

Market Guide for K-12 Education Learning Management Systems

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Initiatives: [Education Digital Transformation and Innovation](#); [Education Technology Optimization and Modernization](#); [Government Verticals Digital Innovation and Application Modernization](#)

The K-12 LMS market is seeing investments in innovation, with the growing use of technologies like generative AI. Education CIOs can use this Market Guide to evaluate the available options so they can decide the optimum fit for their institutional needs.

Overview

Key Findings

- Vendors are adding new features or innovating with existing capabilities to differentiate an increasingly mature product. Whether this holds the potential to transform learning beyond the confines of the classroom is yet to be seen.
- Personalized learning experience for students, increased efficiency with time savings for teachers and the overall well-being of both are among the key drivers for product development and refinement for learning management system (LMS) vendors.
- The incremental digitization of the classroom has increased the focus on security, accessibility, ease of use and age appropriateness of user interfaces (UIs) to suit all grades.

Recommendations

K-12 education CIOs looking to innovate the learning environment should:

- Evaluate the value of new or refined LMS components by first identifying those that are closely aligned with your institution's desired outcomes. Implement contained pilots where possible and invest at scale only once the benefits of new components are clear.

- Ensure the integration and alignment of insights from multiple sources within the LMS, such as assessment and learner engagement, with the student information system (SIS) and the overall institutional data strategy. Opt for solutions that support educators and administrators, with insights for a comprehensive student view.
- Assess vendors based on their commitment to creating secure and accessible online spaces for creativity, communication and collaboration either within the core LMS or by extending its functionality by securely integrating with recommended tools via Learning Tools Interoperability (LTI) and APIs.

Strategic Planning Assumption

By 2027, 75% of all K-12 organizations globally will use an LMS, whether proprietary or lightweight, to manage in-person and remote classroom activities.

Market Definition

Gartner defines K-12 LMSs as those forming the core teaching and learning technology environment, with a range of internal and external tools and services that support classroom learning. LMSs are moving beyond a technology platform that only administers learning resources. They are designed to support functions such as developing and tracking assignments and assessments, and managing online interactions and collaborations among teachers, students, administrators and parents/guardians. Increasingly, LMSs offer advanced reporting and analytics capabilities, and are usually integrated with the SIS. In K-12, several vendors offer the SIS and LMS combined into one product.

Some key purposes of a K-12 LMS include:

- Providing a centralized platform for delivering and managing educational content, such as course materials, assignments, quizzes, homework and exams
- Supporting teaching and learning activities, such as interactive and collaborative learning experiences, online and blended learning, flipped classroom models, and progress tracking
- Offering administrative benefits, such as automating tasks like grading, attendance tracking and reporting; reducing workload; and increasing efficiency

The must-have capabilities for this market include:

- Content development and delivery — This includes the ability for teachers to create and organize course content. It includes the capability to create, manage and deliver various types of standards-based course assets, including multimedia, interactive activities, assignments, homework and assessments.
- Communication and collaboration — The LMS contains or allows for integration with tools for communication and collaboration between students and teachers. These tools may include discussion forums, web conferencing (either as a native application or through third-party integrations), and chat and messaging, enabling students to interact and engage with the course content and with each other.
- Reporting — This includes reporting capabilities to track student progress and performance with features such as gradebooks, assessment analytics and engagement metrics, allowing teachers to monitor student progress, identify at-risk learners and provide timely feedback.

The standard capabilities for this market include:

- Learning resource management — These are capabilities for managing and delivering a range of learning resources, including videos, simulations, e-books and other digital materials.
- Integration/APIs — These must provide integration with other systems and tools commonly used in K-12 education, such as student information systems and accessibility tools. Additionally, APIs should be provided for custom integrations and extensions to third-party tools such as learning applications.
- Mobile capability — The LMS must provide a mobile-compatible platform that enables access to course content and resources from mobile devices.
- Security/user administration — This enables platform security; managing of users, role assignment and role-based permissions; and authentication.
- Parent communication — This enables parents/guardians to have user logins that give them access and insight into their wards' academic progress and updates.

