

# School strategies for fostering students' digital competences

Practical guidelines for school leaders



Case Study  
Primary School Nada Popović · Serbia



**Case study:** Primary school Nada Popović, Kruševac, Serbia

**Publisher:** European Schoolnet (EUN Partnership AIBSL), Rue de Trèves, 61 – 1040 Brussels, Belgium

**Author(s):** Milica Pupavac, Project officer in the field of school, VET and adult education, Foundation Tempus

**Editor(s):** Claude Reuter, Specialised teacher, SCRIPT; Konstantinos Andronikidis, European Schoolnet

**Acknowledgements:** Snežana Ivić Vukojević, Civic Education teacher and school development team member;  
Marina Lazarević, IT teacher and school development team member

**Design:** Mattia Gentile, European Schoolnet

**Picture credits:** Andela Piljagić, Communication officer, Foundation Tempus

## COPYRIGHT

Copyright © European Schoolnet 2024. All rights reserved.



This report was produced under the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International \(CC BY-NC-SA 4.0\)](https://creativecommons.org/licenses/by-nc-sa/4.0/) license.

## 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 Serbian Context

Several national policies have recently been shaping the education ecosystem with regards to digital technologies. Firstly, the [Strategy for the Development of Education and Upbringing in the Republic of Serbia by 2030](#) leans on several policy documents related to digital technologies – namely, the [Strategy for the Development of Artificial Intelligence in the Republic of Serbia 2020-2025](#) and the [Strategy for the Development of Digital Skills in the Republic of Serbia 2020-2024](#), as well as international documents such as the [Strategy for the Western Balkans](#) which highlights six leading initiatives, including the digital agenda.

Based on these policy documents, multiple initiatives have been introduced to support schools in implementing changes to ensure digital and technological readiness. Some initiatives are mainly administrative, while others are aimed at further professional development of school staff, the modernisation of the teaching process, curricular changes, etc. Some recent documents or

initiatives that are aimed at supporting schools in the implementation of these strategies are [Teacher for the Digital Age 2023 – Digital Competences Framework](#), pilot programme [Digital Schools](#), [Guidelines for the Use of Mobile Phones, Electronic Devices and Other Tools](#), [Čuvam te](#) (I take care of you) platform etc.

Schools in Serbia are required to devise school development plans every three to five years, with corresponding action plans for the same period. These are reflected in the school's annual plans as well and include all activities that the school plans to undertake. They can also have annexes that focus on developing specific activities in more detail, e.g. plans for international cooperation, digital strategies, etc. Writing these plans is an opportunity for schools to reflect on the previous period and their activities, recognise successes, as well as new needs that have occurred or old needs that have become more pressing and urgent.

## Introduction to the school



Nada Popović Primary School is located in the urban part of Kruševac, a city in Serbia with a population of around 110,000 inhabitants. It is among the larger schools within the national context, with around 1300 pupils aged 7-15 and 87 members of teaching staff. The school provides primary education in accordance with the national programme, with a particular focus on developing creativity and critical thinking in their pupils, while respecting the individual differences of all.

Especially in recent years, the interest in attending the school has grown, as its community began to recognise its efforts and its lean towards innovation and project activities. The school's vision create an environment that fosters the holistic development of every pupil, initiates creativity and innovation, empowering them to become citizens prepared for the challenges of the future. The motto of the school is 'Together we learn, grow and build the future.'

The school takes part in different national and local initiatives, and holds Erasmus accreditation. It was awarded the Digital School Label, as part of the Digital Schools pilot programme, in which schools used [SELFIE](#) findings and the regulatory framework to develop digital strategies, to organise their teams and continue working with other schools and organisations as centres of knowledge, and to provide mentoring advice and support. It also took part in the [21st Century Schools programme](#) where schools were equipped, and staff trained to use micro:bit devices in teaching. Through these and other programmes, the school took advantage of the available opportunities to better its infrastructure, provide professional development for its staff and improve the quality of teaching, with the community recognising it as an active and forward-looking school focused on providing its pupils with innovative learning opportunities.

### **Why this school as a case study?**

In many ways, the school is part of the mainstream. Its size, location and profile of learners make it easy to relate to and potentially transpose its experience and lessons learned to different contexts. However,

there are several facets of the school's work that set it apart when it comes to digital education. The school places importance on including all school actors into the process, emphasises teamwork and making the most of available opportunities, and focuses on human resources.

Like many schools at the outset of the pandemic, the school faced limited capacities, both regarding digital infrastructure and the staff's digital competences. Through the staff's sustained efforts, however, the school managed to hold classes in real time as early as September 2020, by turning the obstacles created by the pandemic into a learning opportunity for all school actors – staff, pupils and parents. Team members highlight that virtual lessons during the pandemic helped them see that teaching and learning could be organised differently, while still achieving learning outcomes. Being forced to implement virtual activities ad hoc, the staff was able to map out different challenges as well as key issues that would have to be addressed so that the school could keep up with the times. Additionally, while equipment had to be updated, the school leadership team recognised that improving digital skills of both teachers and pupils was key, as well as working together to raise awareness on the importance of using contemporary technologies and digital tools in education.

