

What Benefits Can Blockchain Have For The Educational Sector?

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As the official commercial arm of [Cardano](#) - the first third-generation blockchain to evolve out of a research-first driven approach, [EMURGO](#) places great importance on focusing on and delivering accessible, quality blockchain education. EMURGO's mission is to drive the adoption of Cardano and bring value to ADA holders by building, investing in, and advising projects or organizations that adopt Cardano's decentralized blockchain ecosystem. To accomplish this mission in a blockchain context, the availability of accessible & quality blockchain education is crucial to set up a solid foundation for future developers and stakeholders to add value to the Cardano blockchain ecosystem via applications & projects that bring real sustainable utility to real economies. Thus, EMURGO successfully launched the [first EMURGO Academy unit \(EMURGO India\)](#) in Bangalore, India in February 2019 to support the building of this foundation.

Education in a more general context, is an essential pillar to one of society's most important demographics - the younger generation. It's indisputable that a quality education offers a plethora of personal and national benefits for economic stability and a higher quality of life through value added services. It helps us to create a prosperous, healthy, and well-informed society. The younger bright minds of today lead to the advancements and innovations of tomorrow, paving the way for societies to reach new heights. In this light, we can see that it is imperative to help advance the quality of the overall educational system for the benefit of communities around the world.

The application of modern blockchain technology to the traditional educational sector is only a frontier we have just begun to explore, but the possibilities of blockchain use cases in the educational sector are boundless. With the financial business and healthcare sectors already beginning to adopt blockchain in favor of its [potential tokenization of securities](#) and data transparency, we are only beginning to see the educational sector following suit.

At the center of this digital movement towards the incorporation of blockchain into our daily lives is the growth of big

data. As everything becomes digitized and recorded, every measure of our lives translates into a series of 1s and 0s. Database systems grow to manage the increasing volume, variety, and velocity of data, and we are left to wonder how to manage the increasing amount of personal information. This is where the decentralized system of blockchain steps in to offer efficiency to our lives. With this in mind, let us look into some of the possible benefits that blockchain technology can provide for our younger generations and the educational sector at large.

Blockchain Benefit #1: Making Personal Educational Records More Secure

With millions of young students worldwide enrolling, moving and graduating every year, profiles of information move around constantly. These files usually contain a chaotic assortment of personal information, academic records, residency files, financial statuses, and more. Protecting these essential records through a decentralized blockchain system can maintain protection against cybersecurity attacks. This ensures student privacy in a growing world of database profiles.

Additionally, students and families are able to benefit from this as they can maintain this assortment of information in a decentralized, immutable ledger system. These lead to secondary processes such as the improved verification of academic credentials. Currently, most of this information is managed manually and can take up to weeks to send to potential employers or universities. Student accomplishments and degrees can be instantly verified through a decentralized profile storing system - increasing the fluidity of further pursuits.

Blockchain Benefit #2: Tracking and Analyzing Student Test Scores and Progress More Effectively

A student's educational progress through their time in school is an important tracker for the improvement of an overall school system. Schools can aggregate this information over time to develop new methods to help their students, albeit these metrics need to be defined and adaptable for different learning styles and interests.

Blockchain technology can manage the assortment of test scores, projects, and homework that a student accumulates over time. Schools can congregate these overarching trends to define different strategies to improve their curriculum. Academic progress tracking and degree completion rates can be projected for students, giving them options to catch-up or improve their momentum. Dips in the curve can be addressed as well as offering insight to any underlying variables for a student's educational wellbeing.

Blockchain Benefit #3: Enabling Efficiency for Administrative School Operations

Blockchain can revitalize and give a new lease of life to outdated [Enterprise Resource Planning \(ERP\)](#) systems for school management. Cloud integration and blockchain storage are just a few of the ways that blockchain can be implemented to improve ERP systems. Integrating blockchain technology into ERP creates a highly secure, collaborative platform within which systems of records can be freely shared with trusted parties in a permissioned, blockchain system tailored for enterprises. Many schools and universities use personal or third party platforms to manage operations with staff, resources, and student-faculty relations. Blockchain is able to elevate these endeavors by efficiently enabling business processes to be accessible across multiple organizations and groups. Schools will have a firmer grip on security as well as increased data fluidity.

Blockchain Benefit #4: Automating Enforceable Agreements Between Different Parties via Smart Contracts

Distributed ledgers can also efficiently manage agreements within two parties via smart contracts, which especially becomes useful for the many necessary agreements between students and schools. Most notably, attendance and assignment completion can be automatically tracked and stored as a portion of a student's profile. These series of "check-ins" can provide automatic work to provide ease of use for school faculty members. Furthermore, automatically executed agreements can assist with the release of financial aid or scholarships when requirements are completed. This can be further implemented into a series of extracurricular activities with reward-based systems implemented into events such as hackathons or case competitions and is completely programmable.

Blockchain Benefit #5: Helping to Meet the Rising Demands of Online Education

The accessibility and convenience provided by online education matches the shift towards a more digitized and on-the-go world. As the needs for education have adapted to our various lifestyles, many colleges and platforms have begun providing digital degrees and certifications that are still highly regarded by employers. The verification of the merits of these programs has led to a huge rise in online education over the past few years. It boasts robust numbers as over

33% of university students took an online course and over 100 million users signed up for Massive Online Open Courses (MOOCs) in the last year.

EMURGO: Foster Blockchain Education to Integrate Cardano Into Mainstream Sectors

To enable Cardano to be implemented into the mainstream sectors of society such as education, EMURGO believes that creating blockchain awareness through useful content and offering blockchain education courses tailor made for all types, are core building blocks of the Cardano ecosystem. Through content and courses, more users and potential stakeholders will understand that Cardano is uniquely designed to meet demands such as data handling by addressing the issues of scalability, sustainability, and interoperability with an accomplished team of academic and cryptography experts working around the clock on the protocol.

As previously mentioned, [the dawn of Shelley will bring on full decentralization of the Cardano blockchain](#) with a host of new features, and will incentivize enterprises and stakeholders to adopt Cardano as the protocol of choice.

Through EMURGO's focus on education & academy as one of our core units, we aim to foster an online/offline community through the creation and delivery of curricula for developers, where they can learn to build on top of Cardano blockchain and also provide a platform to connect developers with organizations, and as a result extend the use of blockchain to education and other sectors that play a part in our daily lives.



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EMURGO drives the adoption of Cardano and adds value to ADA holders by building, investing in, and advising projects or organizations that adopt Cardano's decentralized blockchain ecosystem. EMURGO leverages its expertise in blockchain R&D as well as its global network of related blockchain and industry partners to support ventures globally.

EMURGO is the official commercial and venture arm of the Cardano project, headquartered in Singapore, with a presence in Japan, the USA, India, and Indonesia. EMURGO works closely with IOHK and The Cardano Foundation to grow Cardano's ecosystem globally, and promote its adoption. Learn more about the project at <https://emurgo.io>

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