

Interactive Classroom Working Group

# School strategies for fostering students' digital competences

Practical guidelines for school leaders



## Case Study

Agrupamento Fernando Casimiro · Portugal



**Case study:** Agrupamento de Escolas Fernando Casimiro Pereira da Silva, Portugal

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## Introduction

School digital strategies refer to the plans and frameworks developed by educational institutions to effectively integrate digital tools, technologies, and practices into the learning environment. Sustainable and inclusive digital education strategies require a balanced approach that considers diverse learner needs and promotes equitable access to technology. Rather than simply integrating new technologies in school practices, effective digital education strategies require a well-considered idea of how technology can improve educational outcomes, address inequalities, and support the wider educational mission of the school. It is a continuous process of identifying key priorities, allocating resources for targeted initiatives, monitoring progress, and achieving the different objectives.

This case study is one of 15 developed from interviews with members of school leadership teams who have contributed to the development of effective, sustainable, and inclusive school strategies to foster students' digital competence. The case studies focus on strategies that have successfully improved digitalisation of school and teaching practices and supported the development of digital competences in their students, in a sustainable and inclusive way. The schools are located in eight countries i.e. Czech Republic, Ireland, Italy, Luxembourg, Portugal, Serbia, Slovenia, and Switzerland. The interviews were part of research carried out by European Schoolnet's Interactive Classroom Working Group on the schools' experiences, the lessons they have learnt and the good practice they have developed. This research has informed the development of the publication 'School strategies for fostering students' digital competences. Guidelines for school leaders'. Find the publication and other case studies here: <https://fcl.eun.org/icwg>

## Introduction to Portuguese Context

The Portuguese Ministry of Education has made a substantial investment in the digital sector through the Digital Transition Plan (DTP). The investment, aligned with the strategies of the Action Plan for Digital Education (2021-2027), Portugal, through the Directorate-General of Education (DGE), has developed a comprehensive set of actions and initiatives related to digital transition in schools. These initiatives focus on three key areas: training digital teachers, digital development of schools and the creation of digital educational resources.

The DTP has already distributed over one million pieces of equipment and established 1,300 Digital Education Laboratories (LED) equipped for programming and robotics, STEM, arts and multimedia. Furthermore, around 70% of teachers have received digital training, and a national plan to produce digital educational resources (DER) for all subjects in the curriculum is being implemented,

along with the development of a national educational web platform called the Learning Ecosystem.

A critical component of these efforts is the digital development of schools, which aims to develop and implement Action Plan for the Digital Development of Schools (APDDS). This plan, based on the SELFIE application tool (<sup>1</sup>), serves as a strategic tool for reflecting on and transforming practices within educational organisations. It supports decision-making and monitors progress in the digital realm within schools.

The APDDS aligns with the School Digital Education Strategy (SDES) highlighted in this case study, often associated with the overall digital strategy for schools.

All these coordinated initiatives are expected to have a direct impact on improving students' digital competences.

## Introduction to the school



The school group Agrupamento Fernando Casimiro is an organisation formed by four educational establishments and is also associated with Alcoentre School and the Vale de Judeus prison. The group's main school, Escola Básica e Integrada Fernando Casimiro Pereira da Silva, has around 700 students distributed across three levels of education (1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> – CETI 1 and CETI 2) and is based in the city of Rio Maior. Also in the city, Escola Básica Mina do Espadanal offers pre-school and 1<sup>st</sup> cycle education

to around 250 students. Escola Básica Poeta Ruy Belo is located in S. João da Ribeira, around 12 km from the city, and provides pre-school and 1<sup>st</sup> cycle education to around 200 students. In the village of Asseiceira, about 5 km from the city, there is Escola Básica da Asseiceira with around 100 students enrolled in pre-school and 1<sup>st</sup> cycle basic education (CETI 1).

In the 2023/2024 school year, the school group includes pre-school education (11 groups), the 1<sup>st</sup>

1 <https://education.ec.europa.eu/selfie-for-teachers>

cycle of basic education (21 classes), the 2<sup>nd</sup> cycle of basic education (9 classes) – CETI 1, the 3<sup>rd</sup> cycle of basic education (15 classes) – CETI 2, and adult education and training courses in prisons (2 B1 classes, 3 B2 classes, and 4 modular Spanish and arts training classes). The school group has an average of 1,280 students.

There are around 130 teachers, almost 80 non-teaching staff, 2 specialised technicians, four members of the Resource Centre for Inclusion, and six international volunteers from the H2O Working Group (volunteers from the European Solidarity Corps, Erasmus+).