The optional capabilities for this market include:

- Artificial intelligence (AI) and machine learning (ML) — These technologies are incorporated to offer increased personalization. For example, an LMS could use AI to analyze learner progress and provide adaptive learning paths that adjust course content or suggest additional resources based on performance.

Market Description

LMS, and digital infrastructure in general, are becoming intrinsic parts of the school environment beyond the pandemic crisis, signaling sector growth. While North America has seen greater saturation in LMS adoption in the last three years, globally, the use of LMSs is also on the rise.

With cloud-based solutions rapidly gaining traction in the K-12 market, products are reaching countries where they didn't have a presence earlier. As a result, the market consists of some vendors with a global presence alongside regional players, especially in emerging markets.

User-friendly technologies such as generative AI are already finding their way into multiple capabilities built into the traditional LMS, with the potential to impact all key aspects of K-12 learning, such as:

- Communication and collaboration
- Asynchronous learning to suit the students' individual pace
- Content development, delivery and consumption
- Creating and tracking multiple forms of homework and assessment
- Teacher and peer feedback
- Learning and behavioral insights

However, this early application of nascent technologies will require rigorous testing in controlled environments to demonstrate the value, as well as identify the gaps. It will also require considerable investment in literacy and training for optimum use, especially for the educators, to justify ROI.

Market Direction

The K-12 LMS market landscape consists of a small number of global vendors that have the majority of the market share, particularly in high-technology adoption regions, such as North America. It is also witnessing the growth of some regional vendors that are catering to new technology adopters in K-12, with lightweight and often a single integrated technology solution for the entire organization.

The market in North America includes a mix of proprietary solutions, productivity suites and open-source solutions. ¹ Instructure's Canvas, Google Classroom and PowerSchool Schoology Learning are the top three LMS providers, each occupying more than one-fifth of the market. ¹ Open-source LMS Moodle, which has the largest installed base globally, varies in market capture widely across countries.

Having established themselves as the preferred collaboration tools, productivity suites, such as Microsoft Teams for Education and Google Classroom, are steadily incorporating essential administrative requirements inherent within a full-featured K-12 LMS. While not yet full-blown LMSs, they have redefined the collaborative experience in the virtual classroom.

Learning Ecosystem

The K-12 LMS market has seen distinct movements in 2021 through 2022. Along with the exit of relatively smaller players, such as itslearning, from mature markets like North America and the closure of Edmodo, we have also seen the acquisition of Blackboard's community engagement tools by Finalsity. ^{2,3,4} Since no new vendors are gaining traction yet either, there is a general direction toward market consolidation that can be anticipated among the top LMS providers in this region. ^{2,3}

This consolidation is likely to fuel the next phase of development of traditional LMSs toward a dynamic and comprehensive ecosystem of learning. This can be seen in the incremental acquisitions, facilitated by LTI enablement and APIs, over the last three to five years of complementary classroom solutions, notably in the areas of:

