

INVALSI Addresses the Learning Loss Caused by COVID-19 in Italy

CASE STUDY

INVALSI devises a plan for how to start tackling the COVID-19 learning loss and measure student progress in a hybrid education environment.

ABSTRACT

Following the unprecedented disruption to the academic year in 2020, Ministries of Education across Europe are facing the same significant challenge: how to understand and address the learning loss caused by COVID-19.

At the same time they are now required to accelerate their digital transformation - a transformation that unlike any other before, brings significant and long-lasting changes to culture and policy, workforce and professional development, and education technology roadmaps.

As the first western European country to face a nationwide lockdown at the onset of the pandemic, Italy encountered unique challenges and uncertainties in how to address and reduce the resulting learning loss. Ultimately, working with TAO, INVALSI has been able to develop a plan of action that can serve as a model for other European Ministries grappling with the aftermath of school closures and testing cancellations.

BACKGROUND

INVALSI (The National Institute for the Evaluation of the Education and Training System), of the Italian Ministry of Education, is responsible for school evaluation, nationwide testing, and implementing international surveys, like PISA (Program for International Student Assessment). Each year, INVALSI administers nationwide standardized tests for the more than 7,000,000 Italian students in grades 8-13.

INVALSI is also a founding member of the **FLIP+ Organization** (<https://flip-plus.org/>), an e-assessment community that brings the sharing economy to assessment by empowering education leaders to come together to learn and benefit from each other's work.

BACKGROUND CONT.

The INVALSI & TAO Partnership

The assessment industry has steadily embraced a transition from paper-and-pencil to digital for a number of years due to the myriad benefits, including using technology enhanced items to measure 21st century skills.

When INVALSI was tasked with implementing digital assessment in support of the Matura exams in Italy, they first looked to colleagues in other European ministries who had experience in online testing.

Knowing that TAO had been the preferred software selection for OECD PISA (the Programme for International Student Assessment) testing across more than 60 countries since 2009 also helped cement INVALSI's confidence in their decision to move forward with TAO.

TAO was the ideal solution for INVALSI for a number of other reasons, including:

- INVALSI could leverage the secure and scalable TAO Cloud™ to manage, host and deliver their assessments
- TAO would be able to accommodate innovative testing formats and items to measure 21st-century skills

- Since TAO is open source and built on QTI open standards, INVALSI could easily create shared item banks and tailor their solution to their specific needs at a lower cost.
- TAO had a proven track record of success across other Ministries of Education in Europe, with OECD (Organization for Economic Co-operation and Development) having selected TAO to conduct PISA.

In 2016, INVALSI started using TAO to deliver nationwide diagnostic and summative tests online for Italian students in grades 8, 10 and 13.

Since then, on average, **INVALSI has used TAO to deliver about 6,000,000 online tests per year**, covering the core subjects: Italian, Mathematics, English Reading and Listening Comprehension, and **supporting approximately 200,000 concurrent test-takers**.

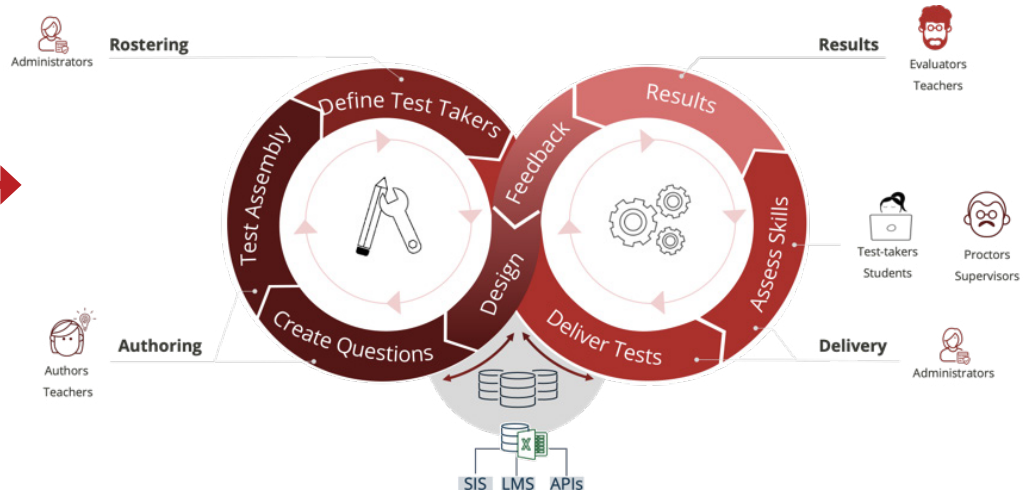
On average, INVALSI delivers:

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TAO gives ministries of education control over the end-to-end assessment cycle →



CHALLENGE

INVALSI was anticipating another smooth deployment for their national testing campaign in the spring of 2020. However, just as they were getting ready to launch, the world was hit with an unprecedented crisis that completely upended the education system when COVID-19 forced the majority of countries into lockdown.

