DOI:10.59787/2413-5488-2025-49-1-115-128

[1]Zhibek Tleshova, [1]Nursulu Belessova, [1]Anel Nurkanat, [1]Assel Issakhanova, [1]Aigul Zhanadilova

[1]Astana IT University Astana, Kazakhstan

SYLLABUS DEVELOPMENT FOR TEACHER INPUT IN STUDENT-CENTERED LEARNING

Abstract: Modern didactic practice called Student-Centered Learning (SCL) promotes a learning process that is flexible, adaptable to individual student needs. This paper offers an examination of general education cycle discipline syllabi within the framework of SCL, focusing on the customization of syllabi to meet student needs and tracing their developmental trajectory. Employing both bibliographic and content analysis methodologies, this study illuminates the distinctive features and evolutionary patterns of SCL syllabi. Notably, it identifies a wide array of assignment formats and types evident in syllabi sourced from the Department of General Education Disciplines. The syllabi are a key document in discipline-based teaching, regarding instructions, course content, and student teaching and learning dynamics. The findings of the study help deepen our comprehension of syllabus evolution within the SCL paradigm and provide valuable insights for educational practitioners and curriculum developers.

Key words: student-centered learning, teacher input, a syllabus design, student engagement, meaningful learning, learning outcomes.

Introduction

Considering student-centered learning in syllabus development is essential, particularly in the era of Industry 4.0, where higher education is undergoing significant transformations through the integration of digital technologies. This shift is evident in the use of online resources, hybrid teaching approaches, assessment systems, and the incorporation of artificial intelligence and virtual reality. A key aspect of this transformation is syllabus development for teacher input in student-centered learning, which ensures how educators contribute to shaping the learning experience through a student-centered syllabus. The emphasis on student-centered education, where individualized programs and active student engagement in the learning process have become foundational to modern education.

Syllabi serve as essential tools that guide both instructors and students, outlining course policies, the achievement of learning outcomes, and competence development within a given course. At the end of each academic year, the Department of General Education Discipline cycle (hereinafter - GEDC) at Astana IT University (hereinafter - AITU) reviews the syllabi based on instructor feedback, student feedback, and students' performance, including failures and achievements. Despite these efforts, the development of syllabi remains a critical aspect that needs deeper examination, particularly in terms of how effectively it provides guidance for both instructors and students from the perspective of student-centered learning.

This paradigm shift in higher education towards student-centered learning prioritizes learner needs and experiences over teacher input in the educational process. This shift is closely examined in the syllabus design of GEDC at AITU. The development of course syllabi at AITU follows guidelines outlined in internal documents, educational program curriculums, national qualification frameworks, and other related official documents. The annual review of the GEDC syllabi is also necessary to address student needs and learning experiences, assess the

availability of educational resources, evaluate labor market demands, and consider time constraints for both students and teachers.

The syllabi for the GEDC, designed for future IT specialists, aim to delineate course content, learning activities, assignments, and grading policies in a manner that prioritizes student-centered learning experiences over traditional teacher-centered approaches. Still, of course, the reality is that student responses to these new approaches are not equal. Some students adapt to this style eagerly and show positive results in learning outcomes and evaluations; and other students struggle with time management and thus may do poorly, or even fail the course. These latter students find the shift in responsibility within the learning process to be a serious challenge. For instructors and administrators, it is essential to constructively align the various components of the course according to individual student needs, thereby offering all students the best opportunity to successfully navigate the program within this new educational paradigm. This approach aims to shift the focus of students from merely achieving grades to maintaining their stipend, towards prioritizing the learning experience and academic achievement. Considering the goals of higher education such as developing student skills and abilities, developing critical thinking, the ability to analyze and synthesize information, problem-solving skills, effective communication, and the capacity for independent learning and adaptability in changing circumstances, students always find their short-cut way to pass the course examinations.

Literature Review

In contemporary educational discourse, the concept of a "student-centered approach" or student-centered instruction has gained widespread currency, indicating a significant departure from the traditional teacher-centric model. Typically, conventional education focused on the teacher entails the dissemination of knowledge and delivery of information to meet syllabus requirements, often adhering strictly to the prescribed curriculum. Communication tends to be one-way, with limited efforts made to lead to meaningful interaction with students (Astana IT University, 2022).

In this context, students are portrayed as passive recipients of information, consistently instructed on what they must know and do. The possession of knowledge is attributed solely to teachers, leaving students with minimal involvement in its acquisition. This approach frequently impedes students' capacity to take charge of their own learning and engage in independent study (Degago, 2015).

In a student-centered approach, students take on a more active role in shaping their own learning trajectory by identifying promising skills and interests, thus contributing to their becoming sought-after professionals. Learners have diverse needs, interests, and levels of preparation. By considering individual student needs and preferences in curriculum development, it is possible to create a more engaging and stimulating academic environment, which enhances student motivation to learn (Tang, 2023). In this regard, developing syllabi and engaging learners in this process, as well as adjusting parameters based on criteria, is a relevant aspect of educational activities.

