

**Zhibek Tleshova\*, Nurgissa Kabarbek, Bexultan Turgunov**

*Astana IT University, Astana, Kazakhstan*

## **THE ELECTRONIC SYLLABUS AS A PEDAGOGICAL OBJECT: AN INTEGRATIVE LITERATURE REVIEW**

**Abstract.** Every course delivered through a learning management system (LMS) opens with an electronic syllabus. Although what we mean by electronic syllabus is rarely examined on its own terms. This integrative literature review attempts to group research papers on electronic syllabus that have developed largely in isolation: 1) research on the syllabus as a pedagogical document, 2) research on learning management systems and technology integration, and 3) the literature on the digital transformation of Kazakhstani higher education. The synthesis of the reviewed literature groups the evidence into five pedagogical clusters: alignment of outcomes, activities and assessment; transparency of expectations; learner-centred framing and tone; structure, navigation and multimodality; and governance, standardisation and analytics. From these clusters the article proposes a three-layer model of the electronic syllabus, comprising design, communication and use. Astana IT University serves as an illustrative setting but not a site of field research. This article concludes with a research agenda built around document analysis of LMS-hosted syllabi and studies of their use.

**Keywords:** electronic syllabus; integrative literature review; learning management system; constructive alignment; learner-centred pedagogy; higher education; Kazakhstan

### **Introduction**

Over the past two decades the learning management system has become the organising infrastructure of university teaching: enrolment, readings, announcements, submissions and grades pass through a single platform, which now forms an integral part of the learning environment in most institutions (Turnbull et al., 2022). The syllabus inside that environment in its digital form is usually the first structured document a student sees. In practice the electronic syllabus is handled as a template to be completed rather than as an act of teaching.

A well-written syllabus makes visible the constructive alignment between the intended learning outcomes, activities, and the assessment that tests the attained outcomes (Biggs, 1996; Grunert O'Brien et al., 2008), and the instructor's tone in the syllabus shapes students' perception about the course and the instructor before teaching has begun (Harnish & Bridges, 2011). Placing a digital syllabus in an LMS is expected to strengthen these functions. Inside the platform the syllabus can link directly to the readings and assessments, and connects to the assessment policy and to the course content. In practice, however, it is usually held in a single long template through which students scroll, so the connections between outcomes, activities and assessment are presented one section at a time rather than seen together. Whether a template of this kind preserves the pedagogical function of the syllabus remains unexamined.

The electronic syllabus, though produced inside this digital infrastructure, has yet to become an object of study at institutional level in Kazakhstan. Dzhanegizova (2024) reports that platform coverage reached every Kazakhstani university by 2023, up from a quarter in 2015, but that the capacity to use those platforms did not spread evenly: national universities scored 4.2 out of 5 on digital readiness, regional institutions 3.5 and private ones 3.1. Astana IT University (AITU) illustrates this pattern. Founded in 2019 as an autonomous, English-medium institution charged with advancing digital transformation in Kazakhstan, it delivers much of its teaching in blended and technology-mediated forms (Mazhit et al., 2023; Zhanarstanova et al., 2024) and builds its courses inside the platform, so that its electronic syllabi are part of the study environment rather than attached to it.

This study attempts to do an integrative literature review in order to summarize research papers to achieve a comprehensive understanding of what electronic syllabus meant to be in digital infrastructure at higher education institution level. This study helps put together published papers relevant to the electronic

syllabus, organises it into clusters, and uses that organisation to define what the pedagogical function of an electronic syllabus involves, to identify where evidence is absent, and to specify the studies that needs further research. Three questions are set to flow our study:

RQ1. How does the existing literature characterise the pedagogical functions of the course syllabus?

RQ2. How are those functions hosted inside a learning management system as a part of digital infrastructure?

RQ3. What gaps in the literature exist and what features of the Kazakhstani setting define a priority for future research?

### Literature Review

*The syllabus as a pedagogical document.* The meaning of electronic syllabus (further e-syllabus) is first to be understood and defined from the outset of this study. A Cambridge online dictionary defines “a syllabus as a plan showing the subjects or books to be studied in a particular course” (Cambridge Online Dictionary). That covers what the document lists, but not what it does. Parkes and Harris (2002) distinguish three purposes that pull in different directions. They are the syllabus as a record used for accreditation and accountability, as a contract setting out mutual expectations, and as a cognitive map helping students grasp how a course is set up. A recent scoping review finds that the syllabus still serves these competing uses, and that the tensions between them remain unresolved (Gauthier et al., 2026).

