Rethinking the use of digital media for sustainability, inclusion and individual wellbeing

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Abstract
The pursuit of just and fair social inclusion in schooling remains a pressing concern in education. Drawing on a multi-sited critical ethnography, this article explores how teachers in remote areas of Aragon, Spain, address this challenge through their use of digital media. The analysis focuses on teachers' strategies and experiences as they attempt to incorporate student and community voices into digital teaching practices in order to enhance curricular relevance and foster meaningful learning experiences. It also examines the tensions teachers face, including curricular performativity pressures. The article ultimately reflects on how certain policies and practices may hinder efforts toward justice and fair inclusion, advocating a critical reassessment of education policies and their role in supporting equitable, socially just and inclusive schools, the wellbeing of those within them and a socially sustainable future.

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Introduction

This article seeks to advance knowledge on how teachers engage with their schools and communities to face challenges such as sustainability, inclusion and individual wellbeing

using digital media, while upholding the political commitments of transforming education. By leveraging accessible digital tools—such as tablets, mobile phones, digital cameras, websites and social networks—teachers can support sustainability, inclusion and individual wellbeing, as outlined by UNESCO (2023). In its subsequent report, UNESCO (2024) defines sustainability as the ability to meet present needs without compromising the prospects of future generations to meet their own, framing it within environmental, social and economic dimensions. This perspective aims to ensure long-term viability, wellbeing and inclusion through processes that create conditions for connecting people and places and reinforcing their ties and mutual trust. In educational settings, the OECD (2016) conceptualises wellbeing from a social justice perspective, linking it to the quality of school life and to strategies for cultivating emotional, social and cognitive skills—which prepare learners for active citizenship—and for shaping prosperous and sustainable futures to thrive in society.

Several publications have addressed the trajectory and impact of European education policies on digital media from this perspective, highlighting the relevance of sustainability, inclusion and wellbeing in the terms outlined by Eurydice (2019). One of them is the European Union's renewed Digital Education Action Plan (2021–2027), which outlines a shared vision for delivering high-quality, inclusive and accessible digital education, while supporting the adaptation of education and training systems to the digital age in accordance with UNESCO guidelines (2015, 2022). In this context, Spain is currently implementing international education policies that frame sustainability, inclusion, individual wellbeing and digital competence as core principles of education systems (cf. LOMLOE, 2020). In practice, multiple studies conducted across European countries have revealed gaps in the use of digital devices and media in the classroom with respect to said principles, suggesting that digitalisation has yet to fulfil its promise and reach its potential (cf. Ball & Grimaldi, 2022; Costa et al., 2023).

Educational practices involving a performative orientation toward digital media as a means to achieve standardised curriculum goals predominate, emphasising digital competencies while risking overlooking students' lived experiences and the sociocultural contexts in which said experiences occur (Løvskar et al., 2024). As a result, this type of educational practices may fail to consider crucial aspects of sustainability, inclusion and individual wellbeing (Allan, 2023; Ball & Grimaldi, 2022; Sancho et al., 2020; Selwyn et al., 2017; Zhao, 2023).

Drawing on an ethnographic study, the article explores the dynamics of teaching practices involving digital media in rural schools, with a particular focus on Spain (Vigo-Arrazola, 2024), as part of a larger ongoing project spanning from 2021 to 2024. For years, rural schools in Spain—similarly to those in other European countries (cf. Gristy et al., 2020)—have been portrayed as 'problematic institutions' offering a 'deficient' level of education (cf. Ortega, 1995). This perception has taken shape within an education system organised around a metrocentric school model that privileges the values, interests and ideology of the dominant culture as a system of ideas and ideals (Beach & Vigo-Arrazola, 2025). In combination with other factors, these portrayals of rural schools have contributed to the depopulation of rural areas and the closure of many schools (Vigo-Arrazola & Soriano-Bozalongo, 2020).

Despite this situation, various studies based on surveys and discussion groups (cf. Moreno-Pinillos, 2024; Vigo-Arrazola, 2021) show that teachers in these schools develop creative and inclusive practices using digital media. In doing so, they uphold their commitment to transforming education by engaging with students' life experiences as a source for learning and as a means of fostering interaction. These practices may contribute to a sustainable future—by recognising the value and potential of individuals—and to the construction of equitable and fair schools that safeguard people's wellbeing. However, the research also shows that such practices are exceptions rather than the norm in the schools studied (cf. Lasheras-Lalana et al., 2024).

This article explores how teachers in these schools navigate political demands, while preserving spaces for social justice through the use of digital media; it also analyses their experiences with these teaching practices. Building on this focus, the article adopts a critical ethnographic approach and poses the following questions:

1. How are digital media actually used in classrooms for sustainability, inclusion and wellbeing?
2. What are teachers' experiences regarding the use of digital media in relation to sustainability, inclusion and wellbeing?

These issues are particularly relevant in several European countries, most of which are geographically large with scattered schools (Gristy et al., 2020). Spain is one such example.

The context of Spain

Spain has been among the European countries most affected by rural depopulation since the second half of the 20th century (Collantes & Pinilla, 2020). Specifically, the region of Aragon exemplifies these trends through marked population decline and an uneven distribution of residents. Aragon has experienced significant migratory movements, particularly in rural areas (Collantes & Pinilla, 2020). According to the Spanish National Statistics Institute (INE, its acronym in Spanish), the region covers 9.4% of Spain's total land area, dispersed unevenly across its three provinces: Zaragoza, Huesca and Teruel. Notably, nearly half of Aragon's inhabitants reside in the city of Zaragoza. However, immigration partially offset population decline in some rural areas, due to the significant inflow of migrants into Spain during the early 21st century (International Organization for Migration, 2008). Rural areas offered numerous opportunities for temporary and part-time employment, often at the margins of the formal economy (Collantes & Pinilla, 2020). Data from the Ministry of Education and Vocational Training (2022) indicates that the percentage of foreign pupils enrolled in primary education in rural areas during the 2019–2020 academic year helped prevent the closure of certain schools (e.g. AVUVA, 2017).

