

# National plan for digital education (PNSD)



## Timeline



ID number 28320

## Background

Starting from the encouraging results in terms of growth in use of digital devices in classrooms and adoption of innovative teaching methodologies such as 'challenge based learning' and 'digital game based learning', the country continued developing policies to support schools to innovate their technologies and methodologies.

## Objectives

Particular emphasis, in line with the National plan for digital education (PNSD), is given to the following goals:

- (a) creation and development of innovative environments for teaching and learning and improvement of schools' digital equipment;
- (b) develop and strengthen teacher, learner, school director and staff digital competences;
- (c) develop and strengthen teacher, learner confidence in applying innovative teaching and learning methodologies in order to stimulate the process of learning in the students and enhance the value of teachers' professional profiles;
- (d) develop and strengthen teacher, learner, school director and administrative staff entrepreneurial skills;
- (e) integrate the pedagogical approach to technology for its effective use in education and improving digital competences;
- (f) grant equal access and inclusiveness to the wider school community;
- (g) reduce the gender gap in choice and access to science, technology mathematics (STEM) studies.

## Description

In 2016, the education ministry adopted the multi annual National plan for digital education (PNSD). The plan has coordinated government, region and municipality digital resources, as well as managed all the projects focusing on digital education and innovation. The plan can

be seen as a consequence of the *Good school* Law which emphasises the development of digital skills.

The plan aims to link education institutions with lifelong learning and life-wide learning in formal, informal and non-formal contexts. The plan perceives school as an open learning space and as a platform allowing all learners to develop life competences. Technologies have become daily, ordinary facilities serving all typologies of educational activities (education, training and organisational activities). They also give a crucial contribution to the process of connection between schools and their social environment and wider community. The educational objectives remain the same as they were at the beginning: developing students' competences, focusing on their learning outcomes and on the active role they will play in society as individuals, citizens and professionals. Objectives, contents and modalities are being updated; this has become indispensable in times of quick technological development, to tackle the challenges of the digital age.

### **2016 Approved/Agreed**

### **2017 Implementation**

### **2018 Implementation**

In 2018, a scheme which included financing and supporting 28 schools - known as 'future labs' - aiming to function as hubs for the development of digital teaching began.

### **2019 Implementation**

In 2019, the funding process addressed to schools which responded to calls in order to create innovative learning environments continued with the following calls:

- (a) funding action to support schools in peripheral areas with high percentage of early school leaving;
- (b) call for projects to implement innovative learning environments addressed to agricultural-oenological schools;
- (c) call for projects to implement digital and innovative school libraries, in synergy with the culture ministry;

The funding process addressed to schools which responded to calls to improve and further develop teachers' digital competences, with particular focus on innovative methodologies, developed and continued with the following calls for projects:

- (a) to implement school networks that promote computational thinking in school curricula;
- (b) to implement actions which support the development of students' digital competences through the adoption of innovative teaching methodologies;
- (c) to create hub-schools which promote the green (sustainable) and digital transition.

The 'future labs' measure continued. It redeveloped by improving both the structural and the organisational side of these hubs. This has proved particularly effective during the COVID-19 emergency, as the 'future labs' supported effectively schools across the Italian territory.

The coordination of the strategy for a bottom-up, strengthening of teachers' digital competences and self-confidence in using innovative methodologies, was improved by means of a call for expressions of interest for the selection of 120 expert teachers who formed a regional training team. This measure proved of crucial importance during the lockdown period and afterwards, as the synergy between the team and 'future labs' helped many schools to activate their distance learning and teaching capacity.

The propensity towards a challenge-based approach in learning and teaching was supported by issuing the 2019 Digital school prize (PSD), where all schools of the country were invited to take part in local, regional and national finals that resulted to

the award of the most innovative project by a single school.

The measure, known as *Futura Italia*, continued its actions throughout 2019, before the COVID-19 crisis forced its interruption. *Futura Italia* is an acceleration platform to the future, dedicated to the Italian school system. Its actions of connection and promotion of learning and teaching innovation and digital culture encouraged students, teachers and principals of the Italian schools to transform and innovate their practices. It brought digital innovation in teaching and learning directly to the heart of the whole of the Italian territory, organising workshops, hackathons, and learning competitions for teachers and students.

In 2019, specific emphasis was given to link teacher training with the reference framework for digital competences, the DigComp 2.0. In this view, different funds directly linked to teacher training actions were strictly linked to the adoption of the framework's guidelines.

## 2020 Implementation

In March 2020, funding was allocated to necessary resources and to hiring technical assistants for distance learning.

In May 2020, the first on-line Hackathon entitled *Future school (Scuola Futura)* was organised.

