CASE STUDY

INTEROPERABILITY WITH MIDATAHUB AND KREADY APP

COREY MATLAK
No.Inc
INTRODUCTION

This case study examines the KReady Assessment platform, and the collaboration between three organizations. Johns Hopkins: The Center for Technology in Education (CTE), a division of Johns Hopkins focused on improving the quality of life of students through a strategic use of technology, Michigan Data Hub (MiDataHub), an organization that provides streamlined common data solutions for linking student data statewide, with a vision to create more actionable data for teachers and administrators, and No.Inc, an EdTech vendor focused on creating practical solutions for a range of educational institutions.

Formed in 1999, No.Inc has developed and worked on dozens of digital solutions for statewide and multi-state systems. For No.Inc, interoperable systems are a priority.

Working with a variety of clients in EdTech, No.Inc sees a growing need for interoperability standards and has become an edtech industry advocate for it by signing onto Project Unicorn, a data interoperability initiative organization.

ACTIONABLE DATA

“Standardized data is actionable data - meaningful data that our clients can use.”
Matty Woodruff, Product Manager at No.Inc

Data should maintain its meaning as it gets passed between schools, districts, and even states. Interoperability standards assist in providing solutions for increasing concerns over linking student, teacher, school, and district data to create actionable outcomes. This is evident through No.Inc's collaboration with Johns Hopkins Center for Technology in Education. Together, they created the KReady app, which has recently launched a new feature: direct data imports from Michigan DataHub (MiDataHub) into CTE's KReady system, a comprehensive assessment system that supports both formative and summative assessments for early childhood students.

MiDataHub collects and coordinates data coming in through a large number of tools and platforms in Michigan using Ed-Fi interoperability standards (ed-fi.org). MiData Hub uses these standards to pull incoming data into the KReady system without the need to manually reformat CSVs or any other inconvenient importation method. This allows No.Inc to maintain a higher level of data granularity and prevent information loss while maintaining the data's contextual nature. This also helps the institutions who utilize this data. It allows them more time to effectively analyze the data - to identify students at risk and to spend more time planning effectively.
GRANULAR DATA
“By maximizing granularity, we can open more doorways.”
Don Dailey, MiDataHub

EdTech vendors everywhere are seeing a rising demand for interoperable systems spurred on by demand from customers and an acknowledgment that closed systems inhibit the ability for a richer picture of student outcomes. Those who ignore the necessities of interoperable design are no longer designing with modern standards or meeting customer needs. No.Inc demonstrates how interoperable design has strengthened their customer’s data in meaningful ways, opening the doors to their system’s full potential by empowering clients with standardized, actionable data. No.Inc and their partners know that more can be accomplished by being early adopters of interoperable standards. Companies who avoid interoperable design will find that avoiding the issue will become more difficult by the day.

BUILDING to a DATA STANDARD
“There is a misconception that designing to a standard is a burden.”
Julius Moore, Director of Technology at No.Inc

No.Inc uses the Ed-Fi Data Standard to retrieve its information from the MiDataHub. This allows data to come in faster and more secure, removing the need for traditional bulk load methods. The Ed-Fi standard provides a set of rules for the collection, management, and organization of educational data. Like other interoperable frameworks, it allows multiple systems to share their information in a seamless and actionable way. However, Ed-Fi doesn’t only benefit No.Inc and their clients, educators and other stakeholders are given more insight into what’s working, what’s not, and how to tell the difference, ultimately benefiting students.

Committing to interoperability also makes better business sense. No.Inc found that designing systems with interoperability in mind will potentially make future work easier by applying standards across multiple platforms. Additionally, Ed-Fi provides access to their schema to use as working models, making set-up relatively quick. And as more vendors become licensees of Ed-Fi, the entire community benefits by furthering a trend in standardized data.

For No.Inc, working with MiDataHub is exciting because they have already accomplished a great deal of interoperability on a state level.

The school portal at www.mischooldata.org represents the power of actionable data, obtained and maintained by an interoperable initiative. At a glance, one can see very clear performance statistics of schools and districts. The metrics captured allow for deeper analysis and understanding of where students are excelling or falling behind. Currently, the Ed-Fi data hub is voluntary for Michigan’s districts; however, growing interest has led to a large increase of federated districts, this includes Early Intervention and Special Education services distributed through Intermediate School Districts.
GROWTH IN MICHIGAN

“We have seen an increase from 21 Intermediate School Districts to over 50.”
Don Dailey, MiDataHub

The State of Michigan has 57 Intermediate School Districts in total, meaning that MiDataHub has nearly on-boarded all ISDs within the entire state.