In Spain, the government is responsible for guaranteeing compulsory education for all children from age three to 16. Since the enactment of the General Law of the Education System (LOGSE, 1990), the Ministry of Education and Vocational Training has overseen the central administration of education, while granting certain regions—such as Catalonia, Galicia and Andalusia—limited autonomy to adapt the state curriculum with local content. Despite this decentralisation, standardised testing continues to reinforce the central government's authority over approved curriculum content (LOMLOE, 2020). Spanish legislation also reflects UNESCO's (2015) conception of inclusion, which is embedded in the most recent reform (LOMLOE, 2020). As in other European countries, contemporary education policies in Spain continue to promote the integration of digital media in classrooms, as evidenced by regional digitalisation initiatives—such as the Digital Plan in Aragon—framed by the Resolution of 26 July 2022 issued by the Director General for Innovation and Vocational Training for implementing the 2022–2024 Digital Plan for Schools.

Schools are graded and organised into levels, typically based on students' ages. (LOMLOE, 2020). Most primary schools consist of nine levels or grades grouped into four cycles. Pre-school education comprises one cycle with three grades/levels (ages three to five), while primary education is organised into three cycles, each including two grades/levels each (ages six to eight; eight to 10; and 10 to12). In most cases, each grade/level corresponds to one classroom—known as a unit—taught by one general classroom teacher, in addition to specialist teachers for music, physical education and second language instruction. The number of students for primary education is no more than 25 (LOMLOE, 2020).

In schools with fewer than nine units, often located in depopulated areas, it is common to combine several grades/levels into a single classroom or unit managed by one teacher, although the specific arrangement depends on the number of pupils. In these cases, schools are granted flexibility to organise instruction through multigrade classrooms.

Although official regulations do not clearly define rural schools, the Education Law (LOMLOE, 2020) refers them as being located in rural areas—often due to challenging geographical features—or in zones with very small population centres. Rural schools often are classified as 'schools with special difficulties'. This designation first appeared in the late 1980s, initially referring to schools facing diverse and complex socio-pedagogical circumstances. In Aragon, during the 2021–2022 academic year, 79 schools were officially designated as having 'special difficulty', with 71 of these being rural. According to the Resolution of 4 November 2020, which published the list of non-university teaching posts and schools classified as particularly difficult in the Autonomous Community of Aragon for that academic year, the criteria for this designation include:

(i) Nursery and primary schools with two or three units located more than 45 km from a town with over 5,000 inhabitants;

(ii) Teaching posts in single-class schools;

(iii) Teaching posts in isolated schools or schools sections that are difficult to access;

(iv) Teaching posts in nursery and primary schools with two or three units comprising at least five different levels;

(v) Teaching posts in grouped rural schools.

The inclusion of rural schools under this latter category has been questioned by various groups, which advocate a strategic plan specifically designed for rural schools, with a distinct, context-sensitive model that is open, adaptable and focused on making rural schools more visible within educational planning and regulation, from a positive and inclusive perspective (Consejo Escolar de Aragón, 2022).

There are different types of rural schools, including rural grouped schools (*Centros Rurales Agrupados*, CRAs), unitary schools and multigrade schools. CRAs are legally organised as single schools that operate across multiple towns, sharing the same educational programme. This model ensures access to education in remote areas, has a positive impact on human resources and mitigates teacher isolation. However, the structure of CRAs seems to have strengthened an urban school model within rural contexts, now extended via 'long corridors'—classrooms geographically dispersed across towns yet administratively connected as a single school (Tapia & Castro, 2014). This configuration has at times generated tensions among families from different towns, particularly in relation to school closures (Matías-Solanilla & Vigo-Arrazola, 2020). Unitary, or single-classroom schools, and multigrade schools—with fewer than nine units—are typically staffed by one general teacher per class who instructs students from multiple grade levels, supplemented by specialist teachers.

In this context, the study examined how teachers navigate political demands, while preserving spaces for sustainability, inclusion and wellbeing in the use of digital media.

Theoretical and methodological framework

Over three decades ago, Apple and Jungck (1990) started to question how the integration of digital media into schools might open new possibilities for teaching practices. Today, despite the persistent digital divide affecting families in certain contexts (Álvarez-Álvarez & García-Prieto, 2022; Ross et al., 2022) and the continuing expansion of commercial digital teaching and learning resources (Cress & Kalthoff, 2022; Morales Romo, 2017; Player-Koro et al., 2017; Wang et al., 2022), various studies have noted that the use of digital media in education tends to reproduce and reinforce dominant forms of knowledge, while neglecting the voices of students and teachers, as well as the

particularities of their specific contexts (Ball & Grimaldi, 2022; Costa et al., 2023; Sancho et al., 2020).

With few exceptions, (cf. Allan, 2023; Kopciewicz & Bougsiaa, 2021; Peruzzo & Allan, 2024; Rodríguez Mendieta & Saavedra Bautista, 2018), the focus has remained on improving learning outcomes, as determined by standardised tests and examinations (Zhao, 2023). This performative perspective, as theorised by Ball (2003), diverges from other approaches that frame digital media as a potentially inclusive and creative resource for teaching—one that may contribute to individual wellbeing and the sustainability of cultures and communities as endorsed by UNESCO (2023).

The use of digital media in schools seems to be influenced by structural factors, especially an emphasis on academic performance understood as a set of educational results. This emphasis tends to overshadow attention to the particular circumstances and personal situations of individuals and their specific contexts (Peruzzo & Allan, 2024; Quilabert et al., 2024). In this way, the use of digital media in schools often responds to the requirements of standardised digitalisation plans that prioritise to use them for achieving curricular outcomes over material and contextual realities.

Although research on remote schools remains limited—mainly due to their geographical isolation and various structural barriers that place them at a systemic disadvantage compared to other schools (Bagley et al., 2024; Beach & Vigo-Arrazola, 2020; Lasheras et al., 2024)—some studies have documented educational practices in these disadvantaged communities in which teachers thoughtfully and respectfully incorporate elements of children's everyday lives into classroom activities. This incorporation involves recognising the value of these experiences and building learning around and through them. Such practices acknowledge the challenges faced by disadvantaged groups and strive to address both the immediate and long-term needs of students through creative and inclusive approaches that may improve individual wellbeing (Mendívil & Lasheras, 2024; Moreno-Pinillos, 2024; Vigo-Arrazola, 2021; Vigo-Arrazola & Moreno-Pinillos, 2025), while also supporting the sustainability of their environments by using digital media.

