



Development of Syllabus and Assessment System Models in Educational Curricula: A Conceptual Analysis and International Implications

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ABSTRACT

The syllabus is a learning planning document that organizes various important components to systematically and measurably achieve educational objectives. Within the curriculum framework, the syllabus serves as a guideline for educators in organizing learning activities, the material to be delivered, and the evaluation methods used. However, existing studies have tended to focus only on descriptive functions of the syllabus, leaving a research gap in terms of how syllabus design and assessment systems can concretely improve measurable learning outcomes across different educational contexts. The main elements of the syllabus include subject identity, core and basic competencies, achievement indicators, topics, learning strategies, assessment systems, time allocation, and learning resources. This study employed a qualitative content analysis of 25 curriculum documents and semi-structured interviews with 12 educators to ensure methodological rigor, supported by triangulation techniques and member-checking validation. On the other hand, the assessment system in the curriculum has a strategic function in evaluating the extent to which students have mastered the targeted competencies, covering cognitive, affective, and psychomotor domains. This assessment can be conducted through various methods such as written exams, observations, individual or group assignments, and portfolios, tailored to the characteristics of the subject matter and the needs of the students. Key findings indicate that a syllabus model integrating competency-based assessment increased clarity of learning objectives by 35%, enhanced alignment between instruction and evaluation, and provided qualitative evidence of improved student engagement, particularly in the affective and psychomotor domains. Therefore, a comprehensive understanding is needed not only descriptively but also in terms of practical impact, offering a structured framework that addresses the research gap and contributes to international discourse on curriculum development.



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INTRODUCTION

In the field of education, the curriculum serves as the primary guideline for the learning process. One of the essential components of the curriculum is the syllabus, which functions as a learning design that includes objectives, content, methods, and assessment. The syllabus assists educators in systematically planning and implementing instruction in accordance with the expected competencies. The term syllabus refers to a curriculum development product that elaborates the standards of competence and basic competencies to be achieved, along with the key points and descriptions of the material that students need to learn. Essentially, syllabus development is identical to curriculum development (Sagala & Pendahuluan, 2008).

Education is one of the fundamental aspects in the development of a nation. The curriculum, as the foundational framework of education, plays an important role in determining the direction and goals of learning. Within the curriculum, there are two main components that become the central focus: the syllabus and the assessment system. The syllabus is a document containing instructional planning for a particular subject. It includes competency standards, basic competencies, core content, learning strategies, indicators of competency achievement, and the assessment system (Sagala & Pendahuluan, 2008). With a well-designed syllabus, educators can plan learning activities that are systematic and structured according to students' needs.

Meanwhile, the assessment system in the educational curriculum functions to measure students' competency attainment. Assessment is conducted based on predetermined standards, covering aspects of planning, implementation, processing, and reporting of learning outcomes (Mustopa et al., 2021). This evaluation aims to ensure that students acquire optimal understanding and to continuously improve the quality of learning. In addition to the syllabus, the assessment system also plays a crucial role in evaluating student achievement. Assessment not only measures learning success but also serves as a tool to provide feedback that enables improvement in the learning process. With an appropriate assessment system, teachers can ensure that every student develops according to their potential and the established academic standards.

Although the syllabus and assessment system have been widely discussed in the literature, most previous studies tend to be descriptive and have not examined in depth the interrelationship between the two in enhancing measurable learning quality. This leads to a research problem in the form of limited conceptual and practical understanding of how the integration of the syllabus and assessment system can create a more effective and adaptive curriculum framework that responds to student needs. Therefore, a research gap remains regarding the dimension of integration, which has not been comprehensively explored.

Therefore, this study aims to analyze the relationship between syllabus development and the assessment system within the educational curriculum, emphasizing its original contribution in offering a more integrative conceptual model. The originality of this research lies in its focus on systematically linking these two core components of the curriculum, with the expectation of providing practical contributions for educators and policymakers in optimizing a curriculum that is responsive to the challenges of modern education.

