

# The use of data and Digital Textbooks

EXECUTIVE SUMMARY

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## Context and Implementation

The Digital Textbooks Pilot-Project is an initiative launched in 2020 by the then Portuguese Ministry of Education under the broader School Digitalisation Programme. The project seeks to transform teaching and learning practices by replacing printed textbooks with digital alternatives, providing equitable access to high-quality educational resources, and embedding technology into everyday pedagogical processes. The Digital Textbooks Pilot-Project is underpinned by a vision of student-centred learning, development of digital competencies, and multiple literacies, with special emphasis on the professional growth of teachers and the effective integration of digital resources. This Learning Story is based on the practical insights of a School Leader (School Principal) whose school is integrated in the pilot-project. It provides a detailed look at how data generated through digital textbook platforms can be harnessed by school leaders and teachers to inform pedagogical strategies, promote student engagement, and optimise resource management. It also sheds light on challenges related to digital transformation in schools—such as uneven access to data, data literacy, and the ethical implications of student data usage. The platforms generate usage reports, engagement metrics, and performance dashboards which can be accessed by teachers and school leaders. The School Leader describes how this data is used not only for monitoring learning but also for strategic school leadership. By triangulating data—combining academic results, attendance, socio-economic status, and digital engagement with the data collected of the platforms of digital textbooks—teachers and leaders are able to identify patterns, intervene early, and reflect on the impact of pedagogical practices. Importantly, this process enables a culture of data-informed reflection, where feedback loops guide decision-making across teaching, planning, and resource allocation.

## Lessons Learned

This case provides valuable lessons for schools and policymakers navigating the shift to digital learning:

### 1. Data literacy as a strategic priority

Effective data use requires more than access—it demands skills. Teachers and leaders must be trained to interpret, question, and apply data meaningfully. Without this foundation, data remains underused or misinterpreted. Investing in data literacy across the educational community is essential for ensuring that data serves pedagogical improvement rather than becoming a superficial metric.

## 2. Triangulation enhances understanding

Schools must move beyond single indicators to draw insights from multiple sources. Triangulating socio-economic data, performance results, and platform usage shows how holistic analysis leads to more precise and equitable decisions. This approach helps identify both individual needs and systemic gaps.

## 3. Real-time data supports timely action

The immediacy of digital data allows for prompt interventions. Teachers can adapt lessons based on recent engagement, and school leaders can adjust resources or support where necessary.

## 4. Continuous Professional Development is crucial

Professional learning should accompany all digital initiatives. Teachers must develop the ability not only to navigate digital platforms but also to analyse data trends, evaluate progress, and connect insights to practice. Continuous, collaborative development is key.

## 5. Ethical and secure data practices

As schools collect increasing volumes of data, safeguarding student privacy and data rights becomes critical. It is important to have school-specific protocols, anonymisation practices, and clear agreements with publishers. Ethical leadership includes questioning how data is used and for whose benefit, while avoiding bias or deterministic labelling of students.

## 6. Leadership is central to digital transformation

School principals must foster a culture of innovation by modelling data use, encouraging collaborative analysis, and providing the structural conditions for success. Leadership involves more than administration—it requires vision, ethical commitment, and adaptability in the face of evolving digital landscapes.

## Conclusion

Portugal's Digital Textbooks Pilot-Project provides a compelling case of how data, when ethically managed and effectively interpreted, can support the decisions of leadership. The experience of the School Leader highlights both the potential and the challenges of digital integration in schools. This Learning Story affirms that successful digital innovation in education depends not only on tools and infrastructure, but on the people, processes, and principles that shape their use. Fostering a culture of data literacy, ensuring data privacy and security, and promoting professional learning, highlights the transformative potential of data in education. By embedding these practices into daily routines,

schools can optimise resources, personalise support for students, and drive continuous improvement in educational outcomes.



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