Drawing on Woods and Jeffrey (1996), these teachers can be described as innovative, as they prioritise making learning meaningful for their students. They develop their own approaches, rather than adhering to the standards. These creative teaching practices focus on the relevance, ownership and control of what is taught, based on the acknowledgement

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of students' voices and those of others in their environment (Craft & Jeffrey, 2004). In line with Dovemark and Beach (2015), who adopt a dialectical perspective on social practices, structures and material conditions, these creative teaching practices intersect with inclusive practices (Armstrong et al., 2010; Booth & Ainscow, 2002; Vigo-Arrazola & Soriano-Bozalongo, 2014, 2015), which focus on recognising students' needs, potential and interests—both inside and outside school—and on promoting learning based on students' engagement with their interests and interaction with their peers, families and community members.

This emphasis on voices prompts reflection on who speaks, who listens and to what end, recognising that meaningful and transformative learning requires capturing students' experiences as the foundation for dialogue, free expression, intrinsic motivation, active participation and collaboration (hooks 1994). Accordingly, these creative and inclusive teaching practices align with the need to transcend a purely technical perspective on digitalisation to build educational communities that foster interaction, inclusion and sustainability.

Within this framework, two key themes have been identified in relation to creative teaching practices that promote social inclusion. The first is 'collaboration and teamwork' (Martín et al., 2024) and the second is a 'dialectical feedback loop' to develop progress by supporting students through social, emotional and behavioural structures within the school' (Dovemark & Beach, 2015). However, there are also sources of opposition to the creation of classroom conditions that promote these features. The article aims to discover, describe and analyse these sources through inclusive research with participants using ethnography.

There is a growing interest in understanding how teachers in remote schools may contribute to individual wellbeing and sustainability through creative and inclusive uses of digital media, thereby challenging traditional and technocratic logics in everyday educational practices. Can teachers' practices with students in remote schools help to critically examine dominant uses of digital media in schools, particularly in terms of their implications for wellbeing and sustainability? Might these practices offer the grounds for rethinking and reconstructing schooling itself?

This article aligns with the perspective of Apple (2013) and Smyth et al. (2014), who regard digital media as a means of empowering individuals to actively participate in the reconstruction of society. This process begins with the recovery of marginalised histories

and the restoration of agency to disadvantaged groups, followed by the creation of new collective narratives and renewed forms of agency.

In this context, it is essential to observe school experiences in order to understand teachers' voices as they emerge from their practical engagements with digital media in the classroom. This observation of school experiences should be approached from a creative and inclusive perspective that foregrounds sustainability and student wellbeing. The first step is a conscious commitment to educational change (Beach & Vigo-Arrazola, 2024). Attentive listening to the teachers' voices in these schools—while acknowledging both historical and current grievances—can significantly promote sustainability, social transformation and the role of digital media.

This article uses ethnography to present an alternative approach to teaching with digital media—one that addresses the challenges and political commitments involved in transforming education to advance sustainability, inclusion and individual wellbeing. Specifically, the study adopts a critical ethnographic perspective to help people to understand that *social phenomena* are shaped by *dialectical processes* that emerge from the ever-changing interplay of opposing forces within the framework of historical materialism. Following Freire (1970), this approach involves contributing to the development of conscientisation, understood as an awareness of how digital media practices in educational institutions are formed through the interactions among teaching staff, the local context and the institutional environment in which they operate (Beach & Vigo-Arrazola, 2020). In addition, management guidelines governing the use of digital media and the specific circumstances of each school also influence these practices.

A critical approach aims to reshape how lives are understood and experienced, rewrite the narrative and promote collective agency (Harris, 2010) to overcome oppression and promote justice. Engaged scholarship serves as the methodological foundation of this study, challenging the status quo (Beach & Vigo-Arrazola, 2024) and responding to the sociocultural, material and socioeconomic conditions of marginalised groups. This approach entails fostering deliberate and reflective engagement within interactive communities that actively counter these forms of injustice (Smyth et al., 2014).

The purpose of this study is not limited to describing or accounting for the current state of affairs, it also aims to understand and contribute to the reconstruction of society by considering the representation of groups that have come to accept disadvantage and social oppression as part of everyday normality. This intellectual endeavour is supported by

ethnographic research (Beach & Vigo-Arrazola, 2021; Tummons, 2022), which not only seeks to gain insights and disseminate understanding externally, but also aims to identify critical points of connection (Forsey, 2010) with transformative objectives in research, specifically concerning the use of digital media when working in solidarity with the experiences and interests of marginalised and exploited social groups. This study sets out to (i) identify how teachers in remote schools understand teaching practices involving digital media and (ii) explore their experiences with using these media in the classroom.

The schools

The data presented were part of a national research project on creative and inclusive practices with digital media, conducted in six schools with special difficulties located in rural areas of Spain (PID2020-112880RB-100, Spanish Ministry of Science and Innovation). This research was undertaken between 2021 and 2024 by a team of 17 researchers from research groups in Aragon, Madrid, Castile and Leon, Andalusia and Extremadura.

The initial phase of the study involved the DesEi survey (Torres-Sales et al., 2025), which examined teachers' perceptions of creative and inclusive practices involving digital media. Responses were obtained from 220 primary school teachers from both rural (39%) and urban (44%) schools. Analysis of the data helped identify educators who expressed interest in and openness to such practices. Following this initial phase, six focus groups were held to reflect on and discuss the survey findings. Based on this combined approach, 20 schools were selected for the ethnographic study. Teachers' interest and willingness to collaborate was an important factor in the selection process. Given the large number of schools grouped under the categorisation 'schools with special difficulties', this article focuses on six schools located in remote rural areas of Aragon. Table 1 presents the characteristics of the participating schools, highlighting both their shared features—such as classification as schools/posts with special difficulties—and their particular circumstances and contextual factors, including being located more than 45 km from towns with over 5,000 inhabitants, multigrade classrooms and, in all but one case, a high percentage of students from abroad.