Student-centered learning in higher education is an approach aimed at overcoming some of the challenges associated with traditional forms of education. It entails achieving learning outcomes based on the needs of the learner, rather than solely relying on the input of the instructor. According to the European Higher Education Area (Lojdová, 2019), this approach significantly influences the design, flexibility, and interactivity of educational programs, course content, and the overall learning process. Today, this approach is widely used in universities worldwide.

This approach is designed to ensure inclusive learning, especially for those with fewer opportunities to acquire knowledge and skills. For example, students who are concurrently

employed, students of different age groups, etc. In a student-centered approach, the educational process integrates the knowledge, skills, and competencies that are in demand in the labor market. By considering the interests and goals of students, educational programs can be more closely aligned with the requirements of the modern job market, helping graduates to be more competitive.

Students learning through a student-centered approach often develop the ability to analyze their knowledge and skills, assess their professional needs, and set goals for future development. The role of mentoring by instructors in this context is a key factor, as the principle of reflection requires continuous analysis by the instructor of the dynamics and further progress of the learner and the group.

The student-centered approach allows for adapting educational programs and syllabi to the individual needs of each learner, ensuring more effective learning. Thus, the student-centered approach in education enables better preparation of students for the modern job market by providing them with the necessary knowledge, skills, and competencies for a successful professional career.

In 2020, the report Mapping and Analysis of SCLT practices: Usable knowledge to support more inclusive, high-quality higher education (Zerovnik, 2013) was published, examining the student-centered approach from various perspectives. The analysis demonstrated that for the successful implementation of a student-centered teaching and learning ecosystem in universities, the ecosystem must include 10 key elements:

1. Policies, rules, and regulations supporting learner-centered teaching and learning.
2. Learner-centered curriculum and pedagogy.
3. Assessment processes involving learners.
4. Flexible learning methods.
5. Student support.
6. Pedagogical support.
7. Active learning spaces and academic libraries.
8. Learning technology infrastructure.
9. Community learning connections and partnerships.
10. Quality assurance supporting learner-centered teaching and learning.

The report outlines the role of each item, with collective curriculum development playing a dominant role. Course and curriculum development involves processes where responsible instructors determine the expected learning outcomes within the course, how they align and contribute to the overall goals of the curriculum and the diversity of the proposed course, and how these learning outcomes can be achieved through pedagogy and assessment processes.

In efforts to enhance student engagement and empowerment in the learning process, the student-centered approach has gained prominence over the teacher-centered approach. Rooted in constructivism, the student-centered approach posits that learners actively construct meaning by connecting current information with prior knowledge. Unlike the teacher-centered model, which emphasizes knowledge transmission from teachers to students, student-centered learning shifts the focus of knowledge acquisition to the students themselves, thereby entrusting them with the responsibility of acquiring and interpreting information, while teachers serve as facilitators (Astana IT University, 2025). Ideally, students assume control of their learning, shaping the content and trajectory of their educational journey within the student-centered framework. However, in practice, teacher-centered and student-centered approaches are not mutually exclusive but rather represent opposite ends of a spectrum, with various activities existing along the continuum between them. Prior to fully implementing student-centered learning, teachers must progressively facilitate the transition, while also addressing students' preconceptions about learning. This is particularly relevant in regions where deference to authority figures, such as teachers, remains prevalent. Additionally, there exist intermediate

forms of knowledge transmission that go beyond mere adherence to syllabi, involving the presentation of coherent information to students before guiding them through the process of learning and applying and synthesizing knowledge (Tang, 2023).

Research by Richmond and colleagues (Richmond, 2018) indicates that student-centered curriculum plans contribute to improving students' perceptions of teacher effectiveness and strengthening the connection between them. The authors suggest making curriculum plans more student-centered by establishing commonality in the curriculum and providing opportunities for students to collaborate and discuss assignments. It is also necessary to balance power and control between students and teachers by involving students in the development of policies and procedures. Additionally, diverse assessment mechanisms should be developed, and students should be provided with opportunities to revise assignments to create a more dynamic and flexible learning environment.

Over four years, Vlasenko and his colleagues (Vlasenko, 2022) conducted an experiment involving two groups of mathematics graduate students. One group was offered a traditional content-focused curriculum plan for a training research seminar in mathematical analysis, while the second group was provided with a student-oriented curriculum plan developed in accordance with a personalized approach to teaching and learning. Analysis of this experiment's results confirmed the effectiveness of creating a learning environment defined by emotional aspects such as coherence, acceptance, and empathy.

They note that the development of a curriculum plan oriented towards students' needs and interests stimulates their motivation and active participation in the learning process. Such an approach to teaching contributes to the formation of a favorable educational environment in which students feel confident and interested in the course material. They also note that student-centered learning promotes the development of students' personal qualities such as responsibility, autonomy, and self-confidence.

In the development of syllabi and curricula, due consideration must be given to linguistic elements, as they serve as pivotal determinants for student motivation. According to Haiying Liang syllabuses written with a dominant sense of certainty and authority may create unequal power dynamics between teachers and students, potentially hindering participation and critical thinking (Haiying, 2023). To promote learner-centeredness, educators should reflect on syllabus design, fostering inclusive and participatory environments that empower students, enhance autonomy, and encourage critical engagement in their learning process.

