapted to the age, level of understanding and interests of students.

The fact that statistics reveal that rural areas where access to libraries, specialized teachers or educational counseling is often limited makes the use of AI particularly valuable in rural areas.

Through intelligent platforms, AI can analyze a child's previous readings, school results or

even questionnaire answers to suggest suitable books.

Thus, every student has the chance to discover reading as an enjoyable activity, not imposed, which can increase motivation for learning and personal development. In addition, AI can provide translations, explanations and audio readings, facilitating the understanding of the text even for children with learning difficulties. The use of AI systems in education should not replace the role of the teacher, but complement it. In rural areas, such tools can become a real support for students, teachers and parents, reducing inequalities and giving each child the chance to evolve at their own pace.

AI can transform reading from an obligation into a personalized and accessible adventure for all.

Analysing the behaviour of students in rural areas, artificial intelligence systems are most often used by students who are in their final year of middle school (approximately 57%) (Table 5).

Primary school students quite frequently use artificial intelligence applications as an intelligent search engine.

Structuring according to various criteria and presenting them in a clear report, understandable to young children, makes 48% of those surveyed use these applications frequently.

Table 5. Use of AI systems for reading recommendations in the period 2023 - 2024

Answer	%	%	%
	8 - 10	10 - 12	12 - 15
Yes	48.00	27.45	56.52
No	4.00	11.76	7.25
Sometimes	48.00	60.78	36.23
TOTAL	100.00	100.00	100.00

Source: own-determination.

Dissemination of the subject of reading in rural areas is done mainly through storytelling with close people. The transition to an intelligent architecture of the Romanian village requires the efficiency of work through digitization. Basically, we can say that we are moving towards village 4.0.

In the study, we wanted to find out what is the tendency of students to disseminate information after reading a book. Thus, we could observe that there is a tendency to decrease the desire to express themselves online. The most active are those who are between primary and secondary school (approximately 50%). This tendency decreases with age, reaching almost 14% in the case of students who are moving towards high school education. discussions about reading topics Table 6 presents the use of reading appreciation forums by age group.

Table 6. Use of reading appreciation forums in 2023 - 2024

Answer	%	%	%
	8 - 10	10 - 12	12 - 15
Yes	48.00	37.25	13.04
No	52.00	62.75	86.96
TOTAL	100.00	100.00	100.00

Source: own-determination.

Analysing the factors that predominate in motivating students to read books in their free time, we can say that they vary between the student's desire to learn and the support provided by the family and teachers. In households where parents or older siblings encourage reading, children are more motivated to read at home. Also, the involvement of teachers, who recommend suitable books and create a friendly environment for reading, has a direct impact on students' habits.

Another essential element is access to attractive books. In some villages, libraries are poor or non-existent, which significantly limits students' options. However, educational projects, book donations and digital readings can reduce this gap. Last but not least, personal motivation, curiosity and the pleasure of discovering stories play a major role in the formation of a young reader.

The analysis carried out observed that family support plays a determining role, especially in the case of primary school students. Approximately 50% of respondents aged between 8 and 10 claim that the family is the main supporter of reading after school hours. Among students aged between 10 and 12, family support was also found to be somewhat

better shaped by the desire for knowledge (approximately 34%). The influence of the family is, however, lower in the case of students aged between 12 and 15 (38.5%). In this interval, a slight increase in the desire for knowledge was observed.

Regarding teacher support, through various educational methods (reading circles, public appreciation in front of the class, letters to imaginary authors, etc.), it has a fairly small value in the total of factors that determine book consumption, reaching a weight of only 11.5% in the case of students aged between 12 and 15. Access to books is a factor with also low motivation, it is emphasized by only 12% of students aged between 10 and 12. In this sense, it is necessary to alternate digital reading with that in printed format, Acad. Banciu et al. (2012) proposed a system of digital libraries, defining the digital library "as an organization, which can be virtual, that collects, manages and preserves comprehensively, in the long term, rich digital content and offers its user communities specialized functionalities for that content, of measurable quality and in accordance with codified policies" [1].

As we can see, certain rewards for reading are not considered by respondents to be a strong motivational factor, approximately 5% of students aged between 10 and 12 believe that a reward can motivate them to read literature after school hours.

Table 7 shows the main factors which influence the consumption of reading after school hours in the rural areas.