Table 1. Characteristics of the participating schools with special difficulties

SCHOOL	POPULATION	SCHOOL TYPE	SCHOOL SIZE
Al School (EsAl)	618 inhabitants. 40% migrants of Moroccan, Algerian and Romanian origin.	Multigrade	42 students. Three classrooms. Two teachers living in the village.
Cal School (EsCal)	42 inhabitants Families from different Spanish regions seeking a lifestyle closer to nature.	Multigrade located more than 45 km from the nearest town with over 5,000 inhabitants	20 students. Two teachers travel 45 km every day to the school.
Ol School (EsOl)	117 inhabitants. New population of foreign origin (mainly Romanians and Moroccans).	CRA located more than 45 km from the nearest town with over 5,000 inhabitants	Five students. One classroom. CRA that hosts classrooms (units) from seven towns. They operate as a single educational school.
Poy School (EsPo)	202 inhabitants. 60% of foreign origin (mainly Romanians and Moroccans).	CRA located more than 45 km from the nearest town with over 5,000 inhabitants	15 students. Two classrooms (one for primary education and the other for pre-primary education). It belongs to a rural cluster school (CRA).
San School (EsSan)	274 inhabitants.	Multigrade	12 students. Two classrooms (one for primary education and the other for pre-primary education).
Per School (EsPer)	144 inhabitants. 60% foreign origin.	CRA located more than 45 km from the nearest town with over 5,000 inhabitants	20 students. Two classrooms. Two teachers from the area.

Research method

The research method was based on a multi-sited ethnography (Eisenhart, 2017) conducted by four researchers across six different schools. The fieldwork generated over 1,000 hours of participant observation and informal conversations, along with more than 30 interviews with school inspectors, head teachers, teachers and families, as well as documentary analysis. The time dedicated to observation in each of these schools varied depending on researcher availability, ranging from 300 hours over 10 months in two schools (EsAl and EsPer) to approximately 100 hours over three months in EsOl.

During the observation, the researchers engaged with students, teachers and families, both at the beginning and end of the school day and during other periods when they were present in the school. Interactions with teachers led to discussions about the practices and actions related to the use of digital media, opening up space for reflection on their teaching practices and reinforcing their value as creative and inclusive teaching approaches aimed at promoting sustainability and wellbeing.

The number of interviews varied by school, generally including families, classroom teachers and head teachers. Additionally, one researcher conducted two interviews with a school inspector.

The collected data were analysed through an exhaustive and reflexive categorisation process (Miles & Huberman, 1994). An initial analysis provided a descriptive overview of teaching and learning with digital media in the six schools. From this process, broad and flexible thematic areas emerged concerning pedagogical discourse, classroom practices and the perceived training needs of teachers regarding creative and inclusive digital media use.

An analytical and interpretive process—initiated through individual analyses conducted by each researcher and further developed via group discussions, comparisons and contrasts with participants' perspectives—shed light on the practical challenges teachers face. This process led to two final categories: (i) creative teaching practices for inclusion, sustainability and individual wellbeing using digital media; and (ii) experiences of engagement with and pressure from national and regional digitalisation plans. Scientific literature, along with the interactions between researchers and teachers, contributed to identifying key themes as first categories (Table 2).

Table 2. Description of categories

How are digital media actually used in classrooms for sustainability, inclusion and wellbeing? What are teachers' experiences with using digital media for sustainability, inclusion and wellbeing?	
Incorporating learners and their context through digital media practices	Creative teaching practices for inclusion, sustainability and individual wellbeing using digital media
Promoting students' interaction with their interests and with others	
Time-outs	Experiences of engagement with and pressure from national and regional digitalisation plans
Instrumental use of technology	

These themes are interrelated and contribute to the development of new theories along two key dimensions: first, the use of digital media from a creative and inclusive perspective that supports sustainability and individual wellbeing, in contrast to approaches focused primarily on curricular outcomes; and second, the construction of a positive representation of rural schools as opposed to prevailing negative portrayals of these institutions as particularly difficult—an aspect that is central to ethnography.

Results

The findings demonstrate the unique potential of the teaching practices developed by the teachers in these six participating schools. These practices were structured in line with the main analytical results, focusing on how teachers work with and experience digital media practices in support of inclusion and sustainability in remote, rural settings, while navigating the numerous expectations and demands imposed by education authorities. Firstly, teachers recognised and listened to students' voices, considering their immediate contexts. These voices—together with those of the local community—served as central elements in the process of monitoring and supporting student learning. Secondly, these experiences reveal the pressure that teachers experienced from authorities to comply with

curricular requirements and demonstrate progress in the acquisition of digital competencies.

Creative teaching practices for inclusion, sustainability and individual wellbeing

While previous research has highlighted the potential of digital media to improve educational outcomes, its contribution to inclusive education and individual wellbeing has often been found to be limited. In fact, findings often point in the opposite direction (Ball & Grimaldi, 2022; Sancho et al., 2020). This does not imply, however, that the potential value of digital media for inclusion and wellbeing is inherently absent or unattainable. In contrast, studies by Vigo-Arrazola (2021), Mendívil and Lasheras (2024) and Peruzzo and Allan (2024) offer examples that point in a different direction. Additional examples arise from the analysis of data gathered through observation, interviews and focus groups. These data indicate creative and inclusive teaching practices (Booth & Ainscow, 2002; Craft & Jeffrey, 2004) in situations in which teachers (i) recognise and listen to the voices of their students and the local community, taking into account their own specific contexts, and (ii) incorporate these voices into the learning process, using them as a reference for monitoring and supporting the use of digital media in the classroom.

Incorporating learners and their context through digital media practices

The first notable result is that teachers recognise and consider the voices of students and their contexts when using digital media. They incorporate students' experiences, interests and values—alongside those of the local community—into the classroom as part of the learning process. This approach contrasts with others that use digital media solely from a technical perspective or to reproduce a prescribed curriculum (Ball & Grimaldi, 2022; Sancho et al., 2020), essentially reproducing cultural and social hierarchies (Peruzzo & Allan, 2023). One of the schools studied exemplifies this approach. Located in one of the most significant palaeontological sites on the Iberian Peninsula, it mirrors a pattern observed in many remote areas, where large segments of the population have migrated to urban centres in response to industrial development

> The head teacher and several other CRA teachers—who live in the area and maintain strong ties with the local community in addition to their work as educators—seem to actively align the school's educational approach with its

physical, cultural and social context, as well as with the lived experiences of the students. Observations revealed that digital media can serve as a means of exploring the local environment as a learning space. In one example, a teacher used Genially to create a resource [...]. A series of slides show different cultural elements of the environment. Students were invited to comment on these slides drawing on their own ideas and lived experiences about these elements. The teacher explained that the activity aimed to connect historical periods—such as the age of the dinosaurs, prehistory, Antiquity and the Middle Ages—with the sociocultural elements of the towns. (EsPer field notes)

Some teachers in the same school viewed these types of teaching practices—deeply connected to students' lives—as natural, given the rural context, where local fauna and flora are both easily accessible and considered valuable educational resources.