For student-centered learning to be successful, it must:

- Be part of the university's academic goal.
- Contribute to changing the culture within the university (Adipat, 2021).

The student-centered approach, including active learning and flexibility, can also be organized only if students take responsibility and initiative and become active participants, and the our university is attempting to provide an environment conducive to SCL approach. To understand to what extend the university faculty is fulfilling SCL designed syllabi, we have the following aims for this study:

- To find out the usage of student-centered learning and its parallel or derivative phrases in scholarly papers related to syllabi design and to find out how the SLC has been evolving in scholarly articles
- How the GEDC syllabi are designed to provide course information
- If the GEDC syllabi reflect student commitment in learning

Research methods

In this study, we employed bibliometric analysis (Sugeng, 2018) of articles using the VOSviewer software and content analysis of syllabi from the general education department at AITU. For the bibliometric analysis we used "Student-oriented learning" ,"Student-centered

learning", "Student-centered approach" ,"Student-centered learning and teaching" in a query string (ALL ("student oriented learning") OR ALL ("student centered learning") OR ALL ("student centered approach") OR ALL ("student centered learning and teaching")) AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "PSYC")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE , "English")). The study results are represented in the visuals of the structure and classification based on the analysis (Gutiérrez-Salcedo et al. 2018). This helps us to see a systematic and comprehensive understanding of the SLC structure, its evolution in the filed of education, identifying the clusters that form divers aspects of this approach, to see trends (Aria and Cuccurullo, 2017; Mukherjee et al., 2022b). We chose the period 1954-2024 as the term first emerged in papers. And we limited our study on issues of article type in English. Our search dates to 16 April 2024.

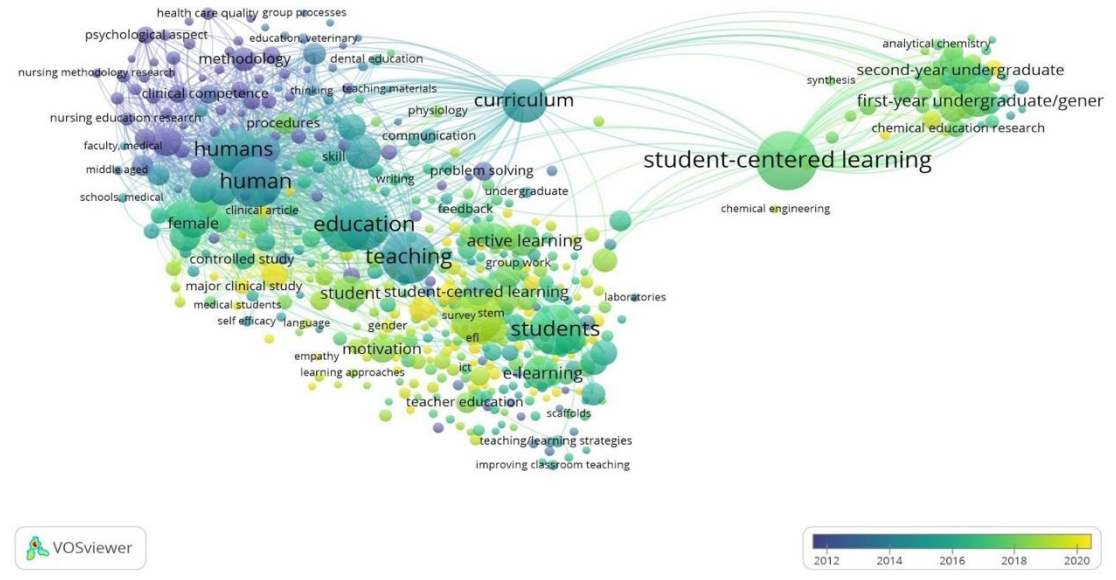
For the syllabus content analysis, we studied GEDC syllabi. We studied each syllabus separately. We excluded comparing or finding any weaknesses or mistakes. We focused on finding out components of the syllabi and the information that address SCL.

Setting

Bibliometric analysis was conducted using the VOSviewer software and this software enables cluster and network analysis of literature relevant to the research subject. To assess the frequency of the term "student-oriented learning" in scholarly works, a sample (n=7737) was collected from the Scopus database (www.scopus.com).

Figure 1

Bibliometric analysis with VosViewer (by year)



The main keywords for the search included "student-oriented learning", "student-centered learning", "student-centered approach", and "student-centered learning and teaching" (the following query was used for analysis: "student-oriented learning", "student-centered

learning", "student-centered approach", "student-centered learning and teaching", as these terms are interchangeable).