In curricular terms, the school group is recognised for its strong focus on visual arts, music and

### Why this school as a case study?

The guiding principle of this school's educational project is: 'What does not challenge us, does not transform us.' This phrase illustrates the idea underlying a unique culture, based on a philosophy that encourages each participant to build and rebuild themselves in the search to improve their own learning. The school sees itself as an organisation where transformational and reflective leadership reigns and constantly reinvents itself.

The school was chosen mainly because of what its leadership has revealed over the last few years. A demonstration of innovation, the desire to do more and better, a leadership that invests in the use of technologies without leaving aside the human factor and the focus on relationships within its school community. It also has a history of developing

multimedia, which support transdisciplinary work dynamics through a project-based methodology. This methodology is grounded in integrative learning scenarios, which are developed by pedagogical teams and based on the different domains of citizenship and the essential learning priorities in various subjects.

The school is also recognised for its integration into the community and its dedicated service to it. Through partnerships with local businesses and various community institutions, the school has become a pillar of development for the surrounding area.

innovative and integrative learning spaces, without forgetting to present spaces associated with wellbeing.

There has been a significant investment in communication infrastructure, improving all school spaces and creating various laboratory spaces. The school also promotes several initiatives that encourage communication, collaboration, cooperation and integration of the entire school community, helping to create a healthy school climate.

Throughout this case study, it is evident that the leadership team is greatly concerned with the students' overall success, as well as the improvement of their learning and academic performance.

### School leadership team



The school's leadership team is made up of a director, a deputy director and two assistants, assisted by three counsellors, one responsible for the timetables and annual activity plan, another for the pedagogical area of the 2<sup>nd</sup> and 3<sup>rd</sup> cycles and the third who offers training in prisons. In each of the three educational establishments, except the main school, there is an establishment coordinator. The structure also includes seven department coordinators, several sub-department coordinators, a coordinator of the Student Support Office, a coordinator of the mentoring programme, a coordinator of the innovation plan, a coordinator of the digital manuals pilot project and a coordinator of the School Quality Observatory.

In relation to shared leadership, the school have some initiatives that aim at collective commitment, namely:

- ▣ individual and group meetings at the end and beginning of each academic year that lead to the definition of a digital strategic plan;
- ▣ 'Coffee with the director', once a month, which creates moments for joint reflection;
- ▣ 'Time to relax', with massages three times a week;
- ▣ 'Time of the teacher', moments of active listening;
- ▣ 'St. Receiving Day', a day of monthly sharing between all teachers;

- ▣ 'Smiles day', aimed at creating bonds;
- ▣ end-of-school-year activities, promoting team building activities;
- ▣ quarterly general meetings (at least), to share with all the school community the data from the practice monitoring.

Dedicated time is devoted for each of the groups to present the work produced during the school year and its impact on the school, and at the end, guidelines for the following year are defined. These guidelines provoke a more in-depth discussion at the beginning of the following year at the general assembly of teachers that marks the opening of the new school year.

The director has been at the school for 17 years and is responsible for the overall leadership functions within the organisation. This includes administrative and financial oversight, pedagogical direction, and the management of human and material resources, as well as strategic planning. The deputy director has served in their role for 10 years, with delegated responsibilities across various areas of technical and pedagogical coordination. In his role, he collaborates closely with different coordinators to support initiatives and projects focused on pedagogical innovation and digital training for the school community.



## Vision-values of the school digital education strategy

The main vision of the school's digital education strategy is to contribute to the achievement of the objectives and goals of the school/group's educational project (official and internal document that all Portuguese schools have) and the Action Plan for the School Digital Development of schools (APDDS). The school's digital strategy (related to the APDDS) is 'the driver of the organisation's metamorphosis, enabling the construction of the meaning of change.'

The main vision inherent in the construction of the digital strategy resided in the opportunity created by 'digital to change practices', which lead to student-centred methodologies. In fact, the underlying strategy was an intervention in three major pillars: spaces (physical and temporal), methodologies and resources. Also, by improving the digital training of the school community, the quality of student learning would also improve.

The main values that guide the strategy are defined in the educational project and involve inclusion, cooperation, freedom, excellence, justice, solidarity, respect and responsibility. The strategy was built based on the following steps:

- ▣ diagnosis – analysis of data from the School Quality Observatory and focus groups;
- ▣ definition of intervention axes;
- ▣ joint reflection on the measures to be adopted in each of the axes;
- ▣ internal and external training of educational agents;

### Focus and aims

The main focus of the school digital strategy passes through three axes, each with different themes as a priority focus.

- ▣ Pedagogical – integration of technology in an educational environment through the adoption of active methodologies, construction of scenarios and articulated management of resources, and creation of matrix spaces for the curricular integration of work.

- ▣ implementation of the actions;
- ▣ monitoring the actions.

