

A Bibliometric Mapping of Outcome-Based Education and Its Epistemological Reconstruction from the Perspective of Ikhwan al-Şafā

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ABSTRACT

The transformation of global higher education has adopted Outcome-Based Education (OBE) as the dominant paradigm that emphasizes competency measurability. However, the implementation of OBE in Islamic higher education faces serious challenges because the integration of character values is still formalistic and less transformative. This research aims to map the OBE discourse in global literature for the period 2020–2026 and reconstruct its epistemological foundations through the perspective of the Ikhwan al-Şafā to overcome the dichotomy between measurability and character transformation. Using a qualitative approach with a combination of bibliometric analysis of 200 Scopus indexed publications and conceptual reconstruction of Rasā'il Ikhwan al-Şafā, this study identifies the structure of discourse and formulates an integrative model. The findings show that the OBE literature is dominated by pedagogical-operational approaches (critical thinking, problem-based learning, project-based learning) with significant epistemological gaps—the absence of any connection with the terms epistemology or integration of knowledge. Meanwhile, the thought of the Brotherhood al-Şafā has very low academic visibility (only two publications), reflecting the epistemological disconnection between the classical Islamic intellectual tradition and modern curriculum theory. In response, this study formulated an Integrative Transformative Outcome-Based Education Model that synthesizes the principles of constructive alignment of OBE with the epistemology of the Brotherhood of al-Şafā through three innovations: Tripartite Constructive Alignment (instrumental, integrative, transformative), Authentic Spiritual Assessment Framework with calibrated rubrics, and curriculum sequencing based on progressive science hierarchy. This model offers concrete solutions to implement the Learning Outcomes of Graduates in a transformative manner, while enriching OBE into a humanistic accountability framework without sacrificing the principle of measurability, towards the formation of *insān kāmīl* (perfect human beings) in Islamic higher education.

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1. INTRODUCTION

The transformation of global higher education in the past decade shows a paradigm shift from a content-based approach to an outcome-based approach or Outcome-Based Education (OBE). UNESCO emphasizes that the future of education must be oriented towards clear, measurable, relevant learning outcomes, and contributes to global social responsibility (UNESCO, 2021). This paradigm places learning outcomes as the main foundation in curriculum planning, implementation, and evaluation. OBE is seen as able to increase quality transparency, institutional accountability, and comparative competence of cross-border graduates. Higher education in various regions adopts an outcome-based framework as a standard for modern curriculum reform. Thus, OBE has evolved into the dominant paradigm in contemporary higher education governance.

OBE's main focus is measurable competence. This framework requires each study program to formulate explicