

## Transformative Curriculum in Indonesian Higher Education: An Integrative Framework for Realizing University 4.0

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### ABSTRACT

The transformation of higher education toward the University 4.0 paradigm demands fundamental changes in curriculum design that transcend conventional knowledge transmission. This article aims to analyze the components of transformative curriculum as an integrative learning framework in Indonesian higher education, encompassing learning orientation, learning materials, learning methods, and learning evaluation. The study employed a literature review method with a conceptual analysis approach applied to the Guide to Transformative Pedagogy for Lecturers (Ministry of Higher Education, Science and Technology, 2025), synthesized with Mezirow's transformative learning theory, Freire's critical pedagogy, and Ki Hadjar Dewantara's educational philosophy. The findings reveal that transformative curriculum comprises four interrelated components. Learning orientation focuses on developing critical consciousness through three levels of reflection: content reflection, process reflection, and premise reflection. Learning materials integrate three main pillars—inclusivity, sustainability, and social justice and anti-racism—contextualized within societal realities. Learning methods include the case-method, reflective discussion, simulation, project-based learning, and narrative inquiry, all of which emphasize the dialectic between reflection and action. Learning evaluation is qualitative, reflective, participatory, and narrative in nature, prioritizing the process of perspective transformation through reflective journals, transformative portfolios, action projects, and self- and peer-evaluation. Transformative curriculum provides an operational framework for higher education institutions to realize meaningful learning with social impact, aligned with the Impactful Higher Education (DIKTISAINTEK Berdampak) policy and the Sustainable Development Goals.

**Keywords:** transformative curriculum; higher education; reflective learning; critical consciousness; agent of change



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## 1. INTRODUCTION

The Fourth Industrial Revolution has fundamentally reshaped the structure of human life, including the domain of education. Since the World Economic Forum released the report "New Vision for Education: Unlocking the Potential of Technology" in 2015, the orientation of education has undergone a significant shift. Learners are now required to possess a set of competencies known as twenty-first-century skills, which encompass foundational literacies for everyday tasks, competencies for addressing complex challenges, and character qualities together with the capacity to adapt to environmental change (World Economic Forum, 2015). Accordingly, the orientation of education no longer emphasizes cognitive ability alone; it further requires learners to engage with real problems in society.

Parallel to the demand for twenty-first-century skills, the Sustainable Development Goals (SDGs) have emerged as a global agenda emphasizing the role of individuals as agents in transforming world society toward inclusive economic growth, ecological sustainability, and social harmony (United Nations, 2015). Bates (2019) argues that education plays a central role in cultivating individual and collective ethical awareness, which is actualized through dialogic learning with the physical and social environment. Education is no longer merely a matter of cognitive, affective, and psychomotor development; rather, it constitutes an endeavor to transform knowledge and skills in order to address tangible problems in society.

In response to these dynamics, in 2025 the Ministry of Higher Education, Science and Technology (hereafter, the Ministry) launched the Impactful Higher Education (Diktisaintek Berdampak) program, which positions higher education as a center for concrete solutions for society, moving beyond its

conventional roles of teaching and research (Ministry of Higher Education, Science and Technology [Kemdiktisaintek], 2025). This paradigm aligns with the concept of University 4.0, which emphasizes the adaptation of new technologies and methodologies to support students' twenty-first-century competencies in confronting present and future challenges (Acuña, 2024; Chernaya et al., 2023). The transformation toward University 4.0 is not merely about encouraging universities to adopt technology; it requires higher education institutions to become genuine solutions for the diverse challenges and real problems faced by society.

Within the domain of teaching and learning, this paradigmatic transformation can be actualized through the implementation of transformative pedagogy. UNESCO (2017, 2022) defines transformative pedagogy as a student-centered learning approach aimed at cultivating critical and reflective thinking that contributes to local and global society. Meyers (2008) further notes that transformative pedagogy entails innovative learning processes along with the active and collaborative participation of students, which ultimately fosters the development of their personal potential. Such an approach requires a curriculum specifically designed to support these transformative aims.