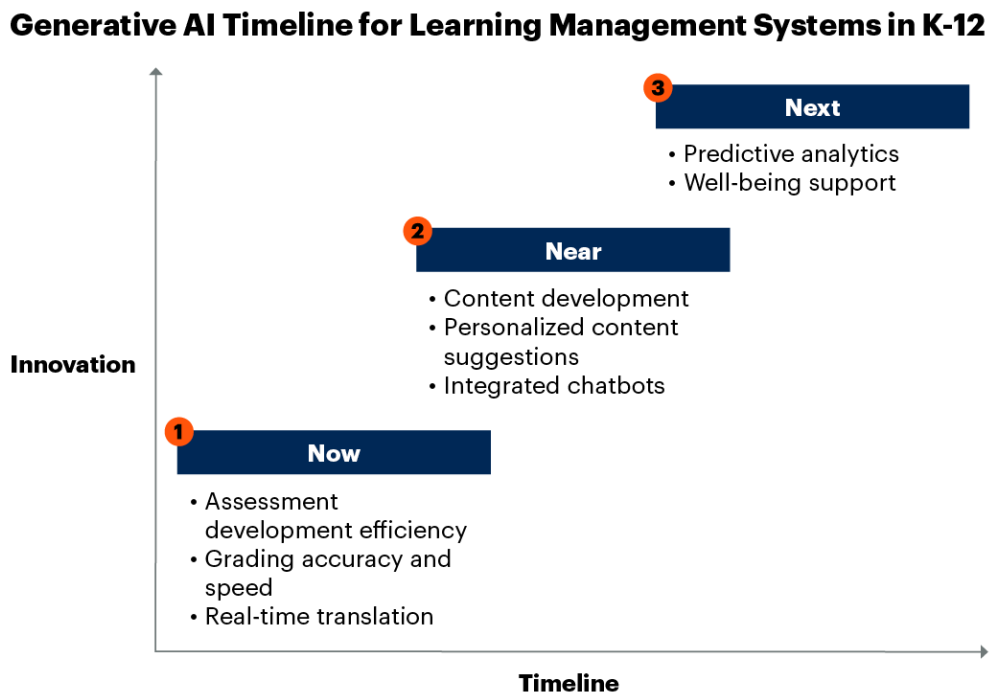
- Assessments
- Analytics
- E-portfolio
- Well-being modules

- Credentials
- College and career readiness

Generative AI

Generative AI powered by large language models has been embraced by the education sector in numerous capabilities in the past year. Early offerings of GenAI plug-ins, such as OpenAI's ChatGPT within the LMS, are powering key capabilities, such as content development and assessments, targeting the 2023 to 2024 academic year.^{5,6} Although automation holds the potential to increase efficiency and reduce the time taken, vendors strongly advocate human review with the use of this fast-evolving technology. In the next 12 to 36 months, we can expect GenAI-powered capabilities, such as integrated chatbots for personalized instruction offered within the LMS or through extensibility (see [Quick Answer: How Should K-12 Education Get Ready for Conversational AI User Interfaces?](#)). Other areas most likely to benefit include predictive analytics for learner engagement and retention and student well-being (see Figure 1).⁷

Figure 1: Generative AI Timeline for Learning Management Systems in K-12



Source: Gartner
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New Markets

There are a large number of K-12 organizations that are either enabling or improving the digital infrastructure deployed as pandemic response, even as they battle infrastructure challenges like low bandwidth and steady electric supply. Regional players have built custom solutions where core LMSs are bundled with SIS and/or ERP systems to cater to this vast demand for digitization. ⁸ It is likely that, in the coming years, global vendors will follow suit with lightweight solutions for new adopters.

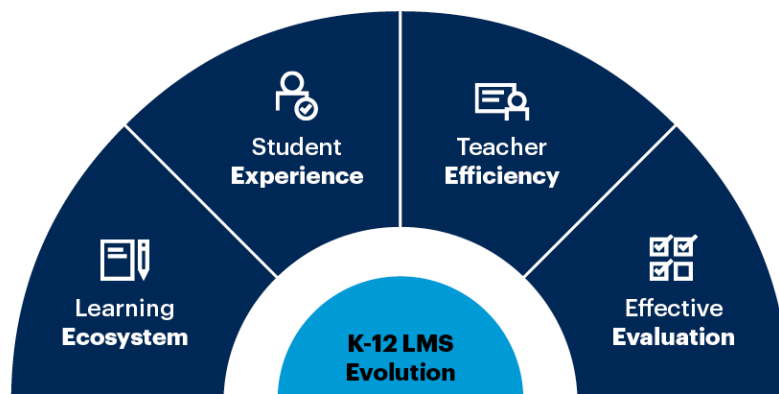
Market Analysis

The K-12 LMS market evolution is being driven by the four Es (see Figure 2):

- Student Experience
- Teacher Efficiency
- Effective Evaluation
- Learning Ecosystem

Figure 2: Drivers for K-12 LMS Evolution

Drivers for K-12 LMS Evolution



Source: Gartner
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Gartner.