In July 2020, public calls of expression of interest to identify upper secondary educational institutions as focal points for the management of public calls on digital teaching resources were made. These announcements promoted national networks on innovative teaching methods and also supported digital inclusion actions for schools with learners that have difficulties (either because they live in remote areas, or due to their socioeconomic situation).

In August 2020, public calls for expression of interest identified upper secondary schools in Friuli Venezia Giulia, Lazio, Liguria, Lombardy, Marche, Umbria and Veneto regions as eligible for PNSD funding and also invited secondary schools to participate in the eighth edition (eighth implementation year) of the civic monitoring project by the innovative education path organised in the context of the *School of open cohesion* project (A Scuola di open coesione). *A School of open cohesion* (A Scuola di OpenCoesione (ASOC)) is an innovative educational path aimed at promoting and developing principles of active and conscious citizenship in Italian schools, through research activities and civic monitoring of European and national public funding.

The project allows to develop digital, statistical and civic education skills, to help students to know and communicate, with the help of journalistic techniques, such as public policies, and in particular cohesion policies, intervene in the places where they live.

In November 2020 a voucher for ultra-broadband connection for learners that could not afford it was announced. More specifically the education ministry issued a decree which allocated funds from the PNSD to ensure connectivity for learners facing economic problems so that they can access their study programmes with the use of digital technologies (e-learning). Also, a call for expression of interest public announcement to select education institutions for designing and implementing training-refresher and advanced training- for school staff was launched. These training activities could be implemented via international, e-learning platforms.

In December 2020 a memorandum of understanding between the education ministry and the Foundation *I Lincei per la Scuola* (Fondazione i lincei per la scuola) was signed. The Foundation I Lincei per la Scuola was established in 2015 with the aim to promote innovative teaching and to assist Italian teachers at all levels of education in updating their teaching methodologies and practices. The memorandum ensured collaboration for the development of didactic and digital innovation in Italian schools in accordance with the PNSD.

## 2021 Implementation

In January 2021, the call for the *Digital school prize* (PSD) for 2021 was launched.

Also in 2021, the *Digital school observatory survey* was launched. The digital school observatory survey has a long history in Italy, it began as an Interministerial committee aiming to promote scientific and technological culture approaches in education, however action 33 of the PNSD 'established' as a regular practice the Digital school observatory survey. The survey collects data that assist the assessment and evaluation of each school's procurement and spending activities in relation to the necessary equipment that facilitates digital learning.

In February 2021 activities in schools for the Safer internet day took place.

In March 2021 a protocol between the education ministry and TIM (an Italian telecommunications company) was signed. It included a training programme for teachers on distant and e-learning.

The initiative *Futura Dante* was held in 2021, hosting workshops with the use of digital technologies on the figure and work of Dante Alighieri, as part of the PNSD. Schools from all Italian regions participated in the event. The event coincided with the 700th anniversary of his death.

In July 2021 a public call for expression of interest on the creation of laboratory spaces and the provision of digital tools for STEM learning (Science, technology, engineering, mathematics) was launched. 6 191 projects were approved and funded under action 4 of the PNSD.

In August 2021 a public call for expression of interest for Teacher training on STEAM (science, technology, engineering, arts and mathematics) was launched and 194 projects submitted by schools were approved.

In August 2021 200 school projects were approved in the context of the public call for expression of interest bearing the title STEAM methodologies for the implementation of the activity Experimentation of innovative teaching methodologies in STEAM with the use of digital technologies under the PNSD.

Also in the school year 2021/22, by means of the signed memorandum of the education ministry with the Foundation I Lincei per la Scuola a national training project for teachers on educational and digital innovation began. The project is divided into three strands:

- (a) Italian and digital teaching;
- (b) mathematics and digital;
- (c) digital cultures.

## 2022 Implementation

In September 2022, a Technical-Scientific Expert Committee to support the Directorate-General for Structural Funds for Education, School Building and Digital School (DGEFID) in identifying areas in need for intervention and to assess the evolution of the PNSD was established. The committee's aim is to support the further systemic organisation of the activities included in the plan and the improvement of the digital innovation strategies developed by schools.

From September 2022 to March 2023 monitoring of the progress of the ongoing PNSD actions began. Support was provided to educational institutions to improve their monitoring and reporting tasks was provided.

From October 2022 to March 2023 the education ministry participated in institutional events such as DIDACTA (Sicily and Florence) and JOB ORIENTA. During the same period, visits to schools which were concluding their projects for the identification of good practices were organised.

From October to November 2022 school leaders, teachers and ICT experts were invited to participate in a survey -filling a questionnaire- about innovation at schools and the school of the future. This was part of a decision to adopt a bottom-up approach, as those involved in the actual, every day school 'life' were considered the critical actors for sharing their proposals on what worked in the past and what needs to be done in the future.