They really like birds, so we decided to include local bird species as part of the curriculum, taking advantage of the natural environment and the resources available here. The children like them, and I think that knowing about these animals fosters greater respect—for example, understanding that nesting sites must not be disturbed. [...] One of the students became 'hooked' on watching live broadcasts of griffon vultures. (EsPer, Interview, PEteacher)

Another young teacher created a space in the classroom to foster curiosity and research.

Positioned next to the computer, a laminated poster invited students to ask themselves, 'What do you want to learn today?' This space, designed for free time or for use once schoolwork is completed, offers students the opportunity to explore topics they find interesting. [...] they search for information about animals, biographies of singers they like, or facts about their country or hometown. (EsPer field notes)

The teachers seemed to approach the use of digital media from a perspective that extended beyond its purely technical function or its role in reproducing dominant forms of knowledge. Consistent with other studies, they considered the particularities and individual voices of students and their specific contexts (Allan, 2023; Kopciewicz & Bougsiaa, 2021; Peruzzo & Allan, 2024; Rodríguez Mendieta & Saavedra Bautista, 2018). Thus, digital media were approached as a potential practice linked to inclusive and creative forms of teaching, paying particular attention to individual wellbeing and the

sustainability of cultures and communities, as emphasised by international organisations such as Eurydice (2019) and UNESCO (2023).

A recurring theme in the interviews and observations at another school was the importance that teachers attributed to the interests and lives of their students as the foundation for planning and developing their classroom practices. One teacher from EsOL, a school with students from various countries, explained, 'It is not what the teacher says, but rather the students themselves propose ideas and direct their own learning' (EsOl, Interview). This creative and inclusive approach to the use of digital media is reflected in activities such as research projects and classroom presentations, through which students can explore and examine topics they consider relevant.

> At the end of the day, when we introduce research activities, such as classroom presentations, students choose a topic that interests them. For instance, when the topic is countries, they select one that draws their attention; when the focus is on characters, they choose someone they feel connected to or find engaging […]. So, in this way, they become involved in the topic and also learn about it. (EsOl, Interview, teacher5)

These schools are located in communities that, from an outsider's perspective, may seem disadvantaged or at risk of disappearing. Nevertheless, the teachers appear aware of the need to incorporate digital media, while simultaneously considering their students' voices and the broader social context. One teacher described how strengthening students' sense of belonging and identity emerges from the specific context and influences the way he works at the school. 'It's a need. The environment itself creates the need, and from there, I […] look for all the materials I have or can find to meet that need from the outside'. (EsOl, interview, teacher4)

A high percentage of the families whose children attend EsPer and EsOl are of foreign origin and have a low socioeconomic level. Some teachers live near these schools and seem to take an interest in the local community, addressing both its interests and those of their students through the use of digital media. This type of digital media practice—which considers the students' lives, voices and local realities—is connected with creative teaching from the perspective of relevance (Craft & Jeffrey, 2004) and inclusive teaching (Booth & Ainscow, 2002). It contributes to the wellbeing of individuals and, in turn, supports the sustainability of their values, culture and community (UNESCO, 2023). These teachers seem to conceive creative and inclusive teaching practices from a dialectical perspective (Dovemark & Beach, 2015) rather than from a performative one.

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They demonstrate solidarity with the communities of these schools, working beyond neoliberal views in their use of digital media (Costa et al., 2023). Interests and elements related to students' lived experiences are further reinforced in some teachers' practices when using digital media to interact with and learn from their students.

Promoting students' interaction with their interests and with others

Some teaching practices observed in these rural schools stand out for their flexible and open nature, providing students the opportunity to choose topics of personal interest and engage with them as well as with others to support their learning. The adoption of practices aimed at arousing students' curiosity and fostering autonomous research reflects an understanding of students as active agents in their own learning (hooks, 1994). One example is from a school where the majority of students, of varying ages, come from families of Moroccan origin. The teacher there implemented a practice called 'word of the day', designed to connect students' interests with the development of language and digital competencies.

In this case, the students decided to research the Spanish word *'mocho'* following a spontaneous exchange during an activity. The teacher acted as a guide throughout the learning process by asking open questions and encouraging dialogue and cooperation among the students.

Amina: What do you call the bottom of the mop? Hair?

[Isaac nods].

Teacher3: Are you sure [Isaac]? Amina, why don't you look it up on the computer

to see what it's called?

Amina: How do I look it up?

Teacher3: I don't know. How would you look it up?

Amina: I'll look it up. What's the name of the bottom of the mop?

 [Selma and Ismael approach the computer where Amina is.]

Amina: *'Mocho'* It's called *'mocho'*.

Isaac: Like *'Calamocha'*, but with *'mocho'*. Shall we make it the word of the day?

(EsPer, field notes)

In this way, by centring on students' interests, everyday classroom activities promote exploration and collaborative problem-solving. Consequently, these practices constitute, at least in part, creative and inclusive teaching practices, as they empower students to take ownership and control knowledge (Craft & Jeffrey, 2004). The way teachers adapt content to align with students' interests and incorporate digital media may be seen as a form of resistance to the rationalisation of institutional education—prioritising students' interests, agency and the local context (Apple & Jungck, 1990) as foundations for learning.

Several situations revealed ongoing interaction among students and between students and teachers, in multiple instances shaped by shared interests and lived experiences. At EsCal school, the teacher was highly committed to incorporating students' live experiences into classroom practices. One example is a 'free text' activity carried out on tablets, which foregrounds creativity and personal expression by giving students space to develop ideas that matter to them.

> Each child writes what they want and where they want: some stay inside the classroom, others go to the auxiliary classroom and others write outside, in the playground. After break, it's time to share what they have written. Today, we suggested reading and discussing three of the texts together. […] The texts chosen are projected on the digital whiteboard so that everyone can follow along during the reading. After one of the girls reads her text, her peers begin asking questions:
> - 'Why did you choose this topic?'
> - 'What did it mean to you?'
> - 'Who was there?'
> - 'What did you think of it?', etc. (EsCal, field diary)

Sometimes, digital media were used frequently, as in the examples from EsPer; in other instances, their use was occasional (*ad hoc*) and tied to a specific activity, such as the free text project at EsCal, a school located in a remote area of the Aragonese Pyrenees. In such cases, the practices reflected a creative approach to digital media, as discussed by Craft and Jeffrey (2004) and an inclusive orientation (Booth & Ainscow, 2002), based on taking ownership of knowledge linked to one's own interests and exercising control of this knowledge in interaction with others.