Devising a strategy for digital education was one of the school's activities during this time. Through the European Commission's Digital Schools pilot programme, the school gained tools to formulate a digital strategy based on the findings of a *SELFIE* analysis as well as other school documents. Besides being awarded the Digital School Label at the end of this process, the school also won the role of mentor school, and will share its experience with other schools with similar needs.

The school's ethos and emphasis on open communication with its community is also what sets it as a lighthouse. Aware that its role is not only in education, but also the upbringing of its pupils, the school implements many activities with parents, relevant institutions and the wider community.

## School leadership team

The school is headed by the principal and her deputy, who is also the coordinator of the school's team for digital education. This team has 11 members and is made up of representatives of both teaching and non-teaching staff, covering both lower and upper primary education (primary schools in Serbia cover ages 6-15). Candidate members express their interest and are chosen if they fulfil the requirements – a high level of digital and communication competences, as well as being dedicated to teamwork. Each of the members is responsible for a different task within the team. The time the members dedicate to their role in the team is part of their 40-hour work week, in line with national legislation.

Opportunities for professional development are available to the members based on their self-evaluation, and through different resources – free online trainings, accredited seminars, etc.

The school's digital strategy is an integral part of the multiyear school development plan. Monthly

meetings are held to support the implementation of the strategy, where members can share new ideas and suggestions. Decisions the team makes are evidence-based and require the support of the majority. They are transferred to the rest of the school community at regular staff meetings of different school teams, through the school website and dedicated Viber groups. Since the implementation of the school's digital strategy, Microsoft Teams also plays an important role in how information is disseminated at school level.

The coordinator of the digital education team organises the team's work, and allocates tasks and roles within the team. All members are familiar with the school's vision and the digital strategy, and work on its objectives through different teams and teachers' councils. They also rely on the findings of other teams within the school, to ensure focus is on those areas that are most urgent at a given time.

## Vision and values of the school digital education strategy



The school's vision of creating an environment that fosters creativity and innovation, preparing its pupils to be active citizens in their community is reflected in its strategy for digital education as well. Through this strategy and all of its activities, the school ensures to make the most of all available opportunities, with a clear focus on developing

creativity and critical thinking, as well as recognising the importance of STEAM subjects for the future of its learners.

The school highlights the Covid-19 pandemic as a turning point for its development planning. During those months, the importance of digital literacy was made evident, for teachers, pupils and parents. This was acknowledged by the school and served as the initial spark for the development of the digital strategy, which the school did not have at that point. This is not to say that nothing was being done until then, but it was when the school took stock of what had been done until then and noted areas for improvement. The strategy was adopted in 2021 and its main vision was to improve the digital competences of both teaching and non-teaching staff, as well as to develop the digital literacy of pupils, including critical thinking. Keeping in step with new technologies was also part of that vision, given the rapid changes that occur and how quickly pupils adjust to them. Team members highlight the fact that pupils are faster to accept new technologies and more agile in integrating them – 'Sometimes

the teacher will ask a pupil, “Will you show me

## Focus and aims

The strategy did not have a single focus, but rather several different objectives which the school decided to tackle in parallel. This made the most sense given the school’s needs and the speed with which new technologies emerge.

Outdated equipment was the first hurdle the school managed to overcome in order to create conditions for staff and pupils’ digital competences to flourish. Simultaneously, it was also decided to tackle the low level of digital competences of staff and pupils. Although this does not often seem quite so, as pupils all use digital technologies, the school’s team noticed that they use them in ways typical for their age, without taking safety into account, and rarely used technology for education. Based on these two objectives, the school focused on:

- ▣ professional development for teachers,
- ▣ more activities aimed at pupils’ digital literacy to enable them to learn in the modern world,
- ▣ developing infrastructure,
- ▣ acquiring new equipment,
- ▣ providing good internet connection,
- ▣ software for learning and improving teaching,

## Infrastructure and funding

Infrastructure was one of the key areas for improvement for the school’s current digital education strategy, as it had been developed during the time when the school was under-equipped, or the existing equipment was outdated. There is now a common area with 30 desktop computers which is used by the entire school, based on a common timetable. There are two additional classrooms for computer science classes with 16 workstations each. Computers for pupils are also available in the classrooms dedicated to technical sciences and technology.

Each classroom is equipped with a computer for the teacher and a projector. There are also

how you use this?”, which creates a collaborative learning atmosphere.

- ▣ integrating digital tools and different educational resources into the teaching process,
- ▣ changing teaching methods to fit the needs of a contemporary child.