Figure 2.
Bibliometric analysis with VosViewer (by claster)

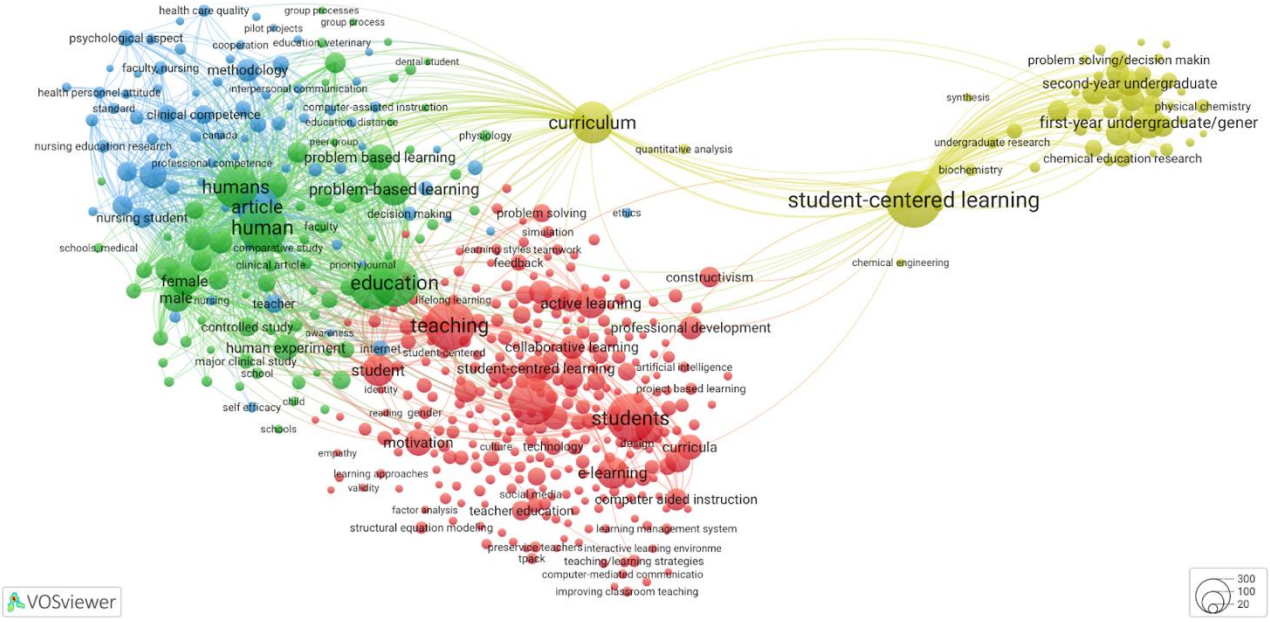
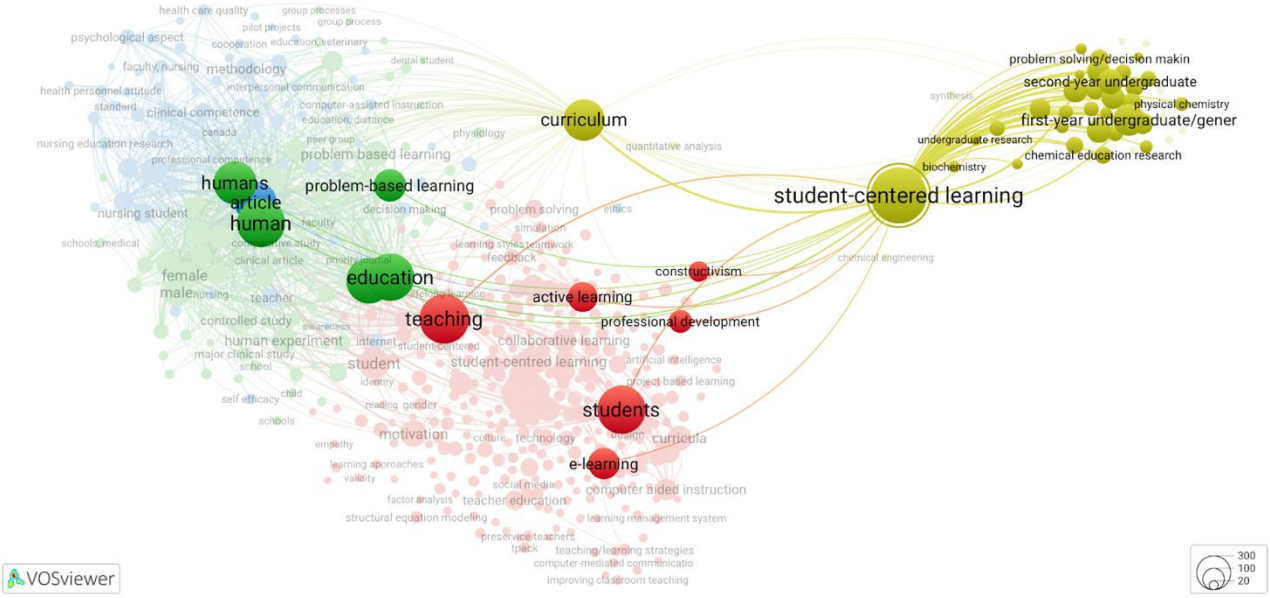


Figure 3.
Bibliometric analysis with VosViewer (by key word "student-centered learning")



During the analysis of this database, works related to this topic were identified. Research on this topic has become more active from 2012 to the present (see Figure 1). It is particularly notable that from 2016 to the present, the number of publications related to this topic has been increasing, reaching a peak in 2022-2023. This once again confirms the importance and relevance of this topic. Additionally, this topic is divided into four clusters (see Figure 2), with "student-centered learning" and "curriculum" being at the center of one of the clusters (see Figure 3).