An e-syllabus is the document when it is built inside a learning management system. A syllabus written elsewhere and uploaded as a file is a printed syllabus behind a login. Izienicki (2026) rebuilt a course syllabus as a set of LMS modules rather than as a single linear file, and found that students consulted the modular version twice as often across a semester.

Putting together these perspectives suggest that a syllabus is more than a course plan or an administrative document. It is a pedagogical document that communicates the goals, structure, expectations, and learning route of a course. It also shapes students’ understanding of how learning will take place. The scholarly literature views the syllabus as a tool for supporting student engagement and success as well. Within this study, therefore, an e-syllabus is defined as a syllabus that is created and delivered within a learning management system, where its elements can be organized, linked, updated, and accessed interactively. An e-syllabus functions as an integrated digital environment that supports navigation, communication, and student engagement throughout the course.

In the modern educational settings, the syllabus is expected to have a function as a learning tool rather than a note pad. The syllabus belongs to the classroom, where it is employed by teachers to work with learners, and the institution, which has requirements of its own (Gauthier, G., Banner, J., & Winer, L., 2026) Grunert O'Brien et al. (2008) argued that a syllabus should explain not only a course's structure but its teaching philosophy and the reasoning behind its activities. Weimer (2013) describes learner-centred teaching as a series of shifts in who holds power, what content is for, and the purpose of assessment, each of which a syllabus either displays or conceals, and Fink (2013) argues that a course, and by extension its syllabus, should be planned backwards from significant learning goals rather than forwards from a list of topics (see also Bain, 2004).

Parkes and Harris (2002) provide a useful framework for understanding the multiple functions of the syllabus. They describe it as a record, serving accreditation and accountability purposes; a contract, outlining the responsibilities and expectations of both instructors and students; and a cognitive map, helping students understand the structure, goals, and coherence of a course. While all three functions remain important, they can compete with one another. The record function prioritizes completeness and compliance with institutional requirements, whereas the contract function often encourages detailed policies and regulations. By contrast, the cognitive-map function emphasizes the syllabus as a pedagogical tool that supports student learning. As institutional policies on attendance, assessment, academic integrity, and course procedures accumulate over time, syllabi can become increasingly administrative and less focused on learning. In digital learning environments, these priorities are often embedded in standard LMS templates. Consequently, the design of the syllabus, including its digital form, should be viewed not merely as an administrative task but as a pedagogical decision that influences how students engage with and navigate a course.

This pedagogical perspective has also led researchers to develop tools for evaluating the quality of

syllabi. Slattery and Carlson (2005) emphasize that a syllabus should do more than provide information; it should also engage and motivate students. Building on this idea, Cullen and Harris (2009) developed a rubric for assessing how learner-centred a syllabus is, examining such aspects as the distribution of responsibility between instructor and students, the presentation of course content, and the role of assessment. Later, Palmer et al. (2014) expanded this work by proposing a learning-focused rubric that places greater emphasis on supporting student learning. These studies suggest that the pedagogical value of a syllabus can be systematically evaluated rather than assumed. However, despite the growing research on learner-centred syllabi, similar evaluation frameworks have not yet been applied to syllabi designed and delivered within LMS environments.

Research has also shown that the way a syllabus is written can influence how students experience a course. For example, Harnish and Bridges (2011) found that when the wording of a syllabus was more welcoming and supportive, students perceived the instructor as more approachable, even though the course content remained unchanged. This finding suggests that the syllabus communicates not only information but also the tone and culture of a course. Similarly, research of transparency of syllabi has demonstrated the importance of clearly explaining the purpose of learning activities, what students are expected to do, and how their work will be evaluated. Such clarity has been associated with improved academic performance and has been particularly beneficial for students who may be less familiar with university expectations. Although this work has often focused on assignments and assessment tasks, its principles are equally relevant to the syllabus, which is usually students' first guide to a course.