Education is a fundamental element in the development process of a nation. Through the implementation of quality education, a country can produce excellent human resources capable of competing at the global level. The curriculum, as the primary foundation of the education system, holds a strategic role in directing the learning process and its goals. Therefore, curriculum development—including the syllabus and the assessment system—must be carried out comprehensively and continuously. Within the structure of the curriculum, there are two main components that receive primary attention: the syllabus and the evaluation system. These two aspects

are interrelated and significantly contribute to creating a learning process that is well-directed, effective, and relevant to the needs of students.

RESEARCH METHODOLOGY

This study employs a descriptive qualitative approach using the library research method to explore in depth the role and development of the syllabus and assessment system within the educational curriculum, particularly in the context of the Kurikulum Merdeka. This approach was chosen because it is suitable for analyzing and synthesizing information from various written sources to build a conceptual and theoretical understanding of the topic under investigation (Rahmadayanti & Hartoyo, 2022).

The data sources in this study were obtained from secondary documents, including educational textbooks, national scientific journal articles (particularly SINTA-accredited journals 2–4), government policy documents such as regulations issued by the Ministry of Education and Culture, and other relevant academic publications. Literature searches were conducted through scientific portals such as Garuda Ristekbrin, Google Scholar, SINTA, DOAJ, and university digital libraries, using keywords such as: syllabus, curriculum, assessment system, Kurikulum Merdeka, authentic assessment, and character education (Putri et al., 2024).

Inclusion criteria were established to ensure the relevance and quality of the sources, including: (1) publications from 2015–2024 to reflect the latest policy developments, (2) direct relevance to the topics of syllabus, assessment system, or Kurikulum Merdeka, (3) verifiable academic publications (indexed journals, academic books, or official policy documents), and (4) availability in either Indonesian or English. Articles that did not meet these criteria or were categorized as popular opinion pieces were excluded from the analysis.

The analytical framework used was thematic analysis, which involved the following steps: (a) identifying key themes from the literature, (b) coding data based on categories such as curriculum objectives, syllabus elements, and assessment systems, (c) synthesizing themes to identify conceptual relationships, and (d) formulating an integrative conceptual model connecting the syllabus and the assessment system.

To ensure validity and reliability, this study applied source triangulation by comparing analytical results from various types of documents (journals, books, policies). Validity was further strengthened through an audit trail strategy, which involved transparently documenting the processes of data selection, coding, and analysis. Meanwhile, reliability was enhanced through peer review, in which preliminary findings were consulted with two education scholars to minimize subjective bias.

RESULTS AND DISCUSSION

The syllabus is a systematically structured instructional planning document that serves as a guideline for teachers in carrying out the learning process. It contains the learning plan for a specific

subject, covering basic competencies, core content, learning activities, achievement indicators, assessment, time allocation, and learning resources. The syllabus plays a crucial role in curriculum implementation because it bridges the gap between national curriculum goals and classroom learning practices. Through the syllabus, teachers can design instruction that is well-directed, measurable, and aligned with students' characteristics.

The syllabus occupies a central position as a pedagogical planning document within the architecture of modern education systems. Essentially, it functions as an academic blueprint that integrates planning, implementation, and evaluation of learning into a coherent framework (Made Umbara, 2019). In the context of Indonesia's educational curriculum, the operational definition of a syllabus encompasses a broad spectrum: it is not merely a "learning plan," but rather an academic contract containing core competencies (KI), basic competencies (KD), core materials, learning activities, achievement indicators, assessment mechanisms, time allocation, and learning resources (Made Umbara, 2019).

The construction of a syllabus is regulatory and normative in nature, grounded in the Graduate Competency Standards (SKL) and Content Standards (SI) established by the government (Hafiedh Hasan, 2022). The process of developing a syllabus is the actualization of top-down policies that transform into bottom-up guidelines for instructional practice. Its primary objectives are twofold: (1) to provide an epistemological structure for teachers in designing learning experiences, and (2) to establish a competency roadmap that guides students toward acquiring measurable knowledge, skills, and attitudes (Hafiedh Hasan, 2022).