According to Clifford and Montgomery (2015), transformative curriculum refers to learning and teaching that seeks to empower individuals and communities by building connections, promoting social change, and expanding intellectual understanding of the world and of the self. Kandiko Howson and Kingsbury (2023) extend the notion of curriculum to encompass objectives, content, alignment, scale, learning activities, assessment, physical environments, and learning collaborators as a comprehensive conceptual framework. Transformative curriculum is therefore not merely an administrative document listing courses; rather, it constitutes a holistic framework that directs the entire educational process toward shaping students as agents of change.

Although the concept of transformative curriculum has been extensively examined in the international literature, its implementation in the Indonesian higher education context still requires a more systematic and operational conceptual framework. This gap is problematic because lecturers and higher education practitioners need more concrete guidance to design and implement transformative curricula. Against this background, the present article aims to analyze the components of transformative curriculum in higher education with a focus on four main dimensions: learning orientation, learning materials, learning methods, and learning evaluation. The study is expected to offer a comprehensive and applicable conceptual framework for curriculum development that supports the formation of students as agents of change.

## **2. RESEARCH METHOD**

This article employs a literature review method with a conceptual analysis approach to examine the components of transformative curriculum in the context of higher education. This approach was selected because it aligns with the study's purpose of synthesizing multiple theoretical perspectives in order to generate a coherent and operational conceptual framework.

The primary data source for this study is the Guide to Transformative Pedagogy for Lecturers (Panduan Pedagogi Transformatif untuk Dosen), published in 2025 by the Directorate of Transformative Learning Strategy and Systems, Directorate General of Science and Technology, Ministry of Higher Education, Science and Technology. This document was chosen as the principal reference because it constitutes the official guideline developed to support the implementation of transformative curriculum in Indonesian higher education. In addition, the study draws upon the theoretical literature that forms the conceptual foundation of transformative curriculum, including Jack Mezirow's transformative learning theory, Paulo Freire's critical pedagogy, Lev Vygotsky's social constructivism, and the educational philosophy of Ki Hadjar Dewantara.

Data analysis was conducted in three stages. The first stage involved identifying key concepts related to transformative curriculum from the reference sources. The second stage entailed classifying these concepts into four thematic categories corresponding to the curriculum components: learning orientation, learning materials, learning methods, and learning evaluation. The third stage consisted of a conceptual synthesis that integrated the various theoretical perspectives to produce a coherent and applicable transformative curriculum framework for Indonesian higher education.

### **3. RESULTS AND DISCUSSION**

#### **A. Theoretical Foundations of Transformative Curriculum**

Before elaborating on the components of transformative curriculum, it is necessary to understand the theoretical foundations that shape this paradigm. Murphy (2008) argues that pedagogy is the process of interaction among teacher, student, learning environment, and learning task. In this view, pedagogy is not merely a matter of knowledge transfer; it further involves social interaction among various actors and the social environment in which they operate. Alexander (2008) adds that pedagogy differs from teaching: teaching is limited to an action, whereas pedagogy encompasses the discourse that educators must engage in when carrying out teaching actions. Pedagogy, therefore, is not only about classroom activities but is also connected to educational, social, and even political discourses in society.

The roots of transformative curriculum can be traced to Jack Mezirow's concept of perspective transformation, first articulated in 1978. Mezirow explicitly argued that perspective transformation is a vital aspect of adult development. Transformation is defined as a reorganization of one's perspective in viewing the self and one's environment, which in turn determines attitudes, value judgments, and actions (Mezirow, 1978). This perspective is shaped by social and cultural contexts, yet it can be altered through a process of critical consciousness that typically begins with a life dilemma that cannot be resolved merely by adding information. Mezirow (2018) subsequently defined transformative learning as the process by which an individual transforms old mindsets, habits, or perspectives through communicative processes toward a more inclusive, open, and reflective paradigm.

Mezirow's ideas are enriched by Paulo Freire's thinking on critical pedagogy. According to Freire (2000), education is a tool for cultivating learners' critical consciousness in order to transform the various problems present in society. Educators must facilitate learners in identifying concrete problems, recognizing their causes, and taking action to resolve them. Freire emphasizes the importance of education as praxis—that is, a process of action and reflection aimed at realizing social transformation. Education as social praxis constitutes a process of knowledge formation that encourages learners to recognize real problems and formulate transformative actions as solutions to those problems.