Student Experience

Learning loss, declining national scores in many countries, and the long-term impact of pandemic-induced school closures on student mental health and social well-being have made classroom engagement a key concern for educators and drive product development in K-12 EdTech. Features increasingly seen include:

- Feature-rich and real-time collaboration tools
- Rule-based and potentially AI-powered personalized, adaptive learning
- Interactive, responsive, gamified content
- Age-appropriate user experience/UI for learners of different age groups
- Accessibility standards that are built into product design
- Career and college readiness solutions
- Credentials, badges and data portability

Education CIOs must identify which features are essential and which are optional to support student success at their institution and evaluate vendors on the basis of their portfolio.

Teacher Efficiency

Faculty shortages, rising administrative chores and ongoing learning loss have increased the pressure on teachers, leading to fatigue, burnout and churn (see [Top Implications of School Faculty and Staff Shortages for the K-12 Education CIO](#)). GenAI, and AI as a whole, offers the potential to not only automate repetitive tasks, but also enhance the quality of output, while saving precious person hours. This automation has been incorporated in capabilities, including:

- Standards-aligned and competency-based content development
- Lesson planning
- Standards-based item generation for assessments
- Grading subjective answers
- Feedback and translation

As the potential for AI to transform classroom teaching grows, education CIOs must focus on faculty adoption of new features to ensure a justifiable ROI.

Effective Evaluation

A 360-degree evaluation of the learner is supported by some K-12 LMSs with ready-to-deploy powerful applications for:

- Assessments
 - Offered through in-house assessment offerings or acquisition of solutions
 - Support for formative, summative, predictive and preparatory assessments
 - Performance data that integrates with and informs institutional insights
- Data and analytics capabilities
 - Offered as part of the LMS, through acquisition or through third-party vendors
 - Can provide insights on student engagement with learning content, communication and collaboration patterns, behavioral trends and so on
 - Integration of learning data with other data points can be used to develop predictive models for identifying at-risk students, special needs and so on

Education CIOs must ensure that the data-rich LMS environment is optimized by ensuring its conceptual and technical alignment with the overall data and analytics strategy of the institution.

Learning Ecosystem

In regions where an integrated K-12 digital infrastructure is gradually being realized, the LMS market is supporting this enablement by moving from simply the administration of learning toward a dynamic, extensible and customizable learning ecosystem. The foundations of this ecosystem are laid in LTI enablement, which ensures interoperability between platforms. It is enhanced by open APIs that facilitate extensibility, giving educators and administrators the flexibility to curate the learning experience that meets their vision. Market leaders are leveraging this configurable architecture through native applications, third-party integration or acquisition, to offer a wide variety of secondary products that target:

- Administration of learning, whether instructor-led live, synchronous, blended or even asynchronous microlearning by students themselves.
- Student well-being through behavioral tracking or student check-ins, and translated into data insights
- Comprehensive learner records for learners and educators that integrate with third-party credentials
- AI-powered capabilities like text-to-image, instructional chatbots and question generators

As the LMS environment expands, education CIOs must ensure vendors have a cloud security strategy, including attributes like compliance with government and industry standards, single sign-on, and advanced encryption techniques to secure data in transit and prevent unauthorized access.

Representative Vendors

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.

Market Introduction

The vendors listed in this Market Guide exemplify the types of vendors in the market and do not represent an exhaustive list (see Note 1). There may be other vendors that can be considered for your organization and use cases.

Vendors were chosen to represent a variety of solutions available, covering a broad range of geographic coverage areas, and with a mix of product types (proprietary general-purpose LMS, open-source LMS and what Gartner has named “lightweight LMS”) (see Note 2 and Table 1).