From October to December 2022 the country participated in the *Smart data and digital technology* survey organised by the OECD (and more specifically OECD's Centre for Educational Research and Innovation (CERI)).

In December 2022, a workshop-discussion forum with hardware and software developers and suppliers of technologies for teaching was organised. The goal was to provide guidelines to them so that all barriers for which PNSD caters for are removed.

In December 2022 a committee representing several directorates dealing with digital competences and innovation (e.g Directorates for Structural Funds for Education, School Building and Digital Education, Legislation and school systems, etc.) was established with the aim to systemise, through a planned and shared approach, the various initiatives of the PNSD and to overcome fragmentation of interventions.

### **2023 Implementation**

In February 2023, Italy contributed in drafting the *Compendium of Good Practices* an initiative by the G20 countries reporting on good practices.

In March 2023 a consultation between the education ministry and regional PNSD representatives and authorities took place to exchange information about the regional aspects of the implementation of the PNSD.

Also in March 2023, the country was represented in the meeting of National Experts on School Resources organised by the OECD and the European Commission.

Furthermore, in the same month, the process of education ministry's participation of events such as DIDACTA, JOB ORIENTA (the process started in October 2022) was finalised. The visits by representatives of the education ministry to schools which were concluding their projects (another activity which began in October 2022) for the identification of good practices were completed.

Also, on the occasion of the official publication in Italian of the Digital Competence Framework for Citizens (DigComp) 2.2, the General Directorate for Structural Funds for Education, School Building and Digital School (DGEFID) of the education ministry promoted an event on digital skills. The aim of the event was to stress the importance of working together, ministry, schools and stakeholders, to achieve the goal of integrating DigComp 2.2 digital skills into curricula.

In April 2023, a residential seminar was held with the regional representatives of the PNSD to share with them all the actions that the PNSD has activated so far and what are the future plans. The aim is to make the different learning experiences of Italian schools as examples of daily practices in order to encourage engagement, exchange and integration of ideas, practices and experiences amongst the students and teachers in a common space of collaboration.

Also, in April 2023 a memorandum of understanding between the education ministry and the EDUTECH DISTRICT s.r.l. social enterprise was signed. The aim of this memorandum is to promote, experiment and improve the use of technical and technological resources in schools, as well as co-designing activate pathways for employability encouraging between companies and schools, including for students with disabilities.

On 9 May 2023, the European Year of Competences was launched to promote equal access to skills development by reducing inequalities and segregation in education. One of the objectives was to enable people to access quality jobs and participate fully in the economy and society through digital skills. Within this framework, DGEFID

conducted a seminar with teachers and school leaders on the role and contribution of skills policies to achieve competitive and sustainable economic growth following demographic changes, green and digital transitions.

In July 2023 a memorandum of understanding between the education ministry and the Association Centro Studi Impara Digitale (Digital Learning) was signed. The aim of the memorandum is to support the upskilling and reskilling process of teachers and the digital innovation in Italian schools.

October 2023 Geg Tour Matera: The GEG Tour is a sort of travelling forum, an opportunity for teachers and school leaders to exchange experiences, start collaborations, share good practices. In this context, the DGEFID conducted a seminar about teachers' upskilling process and students' competences.

Also, in October 2023 Didacta Sicilia: the DGEFID supported by providing organisational and logistical assistance and by facilitating the participation of schools and educators, a school presentation on the project MABart. The Didacta Sicilia event and the MABart project focus on innovative teaching methodologies to improve student competences in digital citizenship and art. Both initiatives support the broader goal of strengthening educational practices and skills.

In November 2023 the education ministry attended the event organised by the General States of the Digital School entitled 'A growing student is a future that becomes great' with a space dedicated to the collection of good practices on the theme of educational and digital innovation. During the two days of work the experiences have been identified and catalogued, according to the theme, to create a map that will allow, graphically, the visualisation of innovative paths on the territory and the dimensions of the innovation that have been developed. It was also administered a simple survey useful to measure how much innovative teaching is transversal in educational design and to understand what the dimensions of innovation are to be enhanced. The event was an opportunity to present in absolute preview the first data of the Digital School Observatory that allow the PNSD to monitor both the availability of infrastructure and technological and digital equipment of schools, both the processes of educational and organisational innovation. The new Observatory will be held annually, allowing longitudinal tracking of progress and analysis of the historical data series.

Also, in November 2023 the most important Italian fair 'JOB&ORIENTA' dedicated to Orientation, School, Training and Work took place. The DGEFID attended with the presentation of the project called LTO (Territorial Laboratories for Employability). The schools' members of this project are working on the creation of innovative high-profile spaces available to several schools in the same area, where they can develop advanced teaching practices in synergy with local stakeholders for work and business.