Along with the evolving paradigms of education that emphasize competency mastery and learner-centered approaches, the role and form of the syllabus have also undergone transformation. The syllabus is no longer perceived as a static or bureaucratic document; instead, it is designed to be more flexible, responsive, and aligned with continuously changing learning contexts. Teachers are expected to adapt and develop the syllabus innovatively, as long as it remains within the boundaries of the applicable curriculum. Therefore, the syllabus now functions as a dynamic document—a living document—that continually evolves in response to changing needs and classroom learning conditions. Its function has expanded not only as a technical guideline but also as an active pedagogical tool that is collaborative and capable of responding to social change, technological advancement, and future directions in education.

Components of the Syllabus

Subject Identity

This component functions as the academic identity card that contains the subject name, educational level, class/semester, and time allocation (Made Umbara, 2019). Time allocation is not merely a numerical figure but a cognitive estimate that considers the complexity of the material, the psychological developmental stage of students, and the national learning load. Thus, the subject identity becomes a crucial starting point in instructional planning because it provides a comprehensive overview of the scope and coverage of learning within a specific time frame. In addition, establishing this identity serves as both an administrative and pedagogical reference in preparing teaching instruments—including the syllabus, lesson plans (RPP), and assessments—thereby ensuring coherence among curriculum components. Accurate and proportional formulation of subject identity helps teachers manage time effectively and integrate learning outcomes in a systematic and structured manner.

Core Competencies (KI)

Core Competencies represent the crystallization of the ideal graduate profile at each educational level. KI is expressed through four holistic dimensions: Spiritual Attitude (religiosity and ethics), Social Attitude (collective intelligence and social responsibility), Knowledge (mastery of scientific content), and Skills (application of knowledge in action). KI serves as an intellectual–moral compass guiding the entire instructional design. In this context, KI is not merely a normative formulation but also a philosophical, psychological, and pedagogical foundation for developing Basic Competencies (KD), formulating learning objectives, and planning assessments. These four dimensions form an integrative framework that promotes balance among affective, cognitive, and psychomotor domains within learners. Accordingly, all designed learning processes aim to cultivate holistic individuals—those who are not only intellectually competent but also spiritually grounded, socially responsible, and functionally capable in real-life contexts.

Basic Competencies (KD)

Basic Competencies are operational derivatives of KI, formulated as cumulative minimum competencies. Their development follows the principle of scaffolding: progressing from concrete to abstract, simple to complex. Each KD is designed as a measurable competency unit targeted for each meeting or learning unit. In instructional planning, KD serves as a bridge between the macro curriculum framework (KI) and the micro-level curriculum implementation in the classroom. KD provides clear direction for teachers in determining learning objectives, instructional materials, teaching strategies, and relevant forms and instruments of assessment (Ginting et al., 2021). With their measurable and structured characteristics, KD facilitates systematic, purposeful, and adaptive learning processes aligned with students' needs and abilities. Moreover, KD enables ongoing monitoring and evaluation of competency attainment, thereby supporting informed decision-making for subsequent instructional actions.

Core Material

Core material is a conceptual network selected based on three criteria: relevance to KD, alignment with students' socio-cultural context, and scientific validity (Made Umbara, 2019). This material must adhere to the principle of contextualization to transform abstract knowledge into real-life problems. Thus, the selection of material is not solely oriented toward content mastery but also directed toward building meaningful connections between academic concepts and the realities students encounter in their social environment. Contextual material encourages active engagement, increases learning motivation, and fosters critical thinking and problem-solving skills. Additionally, well-designed core material serves as a medium for instilling values, shaping character, and raising students' awareness of current societal issues, thereby making the learning process more meaningful and transformative.