The syllabus is also the place where the alignment between course aims, learning activities, and assessment becomes visible to students. In this sense, it gives practical expression to the principle of constructive alignment (Biggs, 1996). Recognising this role, Nilson (2007) proposed the use of graphic syllabi and outcomes maps to help students see how different elements of a course are connected. While originally designed for printed documents, these visual approaches anticipate many of the possibilities offered by contemporary learning management systems. The syllabus is not a fixed or purely administrative document. Rather, it continues to evolve in response to new educational challenges and increasingly serves as a space where expectations, responsibilities, and course policies are negotiated and communicated.

The second part of the literature review concerns the platform. Researchers describe the LMS as a platform that integrates course content, communication, assessment, and learning activities (Akram et al., 2021). At the same time, the literature suggests that the effectiveness of an LMS depends less on its technical features than on how it is used by instructors and supported by institutions. Studies conducted in rapidly digitalizing higher education systems indicate that factors such as perceived usefulness, institutional support, and staff training are stronger predictors of successful LMS implementation than technological capability alone (Sulaiman, 2024). As a result, many institutions continue to use their LMS primarily as a repository for course documents rather than as an interactive learning environment.

Explanations of LMS adoption are often based on technology acceptance models. The Technology Acceptance Model (Davis, 1989) highlights perceived usefulness and ease of use, while the Unified Theory of Acceptance and Use of Technology adds factors such as performance expectations, social influence, and institutional support (Venkatesh et al., 2003). Applied to the e-syllabus, these models help explain whether students and instructors consider it useful enough to use regularly. However, they say little about its educational value. This gap is addressed by the Technological Pedagogical Content Knowledge (TPACK) framework, which argues that effective technology use depends on the interaction of technological, pedagogical, and subject knowledge (Mishra & Koehler, 2006). The framework continues to inform research on technology integration in higher education (Kholid et al., 2023; Gonscherowski & Rott, 2025).

The third group of the literature focuses on the Kazakhstani context. Higher education digitalisation in Kazakhstan has progressed rapidly, driven largely by national initiatives. Studies report positive links between digitalisation and educational quality, but also point to continuing challenges, particularly limited digital competence among faculty and resistance to organisational change (Dzhanegizova, 2024). Recent research views digital transformation as more than the adoption of technology, emphasizing changes in institutional structures, strategies, teaching practices, and culture (Zhukabayeva et al., 2025). At the same time, reviews of national digitalisation projects show that research on their pedagogical impact remains relatively limited (Narbaev et al., 2025).

At AITU, existing studies report generally positive outcomes from blended learning and have begun to use platform data to examine teaching and learning processes (Mazhit et al., 2023; Zhanarstanova et al., 2024). However, interest in learning analytics is still emerging, and little attention has been paid to how courses are actually presented to students through the LMS.

Taken together, these three groups of research point to a common gap. Studies on syllabi emphasize their pedagogical importance, while research on LMSs focuses mainly on technology adoption and use. In Kazakhstan, attention has largely been directed towards digital platforms and educational digitalisation. Yet the e-syllabus remains largely unexplored in all three areas. Although it is a standard feature of virtually every course, little research has examined how it is designed, used, or experienced by students and instructors.

### Conceptual Framework

To understand the e-syllabus as a teaching tool rather than an administrative document, this study draws on three perspectives. Constructive alignment explains how different elements of a course should fit together, but it does not explain whether students actually use the syllabus. Technology acceptance models focus on use and adoption, but pay little attention to pedagogy. The transparency framework focuses on clarity and student understanding, but does not address either alignment or use.

From the perspective of constructive alignment, a syllabus should clearly connect learning outcomes, learning activities, and assessment (Biggs, 1996). The transparency framework highlights the importance of explaining the purpose of the course, student responsibilities, and assessment criteria in language that is clear and accessible (Winkelmes et al., 2016). Research also shows that a welcoming tone can positively influence students' perceptions of a course and its instructor (Harnish & Bridges, 2011). Finally, technology acceptance models and the TPACK framework help explain whether instructors and students find the e-syllabus useful enough to engage with regularly (Davis, 1989; Venkatesh et al., 2003; Mishra & Koehler, 2006).

Based on these perspectives, the e-syllabus can be understood through three interconnected dimensions: design, communication, and use. The design dimension concerns how course outcomes, activities, and assessments are organised and connected. The communication dimension focuses on the clarity, transparency, and tone of the document. The use dimension concerns whether students and instructors actually access and engage with it. The LMS provides the environment in which all three dimensions operate, offering opportunities for linking resources, updating information, and tracking engagement.