The ideas of Ki Hadjar Dewantara also make a significant contribution to shaping the paradigm of transformative curriculum. Dewantara (2011) asserts that education must maintain relevance to the "spirit of the age" (*rokh zaman*), which serves as the foundational principle guiding the practice of education across historical periods. From this perspective, contemporary education must be aligned with the demands of twenty-first-century competencies and with multidimensional contemporary issues. Ki Hadjar's concept of *Tut Wuri Handayani* is likewise relevant to transformative curriculum: the educator attends to learners by granting them the freedom to move in accordance with their will and potential, while the educator functions as an encourager and facilitator (Sugiyanto et al., 2022).

Drawing upon the synthesis of these theoretical perspectives, transformative curriculum is defined as a student-centered pedagogical framework that cultivates critical thinking and reflective awareness through processes of perspective transformation focused on action to resolve real problems at both local and global levels of society. This definition implies four main components of transformative curriculum, which are elaborated in the following sections.

#### **B. Learning Orientation in Transformative Curriculum**

Learning orientation is a fundamental component that determines the direction and focus of the entire learning process in a transformative curriculum. In contrast to conventional curricula, which are oriented toward knowledge transmission, transformative curriculum is oriented toward the development of critical consciousness and the transformation of students' perspectives.

The principal aim of transformative learning is to effect a deep change in the ways learners think, see, and become aware. This approach emphasizes not only the acquisition of knowledge but also the transformation of perspectives that can reshape individuals' values, beliefs, and actions. Mezirow (2009) explains that the key processes of transformative learning are critical reflection, dialogue, and experience-based learning. Learners examine their assumptions, identify distortions in their thinking, and construct new understandings that are more inclusive and reflective.

Critical reflection within transformative curriculum unfolds across three interrelated levels. The first level, content reflection, concerns the evaluation of the content of personal experience: students are invited to question what they perceive and understand from an experience or piece of information.

The second level, process reflection, seeks to critically examine thinking strategies and ways of doing things; at this level, students analyze how they arrived at a particular understanding and what methods they employed in their thinking. The third level, premise reflection, scrutinizes the underlying assumptions that have hitherto shaped a person's worldview. This level is the deepest, as it makes possible the transformation of perspective—namely, fundamental changes in one's views about the world, the self, and the practices of life (Mezirow, 2009).

Transformative learning orientation also emphasizes the importance of life experience and societal discourse as sources of learning. Through discussion among learners, an exchange of experiences and perspectives occurs that can accelerate personal and social transformation. This process becomes the starting point for a profound shift in perspective, in which students experience an "aha" moment that helps them attain a new level of awareness and forge new connections. At that moment, students begin to accept new viewpoints, broaden their modes of thinking, and undergo perspective transformation.

A practical implication of this learning orientation is the shift in the role of lecturers from sources of knowledge to facilitators. Consistent with Vygotsky's social constructivism and Ki Hadjar Dewantara's concept of Tut Wuri Handayani, lecturers must be able to serve as scaffolders who accompany students in the early phase of learning and, at more advanced stages, give way to student learning autonomy (Aubrey & Riley, 2022). Lecturers are no longer the sole source of knowledge; rather, they focus on fostering a conducive learning environment so that students' cognitive, affective, and psychomotor potentials may develop optimally.

### **C. Learning Materials in Transformative Curriculum**

Learning materials in transformative curriculum cannot be understood merely as a list of topics or content that students must master. More fundamentally, learning materials must be conceived as a medium for cultivating critical consciousness and encouraging the transformation of perspective. Transformative curriculum integrates three main pillars in the development of learning materials: inclusivity, sustainability, and social justice together with anti-racism.