The school is now well-equipped for its needs but is also continuously searching for ways and sources of funding to further improve its infrastructure so it can implement more activities. Professional development for teachers increased their awareness that digital literacy is necessary to live in contemporary society and, what is more, that it can be very useful, with teachers spending less time on presenting and working through the curriculum and spending more time teaching and supporting pupils. While equipment and at least basic infrastructure is necessary, the school, however, gives precedence to its human capital, especially the teachers as the drivers of change and innovation in the school setting.

The digital literacy of parents is another facet that the school decided to explore in its strategy, finding that parents require support in this area. The most effective approach for this have been face-to-face workshops. Depending on the topic, different groups of parents are invited, and workshops are facilitated by either teachers or guests – child psychologists, representatives of the police department.

several smart boards as well as devices that make whiteboards interactive. The school also makes use of around 60 micro:bit devices, which are used to learn about coding with pupils of different ages. Sometimes pupils’ devices are used as well, which are otherwise not allowed during class. Pupils are asked to place them in mobile phone ‘hotels’ when they arrive at school to avoid distraction. In such instances, devices such as tablets or laptops are provided to children who do not own or carry phones.

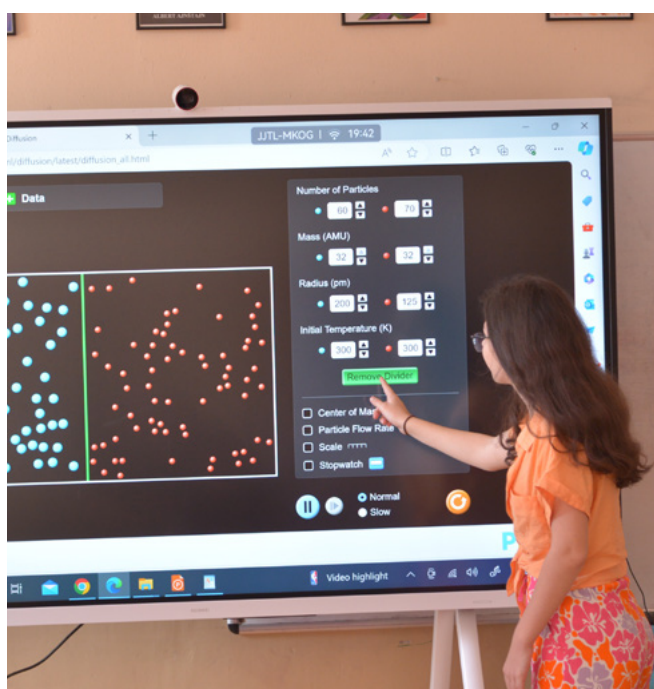
Through the implementation of the strategy, the school developed procedures defining the use of equipment and the ways of behaving inside

digital classrooms etc. Support for digital tools and equipment is provided by computer science and technology teachers, while maintenance is performed by external providers.

The use of Microsoft Teams is another infrastructural development for the school. Teams is used in a variety of ways such as for communication, sharing educational content, information sharing, etc. All relevant school documents are uploaded to Teams, making them easily accessible to all parties. It was particularly useful during the pandemic, but remains the main channel for communication and sharing at school level. It is also useful for additional lessons

for gifted pupils and supplementary lessons on Saturdays, as well as team meetings for staff, etc. The funding for schools is provided mainly by the Ministry of Education for current and investment maintenance, as well as from the local authority for the professional development of staff. Depending on the type of expenses, the funding is proportional to the school's size or other factors (for example, how old the existing equipment is). However, the school also relies on project financing and donations from local companies as well as from parents to supplement these funds.

## Role of AI and other emerging technologies



The school's current digital strategy does not take into account AI or other emerging technologies, as it was developed during a time when more pressing needs were being addressed. Emerging technologies such as AI, VR, AR and gamification, are, according to the school, among the potential future challenges they will need to address.

## Added value and impact

The strategy was developed with varied and, at the time, pressing needs at hand. As the school is at the tail end of the period for which the strategy was developed, its value and impact are in many ways visible and considerable. A larger-scale evaluation is forthcoming, but some benefits regarding pupils' achievements and attitude towards learning are

Currently they are focusing on developing the foundation which is 'necessary for achieving a higher level of e-maturity.' However, it is expected that the strategy for the next period will consider these technologies as well, particularly AI. ChatGPT, for example, has appeared within the school as the excitement surrounding it reached both pupils and teachers. It has not been used in teaching, though the school's teachers' council for computer sciences has planned to introduce it in lessons to make sure pupils are acquainted with it, and are made aware of ways it can be useful, misused, etc.