These examples illustrate how teachers actively involve students in the learning process by guiding them to explore answers connected to their own interests. The teaching practices in this category recognise and incorporate students' voices, granting them

control of their own learning through interaction with others and with digital media. As shown in previous studies on inclusive education and sustainable transformation (cf. Ydesen et al., 2023), the teachers in these schools not only listen to students' interests and context but also encourage them to learn by engaging with their own interests and contexts and those of their peers through digital tools. In this way, the use of digital media transcends a merely performative and technical function, moving beyond teaching models based solely on transmission (Ball & Grimaldi, 2022).

Teachers in these small and remote schools often express the need to align teaching practices with students' experiences and their sociocultural contexts (Beach & Vigo-Arrazola, 2020). The ethnographic data show that these teachers reflect on their context and make efforts to incorporate content related to the specific cultural, territorial and social environment of their schools whenever possible. As documented in previous studies (Lasheras et al., 2024; Moreno-Pinillos et al., 2024; Vigo-Arrazola, 2024), they seek to engage with these contexts by leveraging digital media. In doing so, the teachers contribute to the sustainability of their local environments and to wellbeing, considering students' voices and the local context.

 As reported by Peruzzo and Allan (2024), this use of digital media in this context differs from approaches oriented towards learning outcomes derived from an abstract curriculum. Instead, teachers incorporated students' interests and their sociocultural environment into their teaching practices using digital media. According to Dovemark and Beach (2015), such practices support creative learning from a dialectical perspective, engaging with the surrounding context. Teachers value both the students and the community when they develop their teaching practice ethically, based on a commitment to respect and social justice. However, as previous studies have shown (cf. Lasheras et al., 2024; Moreno-Pinillos et al., 2024; Peruzzo & Allan, 2024; Vigo-Arrazola, 2024), teaching practices also intersect with other performative experiences outside institutional frameworks, thus creating tensions for this sustainability. Teachers expressed concern about improving learning outcomes according to the criteria set by standardised tests and examinations (Zhao, 2023). As one teacher from a school located in a remote mountainous area (EsCal) commented regarding the free text activity: 'It motivates the students a lot and allows them to work on language-related content'. The questions that arose from the teacher's reading of the texts differed significantly from those raised by the students. This difference was observed one day when parents visited the school.

Today, all the families have come and the children from different classes gathered to read and project their texts on a screen. First, however, a girl and a boy explain the 'free text' project, according to the teacher's instructions.

Girl: What is free text?

Boy: Free text is a free project where you can write whatever you want… about something you make up or about yourself.

Girl: What is it good for?

Boy: Free writing is good for improving reading, writing and spelling mistakes.

Girl: How do you do it?

Boy: First, you brainstorm ideas. Everyone thinks about what they want to write. Then you correct it together and post it on the blog we created.

(EsCal, field diary)

The presentation focused on other topics of interest, while still emphasising curricular content. These teaching practices were therefore presented as a dialectical outcome of the interplay between the conditions and needs of the local context and institutional demands. As a result, teachers recognised a potential pathway for addressing inclusive and sustainable education (Ydesen et al., 2023), all the while feeling compelled to align their work with the official curriculum.

Experiences of engagement and pressure from the national and regional digitalisation plans

Analysis of teachers' experiences reveals various factors influencing the implementation of teaching practices in schools located in remote areas. The teachers' perceived need to incorporate the experiences of students and community life through the use of digital media to support inclusive education and sustainability contrasts with their duty to comply with education authorities' demands regarding the progress of digitalisation and adherence to the prescribed curriculum.

Engagement with the digitalisation requirements of education policies

Teachers in these rural schools face the education authorities' demands concerning digitalisation plans, alongside other limitations such as the prescribed curriculum. Their positive experiences with creative and inclusive digital media practices coexist with perceptions of these activities as 'time-outs', accompanied by concerns over meeting expectations linked to performative uses of digital media, particularly those based on

standardised testing and measurable outcomes. This tension seems the result from the interaction of the context in which the teachers operate, ultimately influencing the sustainability of these territories and the implementation of inclusive education that supports individual wellbeing. Within the structural conditions of the educational system, teachers experience pressure to adhere to a prescribed curriculum evaluated through standardised tests. Consequently, organisational factors contribute to a performative use of digital media. Like their counterparts in urban schools (Peruzzo & Allan, 2024; Sancho et al., 2020), teachers in these remote rural schools are navigating institutional demands amid growing accountability pressures.

Time-outs of the curriculum

Creative teaching practices using digital media that consider the voices of students and the community are often overlooked and viewed as *time-outs* within the institutionalised educational framework. One example was observed at EsPo, a primary school in which 83% of the students are foreign-born, where a teacher permitted students to explore topics of interest using digital media once they had completed the planned class assignment.

> When one of the children finishes a classroom activity, he asks the teacher if he/ can search for information online about the seeds that they are going to plant later during garden time. The teacher agrees, and the child makes a free-form Word document containing photographs of the trees that produce these seeds. (EsPo, field notes)

These types of practices, incorporated informally and voluntarily, are often regarded by teachers as a less valuable *add-on* to academic and curricular learning. This perception is illustrated by a remark from a head teacher when asked about the use of digital media in workshops: 'You want me to tell you what we do in the afternoon in the workshops? But it's bullshit!'. (EsPer, informal conversation, head teacher)

Such comments reflect the tension teachers experience due to the demands of education policies that emphasise curriculum content and the development of digital competencies. Other studies have reported similar findings (Allan, 2023; Apple & Jungck, 1990; Ball & Grimaldi, 2022; Costa et al., 2023; Løvskar et al., 2024; Sancho et al., 2020). A clear disconnect emerges between these teachers' experiences and their efforts to exercise agency in promoting individual wellbeing and sustainability within the school context. Several comments also reveal that teachers perceive education policies as a regulatory

framework that devalues initiatives falling outside the standardised market-driven model. A teacher from a small school with various awards for educational innovation confirmed the pressures exerted by education authorities:

> […] You can carry out any projects you want, on any subjects that interest you, but in the end, the administration forces you to report and include four and a half hours of mathematics, three hours of language, and two hours of English in your timetable. This appears on the schedule, even though reality is different […] It's a shame. No one supports us as long as we fulfil all the roles they demand from us […]. (EsAl, interview, head teacher)

These teachers' experiences highlight a perceived disconnect between their practices related to inclusion, sustainability and wellbeing using digital media, as defined by UNESCO (2023), and the actual demands imposed by educational systems. This gap underscores the need—emphasised in previous research (Peruzzo & Allan, 2024)—to rethink digitisation policies in ways that support pedagogical approaches that promote teacher agency and learning attuned to both students and their specific contexts.