These dimensions are closely related. A syllabus that lacks clear alignment cannot be improved simply through friendly language, while a well-designed syllabus has little educational value if students do not use it. At the same time, patterns of use can demonstrate strengths and weaknesses in design and communication. For this reason, the pedagogical quality of an e-syllabus should be considered as the interaction of design, communication, and use rather than as separate elements. This framework guides the analysis presented in the following sections.

**Table 1.**

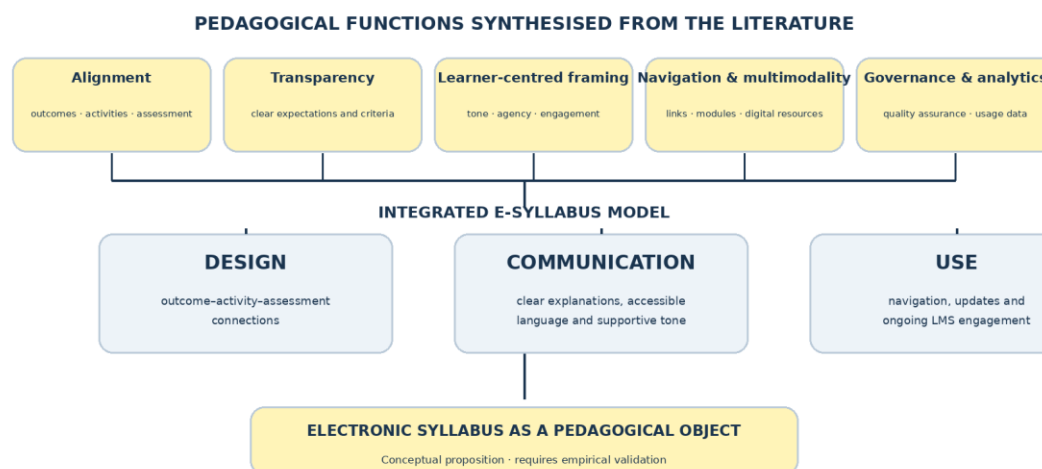
*Conceptual dimensions of the electronic syllabus*

| Dimension     | Focus identified in the literature                                     | LMS-related manifestation                                         |
|---------------|------------------------------------------------------------------------|-------------------------------------------------------------------|
| Design        | Constructive alignment of learning outcomes, activities and assessment | Links among outcomes, course materials, assignments and rubrics   |
| Communication | Transparency of expectations and learner-centred tone                  | Accessible policies, clear language, guidance and regular updates |
| Use           | Access and meaningful engagement throughout the course                 | Navigation, interactivity and evidence of student/instructor use  |

*Source: authors' conceptual synthesis of the literature reviewed in this article.*

**Figure 1.**

*Conceptual synthesis of the electronic syllabus as a pedagogical object.*



*Note. The five thematic clusters are organised under three interrelated dimensions. The proposed relationships are interpretive and have not been empirically tested.*

## Methodology

### Research design

This study adopts an integrative literature review to bring together theoretical and empirical scholarship from three related fields: the syllabus as a pedagogical document, learning management systems and technology integration, and digital transformation in Kazakhstani higher education. An integrative approach is appropriate because the literature addresses these dimensions through different disciplinary and methodological perspectives. The review seeks to develop a conceptual understanding of the electronic syllabus as a pedagogical object rather than estimate an intervention effect or claim exhaustive coverage of all published studies (Torraco, 2005; Grant & Booth, 2009; Snyder, 2019). Astana IT University is considered as an illustrative institutional context on the basis of published and institutional sources; no primary research involving AITU students, staff or course documents was conducted.

### Literature search and selection

As documented in the source manuscript, literature was identified through Scopus, Web of Science, ERIC and Google Scholar, complemented by targeted searches of regional sources and relevant reference lists. Search concepts combined terms relating to the syllabus or electronic syllabus, learning management systems and pedagogy. The material considered included peer-reviewed publications, scholarly books, and institutional and policy documents relevant to syllabi, LMS use in higher education or digital transformation in Kazakhstan. Foundational theoretical contributions were considered alongside empirical research, with priority given to recent publications. Materials addressing only technical aspects of platforms, non-scholarly sources and texts unavailable in full were excluded. These procedures reflect the selection approach described by the authors and should not be interpreted as a fully documented systematic search.