#### **a. Pillar of Inclusivity.**

Inclusivity in education demands a paradigm that views individual differences not as problems to be rectified but as opportunities to democratize learning. The development of a transformative curriculum focuses on the exploration of global diversity to realize an inclusive environment. The implementation of the inclusivity pillar encompasses several strategies. First, the use of content warnings for sensitive or controversial topics to give students the opportunity to prepare themselves emotionally and mentally and to make informed decisions about their engagement with such content. Second, the use of language that is comprehensible to all students in the preparation of the Semester Learning Plan (Rencana Pembelajaran Semester, RPS), as well as in the delivery and evaluation of instruction.

#### **b. Pillar of Sustainability.**

The content of transformative curriculum must include the pillar of sustainability relevant to the SDGs agenda. Five aspects should be integrated into learning materials. The first aspect is the issue of climate change, encompassing discussions of its causes, impacts, and responses. The second aspect is ecological disaster, addressing the emotional and psychological distress experienced by individuals or communities confronted with loss, degradation, or disruption of ecosystems and the natural environment. The third aspect is local wisdom, which integrates the collective wisdom, practices, and perspectives of Indigenous communities regarding traditional ecological knowledge transmitted across generations. The fourth aspect is the SDGs, which equip students to address pressing issues such as poverty, inequality, environmental degradation, and peace. The fifth aspect is environmental justice, which integrates equitable practices in waste management and pollution sources across all communities.

#### **c. Pillar of Social Justice and Anti-Racism.**

The content of transformative curriculum should explore diverse global perspectives and cultivate a broad understanding across scholarly fields in order to address social injustice and to promote social change. The implementation of this pillar encompasses three dimensions. The first dimension conceives of the curriculum as a bridge connecting students to society through the integration of community empowerment, advocacy, and solidarity, thereby linking theory with factual conditions. The

second dimension is contextualization in students' everyday lives, which explores their identities, values, and experiences, particularly in relation to equity, diversity, and inclusivity. The third dimension is the use of asset-based language—communication that focuses on emphasizing and appreciating the strengths, capacities, and positive qualities of individuals, groups, or communities.

These three pillars must be grounded in the actual realities of society. Freire (2000) asserts that meaningful education is education that begins from the social, cultural, and economic realities in which learners are situated. Real-world issues relating to the economy, the environment, education, human rights, and other concerns must serve as instructional material and as objects of discussion. Learning, accordingly, does not take place in a space isolated from its social context; rather, it engages directly with the concrete problems of life.

#### **D. Learning Methods in Transformative Curriculum**

Learning methods in transformative curriculum are not merely instructional techniques; they are manifestations of the orientation and values that underlie the curriculum itself. Learning methods must be student-centered, contextual, and relevant to societal problems. More importantly, learning methods must integrate reflection and action as a unified pedagogical praxis.

The learning process in transformative curriculum proceeds through horizontal dialogue between lecturers and students. Learning is not a one-way process in which lecturers transmit knowledge to students; rather, it is dialogic, with students positioned as knowledgeable subjects who contribute actively to the learning process. Learning is understood as a shared process, not as the bestowal of knowledge from those who "know" to those who "do not know" (Freire, 2000).

Based on a synthesis of the literature and the Guide to Transformative Pedagogy, five learning methods are particularly relevant to transformative curriculum.

##### **a. Case-Method.**

Merseth (1994) defines the case-method as a discussion-based method that employs real or simulated situations to foster critical thinking, analysis, and problem-solving skills. Three essential elements of this method are: reality-based cases that enable students to explore and analyze problems in authentic settings; an emphasis on careful research and study; and encouragement for users to develop multiple perspectives. The case-method is effective for triggering a "disorienting dilemma" in transformative learning, in which students perceive the gap between actual and ideal conditions through the cases being examined. In the context of teacher education institutions (Lembaga Pendidikan Tenaga Kependidikan, LPTK), cases may function as exemplars, as opportunities to practice analysis, and as stimuli for personal reflection.

##### **b. Reflective Discussion.**

Taylor (2007) defines reflective discussion as a discussion that encourages learners to critically examine their experiences, beliefs, and assumptions through in-depth dialogue aimed at exploring experience, values, assumptions, and beliefs. Its purpose is to develop new understandings that are more inclusive and transformative. In the context of transformative learning, reflective discussion is central to the process of perspective change because it encourages students not merely to receive information passively but actively to reflect on the meaning underlying the experiences or materials they study. Reflective discussion may be conducted individually through reflective journal writing or collectively through intersubjective dialogue using techniques such as learning circles or Socratic dialogue to enhance the participation of each individual.