In December 2023 an innovative training course the 'Art of Game' took place. The course was dedicated to students of primary and secondary schools of first and second grade on teaching-innovative methodologies, designed and promoted by the schools following an action of the PNSD which aimed to promote innovative teaching methodologies and integrate new technologies into education. The scope of this course was to give participants, which were organised in hackathon's teams, an experience of co-designing a video game in a museum, able to develop in a creative mode and with the help of new technologies, new knowledge and skills of digital citizenship.

## **2024 Implementation**

In 2024 the process of listening and supporting schools was continuous and effective in responding to the needs and requirements expressed by educational institutions for digital education.

The Osservatorio Scuola Digitale for the 2023/24 school year was concluded in January 2024, with 7 669 out of 8 069 school institutions responding to the survey. The survey results reflect the impact of regulatory developments in public administration digitalisation and cybersecurity, as well as investments from the PNSD, PON, and NRRP. These factors have enabled the Osservatorio to monitor ongoing digital

transition processes and correlate the use of digital technologies with changes in teaching, organisational, and administrative practices. The information gathered provides a foundation for developing strategies to support the educational community in its digital transition and didactic innovation efforts, building on the achievements to date.

During 2024, the reporting phase of some PNSD projects launched since 2015 was concluded. Some of the projects are the 'Territorial laboratories for employability', the 'Digital curricula for the development of digital competences', the 'Coordination and management of actions for the enhancement of students' competences through innovative teaching methodologies', the 'Collection of project proposals by school institutions for the implementation of actions for the enhancement of students' digital and citizenship competences through innovative teaching methodologies', the 'National networks on innovative teaching methodologies', the 'Digital inclusion actions in schools most exposed to the risk of educational poverty' and the 'Connectivity for access to integrated digital teaching for students with poor financials'.

The data collected through the Osservatorio Scuola Digitale mentioned above, is the basis of the implementation phase of the PNSD. The new PNSD aims to relaunch a new strategy to improve students' skills and learning outcomes, through the collaboration of central institutions, school communities and other stakeholders.

## **Bodies responsible**

- Ministry of Education (until 2022)
- Ministry of Education, Universities and Research (until 2019)
- Ministry of Education and Merit

## **Target group**

### **Learners**

Learners in upper secondary, including apprentices

Young people (15-29 years old)

Learners at risk of early leaving or/and early leavers

Learners from other groups at risk of exclusion (minorities, people with fewer opportunities due to geographical location or social-economic disadvantaged position)

### **Education professionals**

Teachers

Adult educators

### **Entities providing VET**

VET providers (all kinds)

## **Thematic categories**

### **Governance of VET and lifelong learning**

Coordinating VET and other policies

Optimising VET funding

### **Modernising VET infrastructure**

Improving digital infrastructure of VET provision

### **Modernising VET offer and delivery**

Modernising VET standards, curricula, programmes and training courses

Using learning-outcome-based approaches and modularisation  
Developing and updating learning resources and materials  
Acquiring key competences  
Integrating green transition and sustainability in VET curricula and programmes  
Integrating digital skills and competences in VET curricula and programmes

### **Teachers, trainers and school leaders competences**

Systematic approaches to and opportunities for initial and continuous professional development of school leaders, teachers and trainers  
Attractiveness of the teaching and training profession/career  
Supporting teachers and trainers for and through digital

### **Supporting lifelong learning culture and increasing participation**

Promotion strategies and campaigns for VET and lifelong learning  
Ensuring equal opportunities and inclusiveness in education and training

## **European priorities in VET**

### **VET Recommendation**

VET as a driver for innovation and growth preparing for digital and green transitions and occupations in high demand

VET as an attractive choice based on modern and digitalised provision of training and skills

### **Osnabrück Declaration**

Resilience and excellence through quality, inclusive and flexible VET

Establishing a new lifelong learning culture - relevance of continuing VET and digitalisation

Sustainability - a green link in VET

## **Subsystem**

IVET CVET

## **Further reading**

[Training for the future - website of the education ministry](#)

[Osservatorio scuola digitale: Circolare n. 5806 del 13 ottobre 2023](#)

## **Related policy developments**

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## 2024 Implementation

### Strengthening key competences in education and training

The 2015 reform ( Law No 107/2015- Buona Scuola) aimed to increase specific skills: foreign language (English) and communication skills, through the development of content and language integrated learning, literacy and the Italian language for foreign learners; mathematical-logical and scientific

 ITALY

#### Type of development

Regulation/Legislation

#### Subsystem

IVET

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## 2024 Implementation

### The Good school and subsequent reforms

On 13 July 2015, the Italian government adopted a reform of the national education system called the Good school (La Buona Scuola), emphasising alternance between classroom work and periods of workplace training.

 ITALY

#### Type of development

Regulation/Legislation

#### Subsystem

IVET

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