The process also involves training to update digital skills, and collaboration with various pedagogical structures within the school to implement these actions. Additionally, the school utilises the SELFIE application, a free online tool, developed and offered by the European Commission, that assists schools in evaluating their use of digital technologies. Following the application, the school reviews the SELFIE results at the Pedagogical Council and in curricular departments. Data collected by the School Quality Observatory and the training plan team is used to perform needs analysis. To define the strategy, the group visited several Portuguese schools they knew as references, and participated in several meetings to share practices and projects, and made different international visits.

The core team consisted of a select group from the leadership and project coordination teams, expanded to include the Pedagogical Council. This was followed by the APDDS team, and finally involved the entire community, with active involvement from the General Council.

It should be noted that the school's digital development team, made up of a group of the school's teachers, is a structure created in schools that applies the digital transition plan and is responsible for supporting and monitoring the implementation of the schools' action plan for the digital development of schools.

- ▣ Structural – implementation of a digital communication plan, adoption of data protection and digital citizenship rules, structuring of pedagogical and administrative work platforms; reformulation of the learning space with the creation of several innovative educational environments; attracting companies and partners to provide equipment and improve resources.
- ▣ Training – development of internal and external training actions aimed at the needs inherent to

the project to be developed, training of parents and guardians; creation of moments of joint reflection and co-construction; participation in sharing networks and communities of practice. Digital training for the entire school community.

Strong focus also relates to the promotion of inclusion and equal opportunities; increase of students' motivational level for learning, with the support of available digital resources and platforms; and innovation in terms of teaching and learning assessment methodologies.

The main reasons for recommendations include active listening to problems identified through the diagnosis process and recognising the need to change spaces, methodologies, and resources. Additionally, the pursuit of quality learning, students' academic success, and improving the

group's relational and organisational climate are key factors.

Other processes to achieve the implementation of the digital strategy include the creation of innovative educational environments and the adaptation of the digital plan based on regular data analysis from questionnaires and focus groups.

The main objectives of the strategy focus on achieving success in integrating technology and enhancing student learning. Additionally, the strategy aims to improve evaluation at the school, quality and pedagogical organisation. Furthermore, it aims to diversify assessment practices and tools, and promote education for citizenship, social and environmental responsibility. The goals include enhancing learning quality, fostering the daily development of a global understanding of an inclusive school, and increasing indicators related to active citizenship.

## Infrastructure and funding



The main investments in infrastructure are focused on the creation of innovative learning environments such as ActiLab, MusicLab, FabLab, Medialab and ICT rooms. Improvements have also been made to the internal network, which was remodelled and resulted in increased connectivity bandwidth and a better electrical installation. A set of interactive whiteboards were acquired along with other projection equipment for all classrooms. In terms of digital investment, the strategy involves the

gradual acquisition of equipment such as tablets or computers.

Underlying the strategy is a broad intervention in all school spaces, from the construction of learning corridors to the transformation of traditional classrooms or outdoor spaces. These digital spaces and infrastructure are supported by teachers who make up the ICT team and the APDDS Team. There is also an internal manager and a hired service provider.

The school implemented the strategy using the school's funds, by taking part in national and international projects, and with occasional support from the local authority. The school has strong sources of financing in its different project

## Role of AI and other emerging technologies

Regarding the integration of emerging technologies in teaching and assessment, the school has widespread use of Office 365, which is used at all levels of education by all students and teachers. The school also uses applications such as Canvas, Copilot, ChatGPT within the Project Workshop and Knowledge Workshop (subjects developed internally at the school). Considering the use and integration of artificial intelligence, the strategy focuses on its incorporation into internal training sessions and the sharing of practices among

## Added value and impact

The implementation of the digital strategy has raised the profile of the school both locally and nationally. This strategy has added value to the organisation by improving the functionality and usability of various digital platforms, reducing paper usage in the educational process, facilitating communication and resource sharing, and ensuring equal opportunities for accessing and utilising digital technology within the school context.

The school management stated that 'the adoption and implementation of measures outlined in the school's digital strategy enable students to enhance their commitment to learning.' The community often views the school as a solution for students facing potential learning difficulties, which demonstrates the school's success while also presenting new challenges. Additionally, the implementation of the digital strategy enhances autonomy, cooperation and responsibility in knowledge construction.

School leaders highlight that 'the way students use technology to benefit their learning is remarkable, in the way they manipulate the tools, select them according to their projects and the way they

## Challenges

The main challenge in developing the school's educational strategy lies in securing financing that allows for the reconstruction of spaces and

applications, alongside other partners. In terms of equipment acquisition, financing was received directly by the national Escola Digital programme and by institutional partners.

teachers, utilising it as a tool to support the teaching-learning process.