##### **c. Simulation and Role Playing.**

Santos (2018) explains that the simulation method allows students to experience real situations or specific scenarios virtually or through role-play. Through simulation, students can experiment and directly observe the consequences of decisions made in a given situation without real-world risk, thereby deepening their understanding of subject matter. This method is effective for cultivating empathy, as students place themselves in the position of others within particular social contexts, which helps them appreciate the diversity of perspectives. Beyond deepening academic knowledge, simulation also fosters critical thinking, cooperation, and problem-solving skills.

##### **d. Project-Based Learning.**

Thomas (2000) explains that project-based learning engages students in research or development activities that require them to plan, implement, and evaluate projects related to the subject matter. This

method is consistent with transformative learning because it focuses not only on theoretical knowledge but also encourages students to apply what they have learned in real contexts. Collaborative projects that address social, environmental, or cultural issues promote contextual and transformative learning while also shaping attitudes and values that support social change.

e. Narrative Inquiry.

Clandinin and Connelly (2000) explain that narrative inquiry is a learning method focused on the collection and analysis of individual stories or narratives in order to understand experiences, meanings, and specific phenomena within educational contexts. By employing stories as a tool for learning, students are invited to share personal experiences related to the topic under study and to construct deeper understandings through collective reflection on those narratives. This method contributes to transformative learning because students not only acquire new knowledge but also reflect upon and construct new understandings of themselves and of their relationships with others within the broader social context.

These five methods share a common thread: an emphasis on the dialectic between reflection and action. Transformative curriculum invites students not only to think critically but also to act in order to reshape reality. As Freire (2000) asserts, education as praxis is a process of action and reflection aimed at the realization of social transformation.

### **E. Learning Evaluation in Transformative Curriculum**

Learning evaluation in transformative curriculum requires a fundamental paradigmatic shift from conventional models of evaluation. Whereas conventional evaluation focuses on measuring mastery of content through instruments such as written examinations, evaluation in transformative curriculum focuses on processes of critical thinking, changes in attitudes and perspectives, and students' concrete actions. What is assessed, therefore, is not merely knowledge but the transformation that students experience and manifest.

The aims of transformative learning evaluation encompass four aspects. First, to assess whether students have undergone perspective transformation as a result of the learning process. Second, to examine the extent to which students are able to critically reflect on their own experiences and assumptions. Third, to measure students' engagement in real-world actions that are ethically and critically reflective. Fourth, to monitor the learning process as a whole—not only the final outcome—because processes of reflection and dialogue are as important as the final products of learning.

Evaluation in transformative curriculum is qualitative, reflective, participatory, and narrative in nature. These characteristics differ fundamentally from the quantitative-objective evaluations commonly employed in conventional curricula. Six forms of evaluation instruments are relevant to transformative curriculum.

1. Reflective Journal.

Students maintain a journal that documents their thinking processes, emotions, changing assumptions, and the impact of learning experiences. Reflective journals enable longitudinal and personal documentation of perspective transformation processes.

2. Narrative of Self-Transformation.

Students compose a narrative describing how their understanding changed throughout the learning process. Such narratives offer a holistic portrait of the student's transformative journey from a first-person perspective.

3. Transformative Portfolio.

A portfolio is a collection of learning artifacts, such as journals, videos, action photographs, and discussion notes, that serve as evidence of change. Portfolios enable comprehensive, evidence-based evaluation of the learning process.

4. Action Project.

An action project is a concrete activity grounded in students' critical reflection on societal problems. Evaluation of an action project assesses not only outcomes but also students' planning, implementation, and reflection processes.

5. Self- and Peer-Evaluation.

Students assess their own process and contribution as well as those of their peers in the learning process. This form of evaluation fosters the development of metacognitive skills and collective responsibility in learning.

#### 6. Critical Dialogue and Debate.

Students demonstrate their capacity to engage in critical dialogue and debate as an indicator of the development of critical thinking and argumentation skills.