The content study of syllabi was conducted at Astana IT University and was based on the general education programs at the undergraduate level, which include 10 courses: Philosophy, History of Kazakhstan, Sociology, Psychology, Cultural Studies, Political Science, Russian Language, Kazakh Language, English Language, and Academic Writing. While the university offers strong graduate and postgraduate programs, the majority of students—5,263—are enrolled at the undergraduate level.

Regardless of their chosen major, all students are required to complete 10 general education courses. The current view of general education is outlined in the *Educational Standards* for undergraduate students as follows:

The compulsory component courses of the general education cycle:

- Aim to shape the worldview, civic, and moral positions of future professionals, ensuring their competitiveness through proficiency in information and communication technologies, the ability to communicate effectively in Kazakh, Russian, and foreign languages, and a commitment to a healthy lifestyle, self-improvement, and professional success.
- Develop a set of key competencies that contribute to the social and cultural development of an individual based on their worldview, civic, and moral values.
- Enhance interpersonal, social, and professional communication skills in Kazakh, Russian, and foreign languages.
- Promote digital literacy by enabling students to master and apply modern information and communication technologies across various aspects of their life and career.
- Foster self-development skills and lifelong learning abilities.
- Shape individuals who are adaptable to the modern world, capable of critical thinking, and committed to physical self-improvement (Ministry of Education of the Republic of Kazakhstan, 2022).

Subject Matter for Analysis

The units of analysis were course syllabi (n = 10) from the 2023-2024 academic year, covering undergraduate first-, second-, and third-year courses.

A standardized syllabus was used across all sections of each course. Due to the descriptive nature of this study, there was no need to balance the number of syllabi analyzed for individual courses or general education areas. Ultimately, 100% of general education courses were included in the analysis.

Findings

A bibliometric analysis conducted using VOSviewer (Figure 1) identifies key trends in research on student-centered learning and situates the topic *Syllabus Development for Teacher Input in Student-Centered Learning* within the academic discourse. The concept map illustrates the evolution of scholarly interest, shifting from the dominance of traditional methodological approaches (2012–2015) to a growing emphasis on active learning, student engagement, and need-based curricula (2018–2020). The nodes *student-centered learning*, *curriculum*, *teaching*, *education*, and *active learning* occupy a central position within the research network,

underscoring the necessity of rethinking the role of the teacher—not only as a facilitator but also as an architect of the educational process.

A further analysis focused on *student-centered learning* (Figure 3) reinforces its central role in contemporary educational research, integrating themes such as *curriculum*, *problem-solving*, *constructivism*, *active learning*, and *professional development*. The visualization of network connections highlights the deep integration of SCL into curriculum development strategies aimed at enhancing student autonomy. Its associations with the terms *first-year undergraduate*, *second-year undergraduate*, and *chemical education research* indicate the widespread adoption of this paradigm in higher education, particularly in the natural sciences. The high density of connections among the nodes *students*, *e-learning*, and *motivation* further emphasizes the necessity of revising traditional pedagogical models and incorporating digital educational technologies. These findings underscore the significance of the present study, as they highlight the teacher's role as a pivotal agent in the transformation of educational practices, bridging the gap between conventional teaching methods and contemporary educational trends.

As a first step in our syllabus content study, we grouped the checklist characteristics into common themes that emerged as a result of our content analysis.

- The identified themes included:
- Acknowledgment of General Education Guidelines
- Basic Course Information
- Required Reading
- Course Content
- Use of Technology
- Topics Related to Personal Development
- Description of Assignment Completion Opportunities
- Instructor Contact Information

Basic Information in Syllabi

In the initial phase of the analysis, we identified the key information that instructors provided to students in the course syllabi.

Most syllabi included details about the instructor, such as:

- Office location
- Instructor’s email address
- Full name of the instructor

However, only a few syllabi specified the major or specialization for which the syllabus was designed.

A related finding was the limited emphasis on the use of technology in the educational process. While the descriptive sections of the syllabi mentioned opportunities to use new technologies, their actual application in assignments and coursework was not explicitly stated.

Table 1.
Syllabi components

Theme	Type	Percentage
Course Format	online lectures	90%
	field trips and demonstrations	10%
Assessment Practices	traditional assessment methods	40%
	non-traditional assessment methods	60%
Alignment with General Education Guidelines	course content	100%
	teaching methods	20%
Student Responsibility for Learning	academic policies	30%

Course Format

The data indicate that courses primarily relied on online lectures, which were recorded by instructors in the university's studio and updated one or, in some cases, two years ago (Table 1).

Field trips and demonstrations of subject-specific applications during practical sessions with students were rarely used.