As the first Western European country to face a nationwide lockdown due to COVID, the Italian government ultimately made the decision to close schools and cancel the planned national testing campaign.

The challenges Italy faced were unique -- because they were the first western European country to enforce a lockdown, fear compounded the many uncertainties in how to best move forward in the wake of school closings. Uncertainties also extended to the timeline of the shutdown, as information constantly changed day to day, further complicating how to manage the situation.

After about two weeks, it became clear that it would not be possible to reopen schools and that the Italian Ministry of Education would have to come up with a mitigation plan to address the learning disruption. Ultimately, the school closings lasted from March through the rest of the school year in June. Only final exams for grade 13 were held in presence, but according to a simplified formula. This marked the first cancellation of national exams since World War II.

After the initial confusion, schools in Italy began to organize solutions to reach their students using technology. But, this sudden acceleration to digital learning has brought new organizational demands and challenges to teaching, including concerns around devices per student, socio-economic factors, teacher adoption and more to the forefront.

The Italian government has looked to INVALSI to provide an idea on how to measure and mitigate the learning loss that occurred in the wake of the first wave of COVID-19. However, finding a solution comes with its own political challenges. Due to fear and panic surrounding the pandemic INVALSI found that it would be difficult to ask students to participate in sample surveys in order to start addressing the learning loss. So, they sought a way to merge their scientific goals with the constraints of politics.

SOLUTION

Typically, INVALSI's tasks include administering summative and diagnostic tests in the spring to evaluate student learning. However, as this was impossible in spring 2020, they set out to rearrange their testing procedures in support of a new goal.

Leveraging the vast amounts of summative and diagnostic testing data that they had collected over the last 12 years has helped INVALSI understand where common issues might lie and where students might need more focus. This insight in turn has enabled INVALSI to create training videos, with a focus on training the teacher on how to manage and support students in areas where learning loss may have occurred.

Their goal is to provide Italian schools with these tools, then **administer formative assessments online via TAO on a voluntary basis starting at the end of October 2020** to track student performance.

SOLUTION Cont.

A Multi-Stage Adaptive Approach

With the help of OAT, INVALSI has been able to leverage TAO for a large-scale experiment with multistage adaptive testing for their voluntary formative assessments.

A multistage adaptive approach would potentially be more helpful to schools, as adaptive tests have high discriminating power between strong and weaker students, and can help schools provide measures or interventions for students when needed.



The main feature of the project is its flexibility, to make these tools available for schools on demand to use how and when they want to. But at the same time this non compulsory approach makes this just the first experiment."

Dr. Roberto Ricci
Director of Research and
National Examinations,
INVALSI

RESULTS

INVALSI is conducting this formative assessment experiment in hopes of being able to administer their compulsory summative tests in the spring of 2021.

Using a longitudinal approach, INVALSI aims to compare summative testing results from cohorts in 2018 and 2019 with results from 2021.

Because their item banks are linked from a longitudinal point of view as well, INVALSI can then gain further insight into the learning loss that occurred due to COVID-19 in 2020 and better understand how to reduce it. However, this hinges on the expectation that circumstances surrounding the pandemic remain under control into the spring of 2021.

The main feature of this project with TAO has been flexibility. Although INVALSI has developed tools specifically to help schools face the problem at hand, it can prove challenging to convince teachers to adopt them. To help facilitate the use of technology, INVALSI videos and voluntary assessment resources are available to schools on demand. However, at the same time, this non compulsory approach makes this only the first experiment in understanding and reducing the learning loss that occurred.

CONCLUSION

It's clear that technology to support innovative testing is a crucial for institutions to fully understand and mitigate the learning loss that took place when COVID-19. INVALSI's mission, is to not only provide meaningful tools to schools but to also help facilitate the use of that technology for teachers during this time.

Technology tools have to be less standardized and able to be tailored to the real needs of students, as TAO is. In addition, new dimensions of inequality in education will require that Ministries of Education leverage significant and relevant tools like TAO that can identify the entities of disadvantage. Only then can they provide schools with the most meaningful tools and facilitate their use of technology.



We are aware that it will take years to reduce the impact of this learning loss, but we believe that technology like TAO can be very helpful to reach students in a more tailored way. And as it is so important for us to try to experiment, working with OAT allows us to quickly and effectively test out new approaches to our testing procedures.”

Dr. Roberto Ricci
Director of Research
and National
Examinations, INVALSI

ABOUT TAO

TAO, from Open Assessment Technologies, is the leading digital assessment solution for education and career advancement. Modular, customizable and interoperable by design, TAO empowers you to break free from the confines of proprietary silos, eliminate expensive licensing fees, take full control of your testing resources.

Find out more at www.taotesting.com



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- **Beyond Multiple Choice: UMass Enriches Adult Proficiency Tests with Engaging Interactions Types Using TAO**
- **The Swiss Conference of Cantonal Ministry of Education (EDK) Uses TAO to Ensure Consistent Nationwide Learning Standards**
- **New York City Department of Education (NYCDOE) Adds Technology and Multimedia to Language Proficiency Exams**
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