In the conduct of evaluation, lecturers must employ rubrics oriented toward reflection and student development, rather than criteria based on right-or-wrong answers or rote memorization. Evaluation must be carried out continuously throughout the learning process (formative assessment), not merely at the end of the semester (summative assessment). This approach aligns with the principles of transformative learning, which emphasize the gradual and continuous transformation of perspective.

### **F. Synthesis: An Integrative Framework of Transformative Curriculum**

The four components of transformative curriculum elaborated above constitute an integrated and mutually reinforcing system. A learning orientation focused on perspective transformation through critical reflection determines the character of learning materials that are contextual and oriented toward inclusivity, sustainability, and social justice. These materials are delivered through methods that emphasize the dialectic of reflection and action—namely, the case-method, reflective discussion, simulation, project-based learning, and narrative inquiry. Learning evaluation that is qualitative, reflective, participatory, and narrative serves as the feedback mechanism that ensures the attainment of the transformative learning orientation.

This integrative framework implies four paradigmatic shifts in the conduct of higher education. First, a shift from a learning orientation centered on knowledge transfer to one focused on the formation of critical consciousness and the transformation of perspective. Second, a shift from learning materials isolated from their social context to materials that are contextual and oriented toward inclusivity, sustainability, and social justice. Third, a shift from passive, one-way learning methods to participatory, dialogic, and reflective methods. Fourth, a shift from evaluation that is summative and cognitive to evaluation that is formative, transformative, and holistic.

The implementation of transformative curriculum is consistent with the eight key elements of transformative pedagogy identified in the literature: reflective awareness, critical thinking, social sensitivity, dialogue, collaboration, participation, adaptability to the changing times, and a leadership disposition (Enkhtur & Yamamoto, 2017; Hoggan & Kloubert, 2020; Mezirow, 2009; UNESCO, 2022). Transformative curriculum thus serves as a vehicle for developing all of these elements in an integrated manner, with the ultimate aim of shaping students as agents of change who are able to contribute to social transformation and to the attainment of the Sustainable Development Goals.

## **4. CONCLUSION**

Transformative curriculum constitutes an essential integrative framework for realizing the University 4.0 paradigm and the Impactful Higher Education (Diktisaintek Berdampak) policy in Indonesian higher education. On the basis of the conceptual study conducted here, it can be concluded that transformative curriculum comprises four components that are mutually integrated and mutually reinforcing.

Learning orientation in transformative curriculum centers on the formation of critical consciousness and the transformation of students' perspectives through three levels of reflection: content reflection, process reflection, and premise reflection. This orientation requires a shift in the role of the lecturer from source of knowledge to facilitator, thereby enabling students not only to know "what" but also to question "why" and "how to improve it."

Learning materials in transformative curriculum integrate three fundamental pillars: inclusivity, which regards difference as an opportunity to democratize learning; sustainability, which encompasses climate change, ecological disaster, local wisdom, the SDGs, and environmental justice; and social justice together with anti-racism, which bridges students and society through community empowerment and advocacy. These three pillars must be rooted in the social, cultural, and economic realities of students.

Learning methods in transformative curriculum include the case-method, reflective discussion, simulation, project-based learning, and narrative inquiry, all of which emphasize the dialectic between reflection and action. These methods are implemented through horizontal dialogue between lecturers and students, positioning students as active subjects who contribute to the learning process.

Learning evaluation in transformative curriculum is qualitative, reflective, participatory, and narrative, and focuses on the process of student perspective transformation. Evaluation instruments include reflective journals, narratives of self-transformation, transformative portfolios, action projects, self- and peer-evaluation, and critical dialogue and debate, which are conducted continuously throughout the learning process.

The synthesis of these four components yields a conceptual framework of transformative curriculum with the potential to support the formation of students as agents of change who contribute to social transformation and to the attainment of the Sustainable Development Goals. This study recommends further empirical research to test the effectiveness of implementing transformative curriculum across diverse study program contexts. Valid and reliable evaluation instruments are also needed to measure students' perspective transformation, along with systematic lecturer training models to build the competencies required to design and implement transformative curriculum.

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