Table 1: Representative Vendors in K-12 Education Learning Management Systems

(Enlarged table in Appendix)

Vendor	HQ	Product, Service or Solution Name
Anthology	U.S.	Blackboard Learn
CYPHER Learning	U.S.	CYPHER (Proprietary)
D2L	Canada	Brightspace (Proprietary)
Edsby	Canada	Edsby (Proprietary)
Google	U.S.	Classroom (Lightweight)
Instructure	U.S.	Canvas (Proprietary)
ITWORX Education	United Arab Emirates	WinjiGo (Proprietary)
Microsoft	U.S.	Microsoft Teams for Education (Lightweight)
Moodle	Australia	Moodle LMS (Open-source)
PowerSchool	U.S.	Schoology Learning (Proprietary)
Sanoma Group (itslearning)	Finland Norway	Itslearning LMS (Proprietary)
Schoolbox	Australia	Schoolbox Learning (Proprietary)

Source: Gartner (November 2023)

Market Recommendations

K-12 education CIOs looking to innovate the learning environment should:

- Evaluate the value of new or refined LMS components by first identifying those that are closely aligned with your institution's desired outcomes. Implement contained pilots where possible and invest at scale only once the benefits of new components are clear.
- Ensure the integration and alignment of insights from multiple sources within the LMS, such as assessment and learner engagement, with the SIS and the overall institutional data strategy. Opt for solutions that support educators and administrators with dynamic and timely insights for a comprehensive student view.
- Assess vendors based on their commitment to creating secure and accessible online spaces for creativity, communication and collaboration either within the core LMS or by extending its functionality by integrating with other tools via LTI and APIs.

Acronym Key and Glossary Terms

Proprietary LMSs	LMSs that are built and hosted by a single company or entity and are based on a closed-source code that cannot be modified by the users.
Open-source LMSs	LMSs whose source code is made available for use, or modification and customization, as users or other developers see fit. Open-source software is usually freely available and built on public collaboration.
Lightweight LMSs	Products that have started as collaboration tools and are fast evolving toward providing enterprise LMS capabilities.

Evidence

- ¹ [Update on the K-12 LMS Historical Market](#), ListEdTech.
- ² [itslearning Exits the US Market](#), ListEdTech.
- ³ [Edmodo Announced Closure of Its B2C Version to Focus on Country Rollout Opportunities](#), Cision PR Newswire.
- ⁴ [Finalsite Acquires Blackboard K-12](#), Finalsite.
- ⁵ [PowerSchool Announces Collaboration With Microsoft Azure OpenAI Service to Provide Personalized Learning at Scale in K-12 Education](#), PowerSchool.
- ⁶ [Introducing CYPHER Copilot: The Ultimate Course Creation Companion](#), CYPHER Learning.
- ⁷ [Generative AI – Towards Operational Efficiency in Non-Student Facing Functions](#), ListEdTech.
- ⁸ [Teachmint's Journey to 30 Countries and 1.5 Crore Users](#), YourStory.

Note 1: Representative Vendor Selection

The following attributes illustrate the providers that Gartner considers to be representative of this market:

- Has a product in production in 2021

- Has enterprise-level customers in K-12 education
- Has a strategy to target education (specifically K-12 education in this Market Guide)

The vendors profiled in this research were selected to represent the breadth of offerings in the market segments defined as proprietary, open-source or lightweight LMS. Gartner's objective is to provide a balance of options relevant for institutions of varied size, complexity, type and location.

Note 2: Gartner's Initial Market Coverage

This Market Guide provides Gartner's initial coverage of the market and focuses on the market definition, rationale for the market and market dynamics.

Document Revision History

[Market Guide for K-12 Education Learning Management Systems - 4 April 2022](#)

[Market Guide for K-12 Education Learning Management Systems - 23 November 2020](#)

[Market Guide for K-12 Education Learning Management Systems - 9 December 2019](#)

[Market Guide for K-12 Education Learning Management Systems - 30 November 2018](#)

[Market Guide for K-12 Education Learning Management Systems - 25 September 2017](#)

[Market Guide for K-12 Education Learning Management Systems, 2016 - 21 September 2016](#)

[Market Guide for K-12 Education Learning Management Systems, 2015 - 21 September 2015](#)

Recommended by the Author

Some documents may not be available as part of your current Gartner subscription.

[Top Trends in K-12 Education for 2023](#)

[Hype Cycle for K-12 Education, 2023](#)

[The Future of K-12 Education: Vision 2028](#)

[Security Risks in Cloud Computing](#)

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