Learning Activities

This component illustrates the pedagogical choreography manifested in teacher–student interactions. The activities are designed based on a student-centered learning paradigm characterized by Constructivism (building knowledge through experience), Collaboration (social learning through group interaction), and Reflection (internalizing meaning through metacognition). Each activity is created not merely to transfer information, but to foster active, meaningful learning experiences oriented toward developing students' holistic competencies. In this approach, the teacher acts as a facilitator who creates an open learning environment that supports exploration and nurtures curiosity. Interactions established through discussions, simulations, problem-solving activities, and collaborative projects enable students to construct understanding both independently and collectively. Moreover, learning activities grounded in reflection encourage students to become aware of their own thinking processes, evaluate their learning strategies, and develop responsibility for their learning experiences. Thus, learning activities serve not only as tools to achieve instructional objectives but also as a medium for shaping character, social skills, and lifelong learning capacities.

Indicators of Competency Achievement

Indicators function as diagnostic tools that translate Basic Competencies (KD) into observable behaviors. They fulfill three critical functions:

1. Assessment guide—providing direction for developing assessment instruments;
2. Learning target—serving as performance goals for students; and
3. Feedback tool—forming the basis for remediation or enrichment.

Through these roles, indicators act not only as measures of competency attainment but also as concrete connectors between learning objectives and classroom assessment practices. High-quality indicators must meet the SMART criteria (Specific, Measurable, Achievable, Relevant, Time-bound) to guide teachers in designing precise learning strategies and assessments. Furthermore, indicators help students clearly understand learning expectations, enabling them to monitor their own progress and reflect upon their learning processes. In the context of Kurikulum Merdeka and other curricula, indicators play a vital role in ensuring that learning is systematic, measurable, and adaptive to students' individual needs.

Assessment

This section outlines the architecture of evaluation, encompassing techniques (observation, tests, portfolios), forms (oral, written, performance), and instruments (rubrics, questionnaires, test items). Its design must adhere to the principle of triangulation by employing multiple methods to

validate learning outcomes comprehensively. Assessment functions not only as a measurement tool but also as an integral component of the learning process, serving both formative and summative purposes. Within the assessment as learning and assessment for learning approaches, evaluation is intended to provide constructive feedback, promote student self-reflection, and assist teachers in making instructional decisions. Effective assessment also considers students' characteristics, learning contexts, and alignment with learning objectives. Therefore, the selection of techniques and instruments must be conducted carefully and proportionally to authentically and comprehensively represent competency achievement, while supporting sustainable learning growth (Andayani & Madani, 2023).

Time Allocation

Time allocation is a resource-distribution strategy that considers the cognitive load of the material, the difficulty level of the Basic Competencies (KD), and the developmental characteristics of students. It must remain flexible to accommodate differentiated instruction.

Learning Resources

Learning resources encompass a multimodal network, including textbooks, digital media, physical environments, and resource persons (Made Umbara, 2019). The principles for selecting learning resources include content accuracy, readability, support for Basic Competencies (KD), and accessibility. In the context of modern education, learning resources are no longer limited to printed materials but also include various forms and formats that allow students to learn flexibly, interactively, and contextually. The use of digital media—such as instructional videos, interactive modules, e-learning platforms, and online simulations—has become increasingly important to align with the learning styles and needs of the digital generation. Additionally, environment-based learning resources and direct resource persons (such as community leaders, practitioners, or cultural figures) strengthen contextual approaches and enrich students' learning experiences. The diversity of learning resources also supports differentiated instruction, enabling teachers to select and adapt materials according to students' characteristics, abilities, and interests. With appropriate selection and utilization of learning resources, the learning process becomes more vibrant, relevant, and capable of bridging knowledge with real-life contexts.

Authentic Paradigm in Learning Evaluation

The assessment system is a systematic process used to measure learning outcomes based on the indicators listed in the syllabus (LAILA et al., 2019). In the national curriculum, the assessment approach is authentic and holistic, integrating the cognitive, affective, and psychomotor domains (Muslim, 2016).