Assessment Practices

Most syllabi included information about the grading system.

Non-traditional assessment methods were predominant, such as:

- Oral presentations
- Project-based activities
- Group-based practical work

These were included in the majority of syllabi.

Less than half of the syllabi incorporated written assignments or accounted for attendance and classroom participation in the grading criteria.

Formal multiple-choice (MC) exams were the most common form of assessment. Assignments requiring logical and analytical thinking were mainly found only in language course syllabi.

Testing was more frequently used in social science courses, though this does not necessarily mean that these exam formats are ineffective. Rather, they reflect the potential for students to rely on rote memorization or random guessing in their responses.

Alignment with General Education Guidelines

One of the primary objectives of this study was to determine the extent to which syllabi referenced the general education guidelines.

Each field category contained three core principles, some of which included multiple concepts. To facilitate analysis, we divided these principles into distinct elements to examine their presence in course syllabi more precisely.

The results showed that, across all syllabi, the most frequently mentioned principle was "course content".

The least frequently mentioned principles were "teaching methods".

However, this does not imply that students are not informed about the general education guidelines—rather, this information was simply absent from the syllabi.

Student Responsibility for Learning

Another significant aspect of our analysis focused on student responsibility for their learning process.

A surprising finding was that only a small portion of syllabi included information regarding academic conduct policies, despite the importance of this issue in university settings.

Discussion

The General Education Department at AITU delivers following disciplines: History of Kazakhstan, Philosophy, socio-political modules (Sociology, Psychology, Political science, Cultural studies), language disciplines (Kazakh, Russian, English, German and Chinese languages, Academic writing and Physical education. In our study we eliminated Physical education course as it aims training of students through physical activities.

The instructors of these disciplines in developing their syllabus are oriented towards a student-centered approach. The GEDC course syllabi primarily consists of lectures, practical sessions, student work with instructors and student self-study.

The lectures for the disciplines are organized on the e-learning platform - Digital Institute of Continuing Education, Astana IT University, which provides students with the opportunity to view lectures independently and revisit them as desired. The main goal of the creation of the Digital Institute of Continuing Education is the implementation of continuing education in the collaboration of formal and non–formal education at AITU. One of the key tools of the continuing education system will be mechanisms for recognizing the results of both non-formal education and skills and competencies of the previous level of education, as well as the procedure for confirming compliance and assigning qualifications. The creation of a Digital Institute of Continuing Education is aimed at implementing this idea in the IT field.

According to the academic policy of AITU, conducting a seminar (practice) session involves the consolidation of student skills in using theoretical knowledge in relation to the specifics of the discipline being studied. The topics of the seminars are problematic topics, allowing students to master the skills of conducting discussions and scientific polemics. An active seminar participant is a student who demonstrates a high understanding and comprehension of theoretical material.

According to the results of the content analysis, it was revealed that the syllabi of the Department of General Education disciplines include the following methods of conducting practical classes and forms of conducting independent work of students:

- Project-based learning;
- Presentation-based learning;
- Essay-based learning;
- Game-based learning;
- Problem-based discussions and debates.

One approach to fostering student-centred teaching and learning involves the adoption of project-based learning (PBL). Recently, there has been increased attention on PBL and other student-centred methodologies aimed at cultivating profound learning and the acquisition of skills essential for success in higher education, career paths, and civic engagement. While such approaches have faced criticism in the past, particularly from proponents of traditional subject-based content knowledge, project-based learning stands out as a meaningful instructional strategy. It facilitates students' mastery of content knowledge, academic skills, and the cultivation of competencies vital for thriving in the 21st century. The overarching objective of PBL is to enhance student engagement and foster a deeper comprehension of key concepts. By allowing students to learn through practical application, problem-solving, collaboration, and real-world simulations akin to those encountered by professionals in various fields, PBL offers a dynamic educational experience (Apperson, 2017).

During presentation-based activities, active learning unfolds from the preparatory phase through to the actual presentation before the class. In the preparatory phase, students engage in exploring relevant materials from various sources, consulting the internet, engaging in discussions with peers or seeking guidance from instructors, and crafting visually appealing and well-organized PowerPoint slides. According to Grimm (Grimm, 2015) and Brown (Brown, 2024), students demonstrate enhanced comprehension and deeper learning when they

engage in writing about concepts, a principle that extends to presenting topics or content using PowerPoint slides. The process of PowerPoint preparation necessitates students to thoroughly grasp and distill the key points of the content to be highlighted in their presentations. The integration of PowerPoint in the classroom addresses the limitations of traditional lectures by facilitating efficient structuring, organization, and emphasis of essential information. Sugahara & Boland (Sugahara, 2006) noted that the incorporation of PowerPoint media in learning enhances learners' attention, leading to higher retention rates and increased participation levels.