One of No.Inc’s prime examples in pushing interoperable efforts is the Johns Hopkins CTE’s KReady system. KReady provides integrated professional development, is implemented across nine cross-platforms, and features decentralized data management to respect school district autonomy. Under its umbrella exist several contributing applications, which all directly interact with the primary web application. This already complex system has the potential to grow more; so, it’s only logical that No.Inc began exploring more optimized data handling methods.

![Screenshot of KReady Login Page and Supporting Apps.](image-url)
While No.Inc is familiar with migrating student data, until recently, importing data from external sources such as MiDataHub has been a traditional bulk loading process requiring manual document formatting and .csv uploading. Now, a user accessible tool exists that allows direct data transfers from any Ed-Fi enabled source. It works with just a URL, a key, a secret passphrase, and a click of the save button. Clients can expect to see more consistent data transfers occurring in real time, lessening the need to create import/export requests. In the future, this tool may be expanded to support more data standards.

![Screenshot of the MiDataHub to KReady Tool](image)

While developing this tool, test districts and staged student data were used to iron out the process. However, now that Ed-Fi has been successfully integrated into the KReady system, No.Inc feels confident that the integrity of the data will remain heightened in comparison to previous methods, which relied on hand coding to correctly format spreadsheets. Interoperability also assists in cross-application support, meaning No.Inc’s systems will inherit a higher level of flexibility for continued development.

Continuing in the spirit of system accessibility, No.Inc is currently working with MiDataHub to integrate new Single Sign On (SSO) features for Michigan school districts. The tool, known as LaunchPad, will integrate with the KReady system to provide OAuth for their teachers and administrators. SSO efforts is one more way No.Inc is building bridges between EdTech systems and the people who use them.

On the horizon for No.Inc, is another interoperable solution, called Learner Core. While this project is still in its infant stages, it holds big promise. Learner Core allows data to move between systems based on data standards. The application is able to convert data of varying custom formats using pre-defined interoperability standard connectors. This tool is helping EdTech vendors transition their products from non-compliance with interoperability standards to compliance within days rather than the weeks or months it would take to refactor systems.
PROJECT UNICORN PLEDGE

Regardless of the varying standards and ideas are circulating throughout the community. No.Inc believes that getting vendors involved in interoperability is a necessary first step in creating a consensus among vendors, school districts, and greater networks. To commit to standards which prioritize the student needs of their clients, No.Inc uses Ed-Fi.

No.Inc believes that a company's long-term success depends on how well it can adapt. For EdTech vendors today, that means staying ahead of the curve by adopting interoperable standards early on, and designing with interoperability in mind. No.Inc began prioritizing interoperability not only because it made technical sense to do so, but also to step ahead of the curve. In terms of security, we will be gaining more client's trust as an Ed-Fi licensee. Beyond that, the other real concern is industry consolidation. Clients want streamlined systems that work with the data they have. The companies that are best able to handle that data are going to be the front-runners in EdTech. Those who lag behind in terms of interoperability are going to have a tougher time surviving. There is little argument to ignore interoperable design when drafting your new roadmaps. The company committed to Project Unicorn’s pledge because it is dedicated to protecting student data, especially data that could be lost through system migrations. No.Inc recognizes Project Unicorn’s effort in building a community around these beliefs, and was an early pledge signer and is an active community member.

While No.Inc is a licensee of Ed-Fi, Project Unicorn does not endorse any specific data standard. Instead, Project Unicorn is broadly pushing the case for interoperability, making it easy to pledge and get on board to begin the journey towards interoperability. While No.Inc is currently focused on handling data through one standard, Project Unicorn welcomes pledges from vendors who are interested in adopting or have adopted an industry aligned standard – such as with A4L, IMS, Ed-Fi, and others. No.Inc found that signing on as a pledge was a seamless process and has been encouraging its partners to do the same.

Project Unicorn is an effort to improve data interoperability within K-12 education. We aim to create a community of innovators who make the broader case for secure interoperability by determining shared priorities, working in partnership with school systems and EdTech vendors to understand its importance and benefits, creating a demand side push for interoperability through partnerships, and educating buyers to consider the total cost of ownership through informed comparison of vendors.

Project Unicorn does not endorse a specific product or data standard but instead is an educational initiative dedicated to the secure, controlled interchange of data.

*INTEROPERABILITY: THE SEAMLESS, SECURE, AND CONTROLLED EXCHANGE OF DATA BETWEEN APPLICATIONS

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