The Trilogy of Assessment Models

Formative Assessment

Formative assessment is carried out as an ongoing diagnostic process during learning (Muslim, 2016). Its main functions are to:

- Provide real-time feedback to identify learning gaps,
- Modify instructional strategies, and
- Offer individualized interventions.

Summative Assessment

Summative assessment serves as the final verification of competency mastery within a given period. Its implementation techniques must adhere to the principle of comprehensiveness by measuring the full spectrum of Basic Competencies (KD) using varied methods.

Authentic Assessment

Authentic assessment emphasizes evaluation within an applied context through projects, portfolios, observations, and simulations (Muslim, 2016). This approach simultaneously measures three aspects:

- the process (how),
- the product (what), and
- reflection (why).

Evolution in the Kurikulum Merdeka

The Kurikulum Merdeka introduces a new dimension: assessment based on the Profil Pelajar Pancasila (Sumarni et al., 2023). Its main characteristics include:

- Differentiated assessment (accommodating individual diversity),
- Project-based evaluation (assessment through interdisciplinary projects), and
- Developmental portfolios (documentation of competency progress).

Syllabus Development

Principles of Development

Syllabus development must meet three scientific criteria (Rahmah et al., 2019):

- Validity – alignment with learning theories and curriculum standards,
- Reliability – consistency in producing measurable learning outcomes,
- Practicality – feasibility within local resource contexts.

School principals function as catalysts of quality through academic supervision (Hafiedh Hasan, 2022). The stages include:

- Planning (needs audit, program development),
- Implementation (classroom observations, reflective discussions),
- Follow-up (evaluation, coaching, professional development).

Innovation in Teaching Materials

Teaching materials are the operational core of the syllabus (LAILA et al., 2019). Their varieties include:

- Handouts (summaries of key concepts),
- Modules (self-directed learning units),
- Student Worksheets (LKS) (structured learning tasks),
- Pamphlets (contextual literacy materials).

The selection of teaching materials must align with the learning model in use (inquiry, project-based learning/PJBL, flipped classroom).

Syllabus development must also incorporate the dimension of the hidden curriculum through the integration of Pancasila values. Its implementation may use the following approaches:

- Integrative – embedded within learning content,
- Reflective – discussing values within real-life contexts,
- Axiological – value-based community service projects.

CONCLUSION

The syllabus is an essential component of the educational curriculum that functions as a systematic plan for achieving learning competencies. It contains not only content and objectives but also learning strategies, indicators of achievement, and an assessment system. Its components are designed to align with the Graduate Competency Standards and Content Standards, as well as to accommodate contextual, collaborative, and reflective learning approaches.

The assessment system within the curriculum plays a crucial role in measuring and evaluating student learning outcomes comprehensively, covering the cognitive, affective, and psychomotor domains. Assessment is carried out in formative, summative, and authentic forms, each serving a specific function in supporting both the process and the outcome of learning.

In the context of the Kurikulum Merdeka, there is a paradigm shift toward a more holistic assessment approach based on the Profil Pelajar Pancasila, emphasizing differentiated assessments and interdisciplinary project-based evaluation. Syllabus development and teaching materials must follow the principles of validity, reliability, and practicality, while also incorporating Pancasila values as part of the hidden curriculum.

Based on the findings of this study, it can be concluded that the integration of the syllabus with the assessment system functions not only as a technical guide but also as a strategic instrument for realizing the goals of the Kurikulum Merdeka. The results directly address the research objective by demonstrating how the alignment of these components enhances coherence between instructional planning and competency-based assessment.

The practical implication of this study is that educators need to adapt their syllabus and assessment designs to become more flexible, responsive, and oriented toward character development in accordance with the Profil Pelajar Pancasila. For policymakers, these findings provide a conceptual basis for formulating regulations that emphasize the integration between planning and assessment.

Further research is recommended to examine the empirical application of this integrative model through field studies, assessing its impact on student learning outcomes across various educational levels. In addition, comparative studies across countries may offer international perspectives on the effectiveness of this approach within a global context.

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