Game-based learning involves acquiring new concepts and skills through the utilization of digital and non-digital games. The integration of games into educational settings has been shown to yield significant enhancements in both learning and educational outcomes. As outlined by Boctor (Boctor, 2013), the mechanism through which game-based learning supports learning entails two main steps: Firstly, games serve as a motivator for students to integrate knowledge from diverse disciplines and apply it in decision-making processes; and secondly, students can experiment with how game outcomes are influenced by the choices and decisions they make. Additionally, game-based learning facilitates student interaction with peers to discuss game-related strategies, fostering improved coordination and enhancing social interaction skills. Enhancing problem-solving skills is crucial for adapting to society, and game-based learning has emerged as a highly effective method for enhancing such skills. For instance, Hwang (Hwang, 2016) discovered that interactive learning sessions enable students to grasp concepts more effectively and enhance their cognitive problem-solving abilities. Game-based learning, through its integration of multiple skills into the learning process, is also recognized for its capacity to boost student engagement. Additionally, research Boctor (Boctor, 2013) indicates that students who engage in educational games exhibit superior academic progress compared to those who do not, across various subjects, including proficiency in English language comprehension. Consequently, incorporating a game-based approach into learning can effectively align with both teachers and students preferences, contributing to increased engagement, coordination, and creativity among students.

The criteria-based assessment system addresses to the following objectives:

1) Contribute to the enhancement of educational quality through an objective and transparent assessment system.
2) Formulate a unified and higher-quality assessment mechanism that aligns with international standards.
3) Create conditions for the development of self-reliance and responsibility in acquiring knowledge and experience.
4) Provide the opportunity to evaluate academic achievements and compare them with expected outcomes.
5) Develop high-level skills such as analysis, synthesis, evaluation, and creativity.

Thus, review based analysis of syllabi GEDC, including characteristics of the assignments, grading criteria, practice session activities, and learning materials, has demonstrated that to enhance student motivation, it is essential to provide a clear understanding of how the learned material can be applied in real-world contexts. The humanities block of courses is primarily designed to shape a comprehensive worldview and support the socialization of students in IT sphere.

Engaging students in the learning process, while considering their individual factors such as needs, interests, dynamics of preparation, and motivation, allows teachers to achieve greater success in knowledge acquisition. This approach not only enhances students competencies but also helps minimize academic stress, ultimately leading to better educational outcomes.

Conclusion

Prioritizing individualized learning within modern educational frameworks, particularly through SCL, emphasizes active learner engagement and the cultivation of personal responsibility for education. In the context of syllabus development, teachers play a critical role in shaping the learning experience by integrating interactive, practice-based teaching methods that inspire student participation and enhance motivation. These methods not only help students retain information but also develop essential skills such as critical thinking, problem-solving, and creativity—competencies that are crucial for adapting to contemporary challenges.

A core feature of effective syllabus development in SCL is the integration of theoretical knowledge with practical, real-world applications. This approach ensures that the learning process is both relevant and meaningful to students in terms of their future professional. As a result, students not only gain a deeper theoretical understanding but also acquire the practical skills necessary for their future professional fields.

The core values of SCL are empowering students, ensuring the relevance of subject matter and active participation in acquiring the theoretical and practical knowledge that are clearly written in the course syllabus. Effective syllabus development should be designed to accommodate individual student needs, professional interests, and levels of preparedness. This syllabus tailoring allows for more effective and personalized learning, ultimately leading to a more engaging educational experience.

To enhance the effectiveness of SCL, we assume based on this study, course instructors and administration should consider how active learning methods such as group discussions, project-based learning, and case studies integrated into syllabus design considering student commitment in participating and their preparation to these types of class activities giving value to the preparation process. These collaborative and interactive methods require student engagement and responsibility for their own learning. It is important for syllabus developers to prioritize the inclusion of real-world applications of theoretical knowledge. By doing so, students can see the direct relevance of their studies to future careers, helping them understand the practical value of their education.

Diverse student needs, interests, and learning styles are important components to be reflected in the syllabi, while still adhering to essential learning objectives and standards. These must be considered by syllabus developers and instructors how to best integrate them in SCL syllabus. Including advantages of educational technologies that facilitate adaptive learning, allowing students to learn at their own pace and engage with content that is both relevant and personalized to their needs. This might ensure that teaching practices and course materials better align with the needs of students and achieve their academic and personal development goals.

Conflict of Interest Statement

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

Author Contributions

Tleshova Zhibek – Supervision, Conceptualization, Methodology, Writing – Original Draft, Project administration. Belessova Nursulu - Formal analysis, Investigation, Writing – Original Draft. Nurkanat Anel – Validation, Writing – Original Draft. Issakhanova Assel - Writing – Original Draft, Visualization, Formal analysis. Zhanadilova Aigul – Validation, Formal analysis, Investigation, Visualization.

References

Adipat, S., Laksana, K., Busayanon, K., Asawasowan, A., & Adipat, B. (2021). Engaging students in the learning process with game-based learning: The fundamental concepts. *International Journal of Technology in Education (IJTE), 4*(3), 542–552. https://doi.org/10.46328/ijte.169

Apperson, J. M., Laws, E. L., & Scepansky, J. A. (2008); Daniels, L. M., Kane, M. J., & Rosario, M. (2007); Nouri, J. & Shahid, A. (2005, 2008); Szabo, A., & Hastings, N. G. (2000). In Condliffe, B. (2017). *Active learning strategies and their use in higher education.*

Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics, 11*(4), 959–975.

