

From TAO Community to Enterprise: Lithuania's National Agency for Education (NSA) Finds an Effective Path from Paper to Large-Scale Online Testing

CASE STUDY

After successfully test piloting with TAO's open-source Community edition, NSA seeks to expand their online assessment capabilities with a custom digital solution from TAO.

Background

Digital assessment is the future of large-scale testing, offering new opportunities to align learning and instruction in near real-time and allowing institutions to reach a wider more diverse audience. As more institutions are embracing digital assessment, they are now moving their large-scale testing campaigns online for the first time — an initiative that comes with unique considerations and challenges. For the **Lithuanian Ministry of Education**, the journey from paper-and-pencil to digital begins with open source and ultimately leads to a custom solution.

Founded by the Ministry of Education, Science and Sport of the Republic of Lithuania, **The National Agency for**

Education (NSA) is responsible for implementing education policies, ensuring the quality of education and monitoring, researching and implementing educational solutions. Tasked with launching a ministry-wide digital assessment initiative, they began searching for a complete solution to bring their assessments online.

This case study is the first in a series, describing the beginning stages of their transformation — where they first began using the open-source TAO Community Edition to bring their tests online — and details their decision to move to a custom TAO Enterprise solution to grow and scale their program.

CHALLENGE

NSA was looking for tools to cover large populations with quite simply prepared and simply delivered measurements to students. Previously leveraging paper-and-pencil for all testing across all grade levels, NSA first began a development project for bringing online testing to large-scale assessment in 2018. From there, the goal was to completely shift their educational testing model from paper-based assessment to digital within a 2-3 year time frame.

To support the Lithuanian Ministry of Education's transition from paper-and-pencil to computer-based-testing, NSA first sought a flexible, open digital assessment solution to support a smaller population of students. They were keen to leverage an open source platform with an active community of users around the world that would allow them to provide a complete solution for digital testing. That's when they found TAO.

SOLUTION

NSA Pilots their digital assessment program with TAO Community Edition

When NSA initially began searching for assessment providers, TAO Community, TAO's open source platform edition, was a natural fit to get their assessments off the ground. **Open source was a driving factor in their decision to utilize TAO, and appealing for a number of reasons:**

- The platform was easily integratable and adaptable to other technology systems, enabling the flexibility to extend its functionality to unique contexts.
- There was a strong community of users already utilizing TAO successfully in other countries, providing more opportunity for innovation and collaboration.
- NSA could host the Community Edition using their own network resources to pilot their digital assessment program before launching in full.

NSA first used TAO to introduce IT Matura exams within the department in order to demonstrate the capabilities of online testing to key stakeholders in their digital initiative. Slowly introducing additional subjects, they were successfully able to deliver tests to between 2,000 - 3,000 participants in a year using the Community Edition.

Uncovering new needs

However, as the number of subjects increased, they uncovered challenges in measuring more complex competencies, delivering tests containing multimedia files, and large-scale delivery due to network hosting issues.

NSA ultimately realized that they required support and more customized functionality to fully scale their digital assessment program and switch to a digital testing model in their planned time frame. This included:

- Item customizations in all major subjects
- Custom hosting, as they still wanted to use their own resources to host their TAO authoring environment, but required additional support for delivery.
- Manual scoring options

Expanding their platform capabilities: NSA moves from TAO Community to TAO Enterprise Edition

Already working with the Community version of TAO and pleased with their results, NSA expected to make a seamless transition to a customized TAO solution.

Moving to the TAO Enterprise Edition was the logical next step to meet their evolving assessment needs. In 2019, NSA made the decision to invest in additional feature development that would address their challenges, including.

- Cloud hosting for their assessment delivery environment
- Customized QTI interactions including Technology Enhanced Items (TEIs)
- Development training and support
- Manual on-screen marking and scoring tools for open ended item responses

This would ultimately help relieve the technical burden for their team so that they could focus their time on test development rather than IT transformations.

In addition, custom scoring and more complex, custom Technology Enhanced Items (TEIs) would help the Lithuanian Ministry of Education better assess and analyze 21st-century skills across a larger population of students.

TAOCloud™ hosting was a critical solution for NSA's success. TAO's open, modular framework, makes it possible for institutions to host their authoring and delivery components separately, and still have them sync seamlessly. By hosting their assessment delivery with TAO, NSA was able to ease their transition to digital by balancing efforts and resources between their team and OAT.

SOLUTION Cont.

TAO Training & Support

To help them learn to create these items and interactions, **TAO hosted an Item Authoring workshop** for the Item Writers at NSA.

During the training, the TAO team provided instructions and examples for developing custom TEIs, and consulted with NSA on the specific requirements in testing different subjects online.

Throughout the program development time, OAT Client Services also worked closely with NSA to ensure effective configuration and scaling of their program.