Standard instrumental use of technology

Teachers who seek to incorporate creative and inclusive practices in their classrooms face education policies that require compliance with digital competency standards that emphasise the instrumental use of technology. Such policies leave little space for students to exercise control and ownership over their own learning. One head teacher emphasised the responsibility to uphold these standards by stating that 'the inspectors come and force you'. (EsPer, interview, head teacher)

At EsPer school, which has a high percentage of foreign-born students and where some teachers implemented creative and inclusive digital media practices, it was evident that some teachers viewed digital media as just another bureaucratic burden rather than as a pedagogical tool with the potential to enhance student wellbeing. Generally, teachers feel overwhelmed by the numerous curricular and digital demands imposed on them, generating a sense that fulfilling all requirements properly is unattainable:

> [To use digital media], besides having the desire, you need time—time that you don't have because they also demand the curriculum be delivered in a certain way, so you have to cover specific content, and you don't manage […]. You don't get

anywhere because students also need time to learn how to use them. (EsPer, interview, teacher1)

Teachers typically approach this task from a technical and performative perspective, assuming that digitalisation should be promoted at school (Løvskar et al., 2024). They feel responsible for equipping their students with the necessary tools and skills to navigate a globalised and uncertain environment, considering such preparation essential for academic, professional and social success. One temporary teacher with five years of experience expressed her concern about the instrumental mastery of digital media when asked why she decided to incorporate them into her teaching practice:

I think they are very important [...]. It is a resource that must be encouraged so they improve and learn more [...]. It should be compulsory to teach a computer-related subject in the classrooms [...]. We have it in secondary school, but I think that's too late [...]. These kids are terrible. They don't even know how to use the keyboard. (EsPer, interview, teacher1)

Some teachers also consider digital media and digital competency education and training socially urgent to ensure *equal opportunities*. For example, one teacher working at a school where many students come from low-income families highlighted the need to develop the students' digital competency to help them access opportunities that might otherwise remain out of reach and only exacerbate their inequality.

Notably, most teachers generally share the administration's view of digital media to a greater or lesser extent. Indeed, they consider digital media 'a factor of academic, professional and social success'. At one school (EsPo), teachers use digital media to do the same exercises they would do without them (Sancho et al., 2020; Selwyn et al., 2017). Teachers express concern about aligning their teaching with current labour market demands from a market-rationality perspective, prioritising the mastery of digital media and purely academic knowledge over practical applications of content and resources (Player-Koro et al., 2017).

The results reveal that teachers implement digital media practices that account for students' needs, interests and contexts—thereby contributing to community sustainability and individual wellbeing—and they also show that teachers bear responsibility for implementing standardized educational curricula that leave little room to consider students' specific characteristics and sociocultural contexts.

Discussion

This study explores how teachers working in remote schools develop and experience digital media practices that support inclusion, sustainability and individual wellbeing, while responding to the diverse requirements and expectations set by education authorities. Given the commitment to building a sustainable society centred on individual wellbeing through the use of digital media, as recognised by UNESCO (2023, 2024)—and in line with previous studies (cf. Costa et al., 2023; Ball & Grimaldi, 2022), which acknowledge that digital tools alone do not change the nature of teaching practices—it is particularly relevant to examine what is happening in these remote settings. In doing so, it is useful to take as a reference certain exceptional practices identified precisely in such rural contexts (cf. Vigo-Arrazola & Soriano Bozalongo, 2014, 2015), where teachers incorporate their students' lives and interests into learning processes involving digital media (Mendívil & Lasheras, 2024; Moreno-Pinillos, 2024). It is therefore pertinent to ask how teachers in structurally disadvantaged schools develop and apply digital media practices that foster student participation and learning (Allan, 2023; Armstrong et al., 2010; Booth and Ainscow, 2002) by engaging with students' interests and life experiences (Craft and Jeffrey, 2004).

This article illustrates how teachers in these schools develop creative and inclusive digital media practices grounded in the voices of their students and local communities, promoting learning through interaction with these voices, which supports both community sustainability and individual wellbeing. However, they also face constant pressure to comply with a *digital competency* plan focused on performativity and administrative curricular demands (Lasheras et al., 2024; Peruzzo & Allan, 2024), generating tensions and constraints in their daily teaching to address the political demands of inclusion, sustainability, and individual wellbeing by using digital media in two distinct ways, thus demonstrating varied forms of compliance.

Teachers seek to employ inclusive and creative teaching practices

Teachers strive to implement inclusive and creative teaching practices that take into account students' lives and community contexts, aiming to support their wellbeing through the use of digital media. Key elements such as relevance, ownership, and control emerged as central to the ways in which teachers use digital media in their classrooms.

Researchers identified these educational possibilities through first-hand experience of the depth and power of teachers' creativity in the marginalised schools studied (Vigo-Arrazola & Soriano-Bozalongo, 2014, 2015; Vigo-Arrazola et al., 2023; Beach & Vigo-Arrazola, 2020). The results reveal that these teachers implemented real examples of inclusive and creative practices that could support sustainability and individual wellbeing. By incorporating students' voices and sociocultural contexts into their teaching, they distanced themselves from performative practices based on standardised models focused on digital competency and curricular control, often disconnected from learners' lived experiences (Beach & Vigo-Arrazola, 2020).

In line with Apple (2013) and Smyth et al. (2014), this study shows how teachers engage with students' voices and sociocultural contexts through the use of digital media. These teachers act as activists by grounding digital media practices in their students' experiences and environments. In doing so, they challenge conventional schooling models that regulate the use of digital media and reduce students' voices and contexts to a passive role, as observed by Allan (2024) and Peruzzo and Allan (2024), among others. Their practices transcend a performative approach that focuses on reproducing an abstract curriculum and technical digital competencies. Instead, they integrated students' lived experiences and local environments into the learning process, expanding the scope of possibilities for sustainable development.