Astana IT University. (2022). *Academic policy of LLP "Astana IT University."*

Astana IT University. (n.d.). *About.* Retrieved from https://learn.astanait.edu.kz/about

Boctor, L. (2013). Active-learning strategies: The use of a game to reinforce learning in nursing education. A case study. *Nurse Education in Practice, 13*(2), 96–100. https://doi.org/10.1016/j.nepr.2012.07.010

Brown, K. (2004). Technology: Building interaction. *TechTrends, 48*(5), 36–38.

Degago, A. T., & Kaino, L. M. (2015). Towards student-centred conceptions of teaching: The case of four Ethiopian universities. *Teaching in Higher Education, 20*(5), 493–505. https://doi.org/10.1080/13562517.2015.1020779

Grimm, S. D. (2015). Learning logs: Incorporating writing-to-learn assignments into accounting courses. *Issues in Accounting Education, 30*(2), 79–104.

Gutiérrez-Salcedo, M., Martínez, M. Á., Moral-Munoz, J. A., Herrera-Viedma, E., & Cobo, M. J. (2018). Some bibliometric procedures for analyzing and evaluating research fields. *Applied Intelligence, 48*, 1275–1287.

Haiying, L. (2023). A critical discourse analysis of medical English course syllabuses. *Journal of Language Teaching and Research, 14*(4), 865–870. https://doi.org/10.17507/jltr.1404.02

Hwang, G. J., Wu, P. H., Chen, C. C., & Tu, N. T. (2016). Effects of an augmented reality-based, educational game on students' learning achievements and attitudes in real-world observations. *Interactive Learning Environments, 24*(8), 1895–1906. https://doi.org/10.1080/10494820.2015.1057747

Lojdová, K. (2019). Socialization of a student teacher on teaching practice into the discursive community of the classroom: Between a teacher-centered and a learner-centered approach. *Learning, Culture and Social Interaction, 22*, 100314. https://doi.org/10.1016/j.lcsi.2019.05.001

Ministry of Education of the Republic of Kazakhstan. (2022). On approval of state compulsory standards for preschool education and training, primary, basic secondary and general secondary, technical and vocational, and post-secondary education: Order No. 348 dated August 3, 2022. Ministry of Justice of the Republic of Kazakhstan. https://adilet.zan.kz/rus/docs/V2200029031

Mukherjee, D., Lim, W. M., Kumar, S., & Donthu, N. (2022). Guidelines for advancing theory and practice through bibliometric research. *Journal of Business Research, 148*, 101–115.

Richmond, A. S., Morgan, R. K., Slattery, J. M., Mitchell, N. G., & Cooper, A. G. (2018). Project syllabus: An exploratory study of learner-centered syllabi. *Teaching of Psychology, 46*(1), 6–15. https://doi.org/10.1177/0098628318816129

Sugahara, S., & Boland, G. (2006). The effectiveness of PowerPoint presentations in the accounting classroom. *Accounting Education, 15*(4), 391–403.

Sugeng, B., & Suryan, A. W. (n.d.). Presentation-based learning and peer evaluation to enhance active learning and self-confidence in the financial management classroom. Retrieved

from https://www.researchgate.net/publication/326802887_Presentation-based_learning_and_peer_evaluation_to_enhance_active_learning_and_self-confidence_in_financial_management_classroom

Tang, K. H. D. (2023). Gamification to improve participation in an environmental science course: An educator's reflection. *Acta Pedagogia Asiana, 2*(2), 54–63.

Tang, K. H. D. (2023). Student-centered approach in teaching and learning: What does it really mean? *Acta Pedagogia Asiana*. https://doi.org/10.53623/apga.v2i2.218

Vlasenko, K., et al. (2022). Project-based learning in higher education. *Journal of Physics: Conference Series, 2288*, 012019. https://doi.org/10.1088/1742-6596/2288/1/012019

Žerovnik, A., & Nančovska Šerbec, I. (Eds.). (2013). *Project-based learning in higher education*.

Information about authors:

Tleshova Zhibek - Associate professor, Astana IT University, e-mail: zhibek.tleshova@astanait.edu.kz, ORCID 0000-0001-5095-5436 ***(corresponding author)***

Belessova Nursulu – master in Pedagogy and Psychology, Astana IT University, e-mail: N.belessova@astanait.edu.kz, ORCID 0000-0002-3483-4762

Nurkanat Anel - master in Sociology, Astana IT University, e-mail: a.nurkanat@astanait.edu.kz

Issakhanova Assel - Doctor PhD, Astana IT University, Astana, Kazakhstan, e-mail: assel.issakhanova@astanait.edu.kz, ORCID 0000-0003-1942-3831

Zhanadilova Aigul - master in Sociology, Astana IT University, e-mail: a.zhanadilova@astanait.edu.kz, ORCID 0000-0001-8077-5647.