This included 9 months of successful pilot practice testing to test the network load and delivery of different custom TEIs, including multimedia files, in which they encountered no errors.

To help the Lithuanian Ministry determine which schools have the capacity to run specific testing campaigns, TAO also created a diagnostic tool used for assessing the network of a school or work station. Ultimately, this can help them identify and avoid future network crashes.

RESULTS

Launching their first large-scale testing campaign with TAO Enterprise

Because NSA had previously been leveraging TAO Community Edition for digital assessment, they were already well-versed in the software and the transition was smooth. **While initially piloting TAO Enterprise over the first 9 month period, NSA was able to increase their delivery scale by 66% without any network interruptions.** With this success, they are now planning to simultaneously deliver tests to multiple age groups with cohorts of about 30,000 students each.

They are also now able to incorporate media files and custom item types into their assessments without any delivery issues, regardless of scale. Because of their technical resource balancing with OAT, they can now spend their time developing tests instead of dealing with IT disruptions.

As their large-scale testing program kicks off, NSA anticipates continued scale and success. Their digital assessment initiative is an ongoing project, to which subjects and grade levels will continue to be added.

The implementation of a digital solution comes at a critical time for NSA, where COVID-19 has upended the academic year and educational system. In May of 2020, they still plan to launch their first large scale assessments in Math and Lithuanian Language using TAO, with cohorts of 26,000 10th grade students testing in each subject. Without the TAO platform, reaching these students would not be possible.



The TAO community edition has provided excellent opportunities to test the new technology in a wide range of situations of an existing and running assessment system. The transition to TAO Enterprise and TAO Cloud allows us to make a shift of focus from technical resources and capacity assurance problems to areas of assessment content development, where an open and standards-based platform serves the best - allowing us to search for and develop flexible and enhanced technical solutions for more complex and innovative assessment formats.

- Gediminas Trakas
Managing Director, GERA
Solutions

RESULTS

Next-Steps

NSA had also planned to deliver tests in these subjects to additional cohorts in the spring of 2019, however, were required to postpone these groups until the late fall. In the fall/winter of 2020, NSA will resume their delayed testing with cohorts of 26,000 4th and 8th graders.

In growing and scaling their first assessment program in 2020 and 2021, NSA expects to see:

- Approximately 10% to 15% of content to rise, covering the main subjects: science, math, social sciences, writing, foreign language.
- Faster results reporting, providing deeper feedback to instructors and institutions in a much shorter period of time than previously possible.

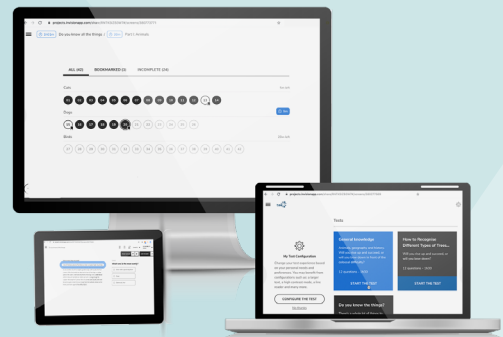
At the end of 2020, NSA's goal is to have a complete model of testing measurement. When this project completes in 2 years, they expect to have added another cohort of approximately 30,000 students testing in a specific subject.

CONCLUSION

Though just beginning their large-scale testing program with TAO Enterprise, NSA's success is evident right away. As they progress further into digital assessment and continue to see success, the benefits of TAO will become even more quantifiable and obvious. The next piece in this case study series will delve further into NSA's story and follow their results as they launch their first round of high-stake testing.

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



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ADDITIONAL RESOURCES FROM TAO



PRODUCT

ACCELERATING INNOVATION IN DIGITAL ASSESSMENT

Three TAO editions, one powerful platform. Download our product sheet to learn more about TAO's digital assessment platform solutions for assessment authoring, delivery, rostering and reporting and find the product tier that's right for your organization.

CASE STUDIES

- **Transitioning an Item Bank from Paper to Digital with The Finnish Matriculation Examination Board (MEB)**
- **TAO Addresses the Unique Assessment Needs of Students with Cognitive Disabilities**
- **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**
- **The Comenius Program in Europe Uses TAO to Deliver Self-Assessment Surveys to At-Risk Youth**
- **Elsevier Incorporates TAO with Ease, Gauging Career Readiness in Healthcare Fields**
- **Leveraging Portable Custom Interactions to Foster the Link Between Teaching and learning**



WHITE PAPERS

- **Next Generation Science Standards (NGSS): Opening the Possibilities for Deeper Learning and Assessment**
- **Redefining Digital Assessment**
- **The Importance of IMS Certification and QTI Compliance**
- **The Practical Guide to Successful Large-Scale Online Assessment**
- **Three Tangible Ideas for Engaging Assessment Content**

eBOOKS

- **The Practical Guide to Digital Assessment**