In this regard, it can be argued that teachers working in schools with limited power and social capital—particularly in remote areas with a high proportion of vulnerable migrant students—tend to adhere more closely to the inclusive and creative practices for sustainability promoted by international bodies (UN, 2022). This adherence becomes evident when they engage with students' voices and sociocultural contexts through the use of digital media in their teaching. These teachers acknowledge the potential of creative and inclusive digital media practices to contribute to a sustainable society, approaching creativity from a dialectical perspective (Beach & Dovemark, 2015). They act in solidarity with the interests of their students and their local areas and environments. Moreover, these students often belong to marginalised and exploited social groups within their schools. Thus, the teachers move beyond the officially approved performative approach and challenge a neoliberal political perspective on the use of digital media (Ball & Grimaldi, 2022; Costa et al., 2023; Peruzzo & Allan, 2024; Sancho et al., 2020), which tends to reduce teaching with digital media to a mechanical and passive process (Cho et

al., 2020). Such performative approaches reproduce the dominant values of society (Costa et al., 2023) that may not be reflected in the students' particular sociocultural contexts and experiences.

These teachers acknowledge the value of social capital, especially given the negative representations often associated with these remote schools and their communities. They seem committed to pursuing a transformation in schooling through digital media teaching practices that support sustainability and prioritise individual wellbeing, thereby driving change beyond officially approved performative frameworks. However, these teachers' commitment to these creative and inclusive approaches occasionally places them in tension with institutional dynamics.

Sharing structural characteristics

Teachers in these schools share structural characteristics inherent to the education system, which results in prioritising aspects such as digital competency from a technical and performative perspective. They experience pressure and a strong sense of duty to meet the demands of a prescribed digitalisation plan, while adhering to the curriculum established by the education administration. Teachers report feeling significant pressure from the government and a curriculum designed by others (Vigo-Arrazola & Beach, 2021). In this context, when using digital media, teachers strive to comply with educational standards and requirements, while maintaining a commitment to listening to their students' voices in support of their learning and wellbeing. Their experience aligns with the demands of policy and curricula, even as they attempt to challenge or disrupt those frameworks through alternative practices. This situation can be interpreted both as accountability to education authorities (Moreno-Pinillos et al., 2024) and as a form of resistance and struggle (Apple, 2013) against the norm.

 Thus, considering how teachers in remote schools navigate political demands of inclusion, sustainability, and individual wellbeing by using digital media in an unequal and uncertain world, it is important to reflect on the following three issues:

(1) The reality of sustainable practices, individual wellbeing and digital media in schools must be understood as the outcome of dialectical processes. In other words, the use of digital media is the result of the dynamic interaction between external demands on schools—such as education policies, digitalisation requirements and administrative

pressures—and local conditions and needs, including the sociocultural realities of each context. The strategies that teachers develop are mediated both by the institutional performative culture and expectations and by the needs of their students and communities.

(2) The positioning of teachers' practices is conditioned by accountability policies. Although teachers acknowledge the importance of addressing students' life experiences within their specific contexts, they tend to assume as normal the implementation of curricular and digital standards that are disconnected from those realities.

Teaching practices in these schools are heavily influenced by the interplay between local contexts, organisational characteristics and widespread beliefs about digital media policy and pedagogy, exposing tensions that teachers struggle to navigate. These teachers offer valuable insights into how they confront and respond to a complex institutional landscape of external pressures and political mandates using digital media in an era marked by accountability. They cope with external pressures—such as the imposition of the standardised curriculum and digital competency—by decoupling structure from practice (Peruzzo & Allan, 2024; Quilabert et al., 2024), formally complying with policies and procedures to meet external demands, while informally maintaining their own digital media practices and routines.

The conditions of performativity raise serious questions about digital media practices. Policymakers should take into account the voices and experiences of teachers in these schools to reconsider the reconstruction of education policies regarding the integration of digital media into schools as a way of promoting sustainability and individual wellbeing that goes beyond performativity. Any challenge to the performative focus of digitalisation policies entails recognising the systemic patterns that shape them (Ball & Grimaldi, 2022; Peruzzo & Allan, 2023).

(3) In the current context, it is essential to highlight the voices of teachers who have come to normalise situations of disadvantage and social oppression, as these voices offer a possible path to reconstruct teaching practices with digital media, grounded in sustainability and individual wellbeing. Ethnographic research (Beach & Vigo-Arrazola, 2021; Tummons, 2022) provides a deeper understanding of such situations and helps to identify critical points of connection (Forsey, 2010) oriented towards transformative goals within the research process. This research highlights the need to deconstruct and potentially reconstruct teaching practices by acknowledging and valuing teachers' commitment to challenging socially hierarchical and conventionally dominant

educational structures, aiming to create more equitable and socially just schools. The interaction between researchers and teachers' voices through ethnographic research brings to light key considerations for the reformulation of education policies and practices related to digitalisation, sustainability, and individual wellbeing. This analysis contributes to raising teachers' awareness of their digital media practices from a dialectical perspective.

It is equally important to consider why teachers act as they do, what or who shapes their actions and choices, and how they might act differently. This research contributes to rethinking approaches to digitalisation in support of sustainability in these contexts. As Apple (2013) argues, in the search for a more sustainable society in which digitalisation plays an increasingly central role, it is possible to reject the claim that 'there is no alternative'. Based on the idea that alternative visions exist and have always existed, it is necessary to develop a broader sense of 'we' that embraces the voices of students, their communities and teachers to advance in this area.

Conclusion

From a European perspective, the results of this research provide different perspectives on the challenges faced by small, disadvantaged schools in education systems. Tensions between standardised education policies and local needs are widespread across Europe. Leveraging the European Union's Action Plan following the COVID-19 pandemic, now is the time to devise new and innovative ways for students and educators to organise their teaching and learning activities, as well as use digital media to interact in a more personal and flexible way.

Finally, this study opens avenues for further research into how school characteristics, along with the conditions and life experiences of teachers and students, influence teaching practices. Greater attention to these dimensions could enrich future investigations and help uncover additional sources of tension emerging from power relations.

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