It seems that the school acknowledges that these technologies are reaching its pupils and that there is a need to tackle them in some way at school but is wary of putting too much emphasis on them too soon. The school's team recognise the importance of understanding emerging technologies, but are cautious when it comes to introducing them to pupils. The need for more information and training for teachers is emphasised, as schools recognise their important role in society of being a beacon for their pupils as well as their parents, especially during transitional times.

already either visible or have been measured. As an example, the team members emphasise that there is a stark difference between a more traditional way of teaching and that which includes the use of digital tools, even the simplest ones like online quizzes. Pupils' achievements come hand in hand with higher levels of satisfaction with how

the unit was presented, how much interaction or cooperation was required with their peers, etc. The curriculum is often somewhat rigid, making it difficult to easily connect the units of two different subjects. With a focus on transversal skills, like digital literacy, and with the use of digital tools, the school finds it much easier to connect different subjects through project-based learning, especially in STEM. Reactions from pupils have been positive, as they welcome new approaches to teaching and the inclusion of something that is part of their habits and everyday life outside of school. Using tools like Microsoft Teams makes everyday communication and exchange more practical for both pupils and

## Challenges

Among the main challenges, team members emphasise the resistance of some members of staff towards technology or its use in education. The team reflected on initial reactions among the staff who were not as motivated to get engaged and learn new things. After four years of implementing the strategy, this was somewhat mitigated: 'Resistance from teachers for fear of change, of novelties, will I be able to do this, is this necessary – that was the main challenge we have come across that we have overcome with our internal trainings, providing support, help, presenting different digital tools that could give us a dose of confidence and innovation.' Another challenge the school cites is securing the funding for the different ideas the team has for improving teaching and learning at the school. While there are many opportunities for different types of training nationally, the school leaders highlight that they are curious and interested in how different

## Sustainability and improvement of strategy

The school's digital strategy is part of its school development plan 2021-2024, which is evaluated and reviewed each year. The strategy is constantly evaluated in different ways, as the school's development plan is also evaluated. The school's staff is organised into different horizontal teams (e.g. team for self-evaluation, team for professional development, etc.) as well as teachers' councils based on subjects (for maths, for foreign languages etc.). These teams are included in the development

staff. For example, catching up is much more accessible and flexible for pupils who are unable to attend classes or are involved in extracurricular activities. Among other benefits, the strategy also focused on developing appropriate procedures, which began as just procedures for the use of technology, but are now being extended to all aspects of school life.

Finally, the school has recorded an increase in the number of pupils and the community's attitudes towards the school during these several years, confirming to the school leadership team that they are on the right track.

contemporary methods or approaches are put into practice with the use of devices like 4D glasses or using escape rooms. Having the opportunity to be introduced to novel approaches to teaching inspires the school leadership team to learn more and seek out opportunities to implement such activities in their own school, but these opportunities are currently somewhat limited.

Finally, the remaining target group that the school feels is still not involved in a sufficient manner are parents. The team recognises the limited impact it can have on this group compared with colleagues and pupils, but improvements can be seen there as well. During the period that the strategy covers, many of the activities with parents centred around the protection of pupils' data, digital etiquette, digital bullying, as well as prevention and protection in the digital world.

of the strategy, as well as its implementation, and are obligated to report on what is being undertaken. The implementation of the strategy is monitored through observing classes, analysing lesson plans, pupils' achievements are monitored each term and compared, surveys are used both for self-evaluation as well as for feedback from pupils about how they feel about these activities, what they find enjoyable, etc. The school's staff is very eager to emphasise that the pupils themselves provide them with great ideas and suggestions in these surveys.

Through monitoring, some trends have occurred since the beginning of the implementation of the strategy. For example, when teachers use innovative teaching methods and digital tools, pupils report finding those lessons more interesting, and they were more motivated to learn. Therefore, this approach is beneficial for all and should be continued. The team is in the process of collecting ideas for the next strategy and evaluating the current one at the end of its implementation period. Its members foresee the following as the focal points of the emerging strategy: bring your own device (as this was recently encouraged by the Institute for the Improvement of Education and as a tool for lessening the burden of pupils' backpacks), especially laptops, drawing tablets, etc; use textbooks in digital format; and consider ways in which emerging technologies can be included in the educational process in a cautious and responsible way, etc.

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)



Future  
Classroom  
Lab



Oide

Technology  
in Education

**INDIRE** STITUTO  
NAZIONALE  
DOCUMENTAZIONE  
INNOVAZIONE  
RICERCA EDUCATIVA



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de l'Éducation nationale,  
de l'Enfance et de la Jeunesse



REPÚBLICA  
PORTUGUESA



EDUCAÇÃO, CIÊNCIA  
E INOVAÇÃO



FONDACIJA  
TEMPUS



REPUBLIC OF SLOVENIA  
MINISTRY OF EDUCATION

**movetia**

Austausch und Mobilität  
Echanges et mobilité  
Scambi e mobilità  
Exchange and mobility