### Data extraction and thematic synthesis

The selected publications were examined with reference to their research focus, theoretical or methodological approach, principal findings and relevance to the pedagogical functions of the syllabus. The review applies a thematic-synthesis approach informed by Braun and Clarke (2006): related findings were compared across the three literature streams, recurring themes were identified and thematically related findings were brought together. This synthesis is presented through five pedagogical clusters: (1) alignment of learning outcomes, activities and assessment; (2) transparency of expectations; (3) learner-centred framing and tone; (4) structure, navigation and multimodality; and (5) governance, standardisation and analytics. The clusters provide the basis for interpreting the three interconnected dimensions of the proposed conceptual model:

design, communication and use. This is an interpretive synthesis of the cited scholarship, not a statistical aggregation of study findings.

**Table 2.**  
*Selected literature underpinning the integrative synthesis*

| Study/source                                                           | Focus or approach                                                 | Contribution to this review                                                                                                        |
|------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Parkes & Harris (2002)                                                 | Conceptual discussion of syllabus purposes                        | Record, contract and cognitive-map functions; foundational framing of the syllabus as more than a course outline.                  |
| Biggs (1996)                                                           | Constructive alignment in higher education                        | Links intended learning outcomes, learning activities and assessment; informs the design dimension.                                |
| Cullen & Harris (2009); Palmer et al. (2014)                           | Rubric-based examination of course syllabi                        | Offers criteria for learner-centred and learning-focused syllabus design.                                                          |
| Harnish & Bridges (2011)                                               | Study of syllabus tone and student perceptions                    | Supports the relevance of welcoming language for perceived instructor approachability.                                             |
| Winkelmes et al. (2016)                                                | Teaching intervention concerning transparency                     | Provides a basis for examining clarity of purposes, tasks and assessment expectations.                                             |
| Davis (1989); Venkatesh et al. (2003)                                  | Technology acceptance models                                      | Highlights perceived usefulness and adoption, relevant to the use dimension.                                                       |
| Mishra & Koehler (2006)                                                | TPACK conceptual framework                                        | Connects technology use with pedagogical and content knowledge.                                                                    |
| Turnbull et al. (2022); Akram et al. (2021)                            | LMS policies and technology integration                           | Provides context for the digital environment in which an electronic syllabus is delivered.                                         |
| Eslami et al. (2024)                                                   | Empirical study of syllabus learner-centredness                   | Links syllabus characteristics to differences in student outcomes in STEM higher education.                                        |
| Dzhanegizova (2024); Mazhit et al. (2023); Zhanarstanova et al. (2024) | Kazakhstan digital transformation, blended learning and analytics | Supplies national and AITU-related context; does not constitute direct evidence on AITU e-syllabi.                                 |
| Gauthier et al. (2025/2026)                                            | Scoping review of syllabus uses                                   | Identifies tensions between administrative, contractual and pedagogical roles; bibliographic year/version requires reconciliation. |

*Source: authors' synthesis of the studies cited in the manuscript; entries are selected illustrative sources, not a complete inventory of screened records.*

## Findings

The analysis grouped the literature into five clusters. That the syllabus sustains several competing uses at once is confirmed by a recent scoping review, which finds the document pulled between administrative, contractual and pedagogical functions across the literature as a whole (Gauthier et al., 2025). The first two belong to the design and communication dimensions; the third develops the communication dimension; the fourth describes what the platform adds; the fifth a dimension largely new to the digital form. Together they answer RQ1 and RQ2.

The literature consistently shows that the syllabus is more than an administrative document. Its primary pedagogical role is to make the structure of a course visible by linking learning outcomes, learning activities, and assessment (Biggs, 1996). In an LMS, these relationships can be made explicit through links between outcomes, assignments, rubrics, and gradebook elements. However, this potential depends on design. Studies using syllabus evaluation rubrics have found that many syllabi still lack clear connections between outcomes, learning activities, and assessment (Cullen & Harris, 2009; Palmer et al., 2014; Serbati et al., 2022). The literature therefore suggests that digital delivery alone does not improve alignment; effective use requires the technological and pedagogical capabilities described by TPACK (Mishra & Koehler, 2006). Research on

electronic syllabi in Kazakhstan remains absent.