The school community uses several tools, some of which are learning accelerators (Microsoft) (such as reading development), the use of chatbots to support project planning (e.g. Copilot, tools from MagicSchool etc.). Teachers use AI in some activities planned in the school library, in experimental sciences activities and in artistic expression activities.

perceive the interaction between the tools.' There is also a greater concern with the use of digital platforms by the students, particularly regarding security and respect for copyright.

The director states that it is not possible to directly attribute the improvement in academic results exclusively to the defined strategy, as other interventions were also made during the learning process. But, with the support of digital resources, students' motivational levels for the topics under study improved. Participation and collaborative work in organised groups represents a significant contribution to improving students' academic and educational success.

The community embraced the strategy through collective effort and consequently perceived it as their own. Overall, the community has consistently been receptive while also considering the school's pedagogical innovations challenging. These initiatives aim to align with social development contexts, where the impacts of information and communication technologies are continually evolving.

the acquisition and maintenance of equipment to be fully implemented. Additionally, the process of digital education and training for the school

community presents significant obstacles. As the director put it: 'Without doubt, the training.' Regarding the implementation of the strategy, the deputy director mentioned the difficulty in 'managing and maintaining the digital resources available in the school.'

Some of these challenges have been addressed through creative funding solutions, collaborating with local businesses, with municipality, and

## Sustainability and improvement of strategy

The school strategy was officially implemented in the 2017/2018 school year, but plans and small steps towards developing a digital strategy already started 11 years ago.

The primary actions concerning the sustainability of the strategy involve ongoing training as outlined in the School Digital Development Action Plan (APDDS). Additionally, there is a focus on enhancing the usability and application of digital tools and applications that support learning development, along with concerted efforts towards horizontal curriculum alignment.

There is a global incentive at the school to use various digital educational resources, such as participation in the national pilot project for digital textbooks, in which all class textbooks are replaced by digital ones, which, in a way, promotes teachers and students to develop their own digital skills.

The school monitors the implementation of the plan through a School Quality Observatory. The leadership team also receives feedback from the school's intermediate pedagogical structures, which are presented and discussed at the Pedagogical Council. Subsequently, the defined actions are taken to the individual departments to be discussed and applied by teachers. Proposals are also presented at a departmental level for discussion at a higher levels through the flow of communication and action across all school structures.

At the school, there is also constant monitoring, data collection and verification procedures. Several tools are used to diagnose the implementation of the strategy, for example, School Quality Observatory digital questionnaires, APDDS digital

engaging in national and international projects. Furthermore, the school has focused on capacity-building within its community by organising professional development workshops to enhance the digital skills of both teachers and students. Regular maintenance schedules and a dedicated ICT support team have also been established to ensure that digital resources are effectively managed and maintained.

questionnaires, standard grids for the curriculum articulation process, and annual reports on pedagogical coordination and the supervision process.

Data for monitoring efforts are collected through annual quality and training questionnaires; statistical grids which are carried out twice a year; annual satisfaction surveys; focus groups that take place during 'Coffee with the director'; the internal assessment of students (4 times a year) and in external tests; and from publishers about the use of platforms and user interfaces.

To evaluate the state/level of implementation, the following aspects are analysed:

- ▣ level of operation and maintenance of resources available for internal use and for use by students and teachers;
- ▣ level of integration of Office 365, Moodle and Virtual School;
- ▣ level of participation of different educational actors in communities of practice, namely through the MenSi project <sup>(2)</sup>, Erasmus+, eTwinning <sup>(3)</sup>;
- ▣ degree of incorporation of available digital resources in the planning of teaching activities;
- ▣ level of regular use of tools that promote digital formative assessment (e.g. Kahoot, Microsoft Forms, Promethean, Socrative ActivExpression, etc.).

2 <https://fcl.eun.org/mensi>

3 <https://school-education.ec.europa.eu/en/etwinning>

The effectiveness and impact of the plan is evaluated according to the periodic evaluation indicators defined in the APDDS, by considering the degree of fulfilment of the set objectives, as well as by the regular use of digital tools in a face-to-face context. The data collected allows the school to verify that the impact is substantial in changing practices and its implementation (school digital education strategy) and is producing effects, however it is difficult to separate these measures from the rest (all other strategic implementation) adopted by the school.

The strategy is updated annually for most of the actions and according to the needs presented within the scope of new projects and the school annual activity plan for each respective school year. The plan for the upcoming few years focuses on ensuring the maintenance and consolidation of innovative educational practices by completing ongoing actions, such as creating a digital resource centre. This centre will include tutorials on using various tools, explanatory and exploratory videos, and task guides tailored to students' academic profiles to promote inclusion.

The case study complements the European Schoolnet's publication 'School strategies for fostering students' digital competences. Guidelines for school leaders'.

Find the publication and other case studies at [fcl.eun.org/icwg](http://fcl.eun.org/icwg)



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