Table 7. Factors determining the consumption of reading after school hours by children in rural areas 2023 - 2024

Answer	%	%	%
	8 - 10	10 - 12	12 - 15
The desire for knowledge	32.00	34.00	37.00
Family influence	48.00	42.00	38.50
Teacher support	10.00	7.00	11.50
Access to the book	7.00	12.00	10.00
Rewards	2.00	5.00	0.00
Another	1.00	0.00	3.00
TOTAL	100.00	100.00	100.00

Source: own-determination.

CONCLUSIONS

Internet access in rural areas has steadily increased: from 69.7% in 2021 to 80.3% in 2023, indicating a significant expansion of connectivity at the school level.

- The rate of internet use is very high, suggesting an increased potential for access to digital educational resources.
- However, access to physical reading resources remains very limited: 60% of schools do not have a library, and those that do exist are poorly equipped.
- This duality – high digital connectivity but physical infrastructure – highlights the need for hybrid solutions: promoting digital reading (ebooks, educational platforms), together with investments in school libraries and physical materials

Statistically, as children grow older, the exclusive interest in reading (printed or digital book) decreases. This may reflect both better technological adaptation and a diversification of reading sources among adolescents;

The type of reading preferred by rural children is closely linked mainly to the available resources and the level of personal and educational development. Encouraging reading (printed or digital) is essential to support school performance and to form more autonomous, informed and confident children. Reading after school hours in rural areas is encouraged by curiosity, support from family and teachers, access to appropriate books and awareness of the value of reading. With the right conditions and encouragement, reading can become a natural part of the lives of rural children, contributing to their harmonious development.

REFERENCES

[1]Banciu, D., Pitic, A. G., Volovici, D., Mitea, A. C., 2012, Using Social Networking Software to Promote Digital Libraries, *Studies in Informatics and Control*, 21(2), 221 – 226.

[2]Bogos, I. B., Sterie, C. M., 2023, Evolution of economic and social indicators of rural areas in Romania, *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, 23(1), 67-72.

[3]Edupedu.ro, 2025, Actual news, <https://www.edupedu.ro/>, Accessed on 5 May, 2025.

[4]Hu, S., Dai, J., Wen, H., Lai, Z., Li, X., Lin, L., Chen, L., 2023, Digital Transformation Promotes the High-quality Development of Rural Education: Value, Dilemma and Strategy, *adwen.com*, *jssh1-2023*, 6-6. [https://doi.org/10.53469/jssh1.2023.06\(06\).32](https://doi.org/10.53469/jssh1.2023.06(06).32)

[5]National Institute of Statistics, <http://statistici.insse.ro:8077/tempo-online/> Accessed on 5 May, 2025.

[6]Nikolayevna, N. R., 2024, Digitalization of classical literary heritage: accessibility, perception, and interpretation by the new generation, *Journal of Philological Sciences*, 5(03), 38–45. <https://doi.org/10.37547/philological-cjps-05-03-06>.

[7]Patnaik, S., Sen, S., Mahmoud, M. S., 2020, Smart Village Technology Concepts and Developments, Modeling and Optimization in Science and Technologies 17, 1st Ed.

[8]Peras, I., Mirazchiyski, E. K., Pavešić, J. B., Recek, Z. M., 2023, Digital versus Paper Reading: A Systematic Literature Review on Contemporary Gaps According to Gender, Socioeconomic Status, and Rurality, <https://www.mdpi.com/2254-9625/13/10/142>, Accessed on 25 May, 2025.

[9]Popescu, A., Tindeche, C., Marcuță, A., Mărcuță, L., Hontuș, A., Angelescu, C., 2022, Gaps in the education level between rural and urban areas in the European Union, *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, 22(3), 531-546.

[10]Son, T. L., 2024, Trends in policy development for reading culture in the context of the fourth industrial revolution and digital transformation in Vietnam, *Sage Journals*, Vol. 40, Issue 3, <https://doi.org/10.1177/02666669221130550>

[11]Spjeldnæs, K., Karlsen, F., 2022, How digital devices transform literary reading: The impact of e-books, audiobooks and online life on reading habits, *Sage Journals*, <https://doi.org/10.1177/14614448221126168>,

[12]World Vision, 2025, <https://worldvision.ro/>, Accessed on 5 May, 2025.