A second theme concerns transparency. Making course purposes, tasks, and assessment criteria explicit improves student learning and particularly benefits those who are less familiar with academic expectations (Winkelmes et al., 2016). LMS platforms can support transparency by placing relevant information alongside learning activities and making it available throughout the semester. At the same time, digital environments can create new challenges when information is dispersed across multiple pages or modules. Transparency therefore depends not only on what information is provided but also on how it is organised. This issue is particularly relevant in multilingual educational settings, where the clarity of course information can directly affect students' access to learning.

The literature also highlights the importance of learner-centred approach. Rather than serving only as a record or contract, the syllabus can shape students' perceptions of the course and instructor. More supportive and learner-centred language has been associated with greater approachability and more positive learning experiences (Harnish & Bridges, 2011). Recent evidence further suggests that learner-centred syllabi may contribute to reducing achievement gaps among different student groups (Eslami et al., 2024). Within an LMS, however, institutional templates can create tension between consistency and personalisation. While standardisation of syllabi supports quality assurance, it can also limit the instructor's voice and reduce opportunities for meaningful engagement (Judson, 2025).

The electronic syllabus differs most clearly from its printed predecessor through its capacity for navigation, interactivity, and multimodal presentation. Unlike a static document, it can incorporate hyperlinks, embedded resources, visual elements, and continual updates. These features can strengthen alignment, transparency, and learner engagement, while also supporting broader course design principles associated with effective online learning (Nilson, 2007; Khodabandelou et al., 2025). As a result, the pedagogical potential of the electronic syllabus often remains not complete.

Finally, the literature points to a growing governance function of the electronic syllabus. LMS-based syllabi can be standardised, monitored, and incorporated into quality assurance processes. They can also generate data about student engagement and access, an area that has begun to attract attention in Kazakhstan (Dzhanegizova, 2024; Zhanarstanova et al., 2024). While standardisation can improve consistency across courses, excessive emphasis on compliance may weaken the syllabus's pedagogical functions. In the terms of Parkes and Harris (2002), digital systems often strengthen the syllabus as a record and a contract, while giving less attention to its role as a learning tool. This tension is becoming more important as institutions increasingly use syllabi to communicate policies on emerging issues such as generative artificial intelligence (An et al., 2025).

Taken together, these findings suggest that the pedagogical development of an electronic syllabus involves more than transferring a traditional document into an LMS. An effective e-syllabus aligns outcomes, activities, and assessment; communicates expectations clearly; supports learner engagement; uses the interactive features of the platform; and balances institutional requirements with educational goals. Across all three research questions, one conclusion emerges consistently: although the e-syllabus has become a routine component of digital higher education, it remains underexplored.

**Table 3.**

*Summary of the five pedagogical clusters emerging from the integrative synthesis*

| Cluster                      | Interpretation based on the reviewed literature                                 |
|------------------------------|---------------------------------------------------------------------------------|
| Alignment                    | Explicit connections among outcomes, activities, assessment and rubrics.        |
| Transparency                 | Accessible expectations, assessment criteria and course policies.               |
| Learner-centred framing      | Supportive tone, student agency and approaches to the instructor.               |
| Navigation and multimodality | LMS links, modules, visuals, embedded resources and accessible updates.         |
| Governance and analytics     | Standardised templates, quality assurance, access patterns and engagement data. |

*Source: synthesis of the five clusters described in the Findings section.*

## **Discussion**

This review addressed three questions concerning the electronic syllabus as a pedagogical object. First, the literature consistently characterises the syllabus as more than an administrative document. Its key pedagogical functions are to communicate course structure, clarify expectations, support student engagement, and connect learning outcomes, activities, and assessment (Biggs, 1996; Winkelmes et al., 2016; Weimer, 2013). These functions were identified well before the widespread use of learning management systems and remain central to syllabus design today.

Second, the findings show that an LMS can either strengthen or weaken these functions. When designed intentionally, electronic syllabi can make course structures more visible, provide easier access to information, support continuous communication, and connect students directly to learning activities and assessment. However, the literature suggests that these benefits do not result from technology alone. Their effectiveness depends on pedagogical design, instructor capability, and institutional support (Mishra & Koehler, 2006; Davis, 1989; Venkatesh et al., 2003). In many cases, LMS platforms continue to be used primarily as repositories for documents rather than as interactive learning environments (Akram et al., 2021).

The main contribution of this review is a shift in perspective. Most institutional approaches evaluate syllabi in terms of completeness, compliance, and consistency. The literature reviewed here suggests that the electronic syllabus should instead be understood as a teaching tool. From this perspective, its quality depends not only on the information it contains but also on how effectively it supports learning through alignment, transparency, learner-centred communication, and navigation. This reframing helps explain why the e-syllabus has received limited attention in research despite being present in virtually every course.

The findings also have implications for policy and practice. For instructional designers and quality assurance units, LMS templates should support pedagogical goals rather than simply ensure compliance. Clear connections between learning outcomes, activities, and assessment, together with clear assessment criteria and learner-friendly communication, should be built into course templates from the outset. The literature from Kazakhstan similarly suggests that successful digitalisation depends not only on technological infrastructure but also on educators' ability to use technology for pedagogical purposes (Dzhanegizova, 2024; Abiltayeva et al., 2025; Abdigapbarova et al., 2025).

Finally, the review identifies a significant research gap. Although digitalisation has become a major priority in higher education, the electronic syllabus remains largely absent from the literature. This gap is particularly evident in Kazakhstan, where research has focused primarily on platform adoption, online learning, and learning analytics (Narbaev et al., 2025; Zhanarstanova et al., 2024). Future studies should therefore examine LMS-hosted syllabi directly, exploring their design, use, and impact on students' learning experiences. For institutions such as AITU, the electronic syllabus offers a practical way to investigate how pedagogical quality is realised within digital learning environments.

## **Conclusion**

Although the syllabus is a standard feature of higher education, the electronic syllabus remains surprisingly underexplored in research. This review has shown that the syllabus serves important pedagogical functions: it helps students understand how a course is organized, clarifies expectations, and shapes the learning relationship between instructor and student. When hosted within a learning management system, these functions can be strengthened through better connections between outcomes, activities, assessment, and learning resources. At the same time, digital delivery introduces new challenges, including fragmented information, excessive standardization, and a greater emphasis on compliance than on learning.

The review also suggests that the value of an electronic syllabus depends less on the technology itself than on how it is designed and used. A well-designed e-syllabus can support alignment, transparency, student engagement, and navigation throughout the course. For this reason, the electronic syllabus should be viewed as a pedagogical tool rather than simply an administrative requirement.

The challenge is no longer whether institutions use digital platforms, but how effectively those platforms support learning. In this context, the electronic syllabus offers a useful lens through which to examine the pedagogical quality of digital education. As a digitally oriented institution, Astana IT University provides a particularly relevant setting for future research on how e-syllabi are designed, used, and experienced by students and instructors. Such research would help address a significant gap in both the regional and

international literature.

### **Finding Information**

This research paper is carried out within the Astana IT University research funding 2025 scholarship. The research title: “An Integrated System for Correlating Syllabi with Library Resources to Optimise Book Availability”.

### **Conflict of Interest Statement**

The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

### **Author Contributions**

All authors contributed equally to all stages of the research, including conceptualization, methodology, data analysis, manuscript preparation, review, and editing. All authors have read and approved the final version of the manuscript.

### **Declaration of the Use of AI**

Generative AI tools were used to assist with the formatting of citations and reference list.

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**Information about authors:**

**Zhibek Tleshova** – Candidate of Pedagogical Sciences, Associate Professor, Director of the School of General Education Disciplines, Astana IT University, Astana, Republic of Kazakhstan, [zhibek.tleshova@astanait.edu.kz](mailto:zhibek.tleshova@astanait.edu.kz), ORCID: 0000-0001-5095-5436 (*corresponding author*).

**Nurgissa Kabarbek** – Astana IT University, Astana, Republic of Kazakhstan, [255390@astanait.edu.kz](mailto:255390@astanait.edu.kz), ORCID: 0009-0002-9961-7176.

**Bexultan Turgunov** – Astana IT University, Astana, Republic of Kazakhstan, [b.turgunov@astanait.edu.kz](mailto:b.turgunov@astanait.edu.kz), ORCID: 0009-0002-8028-4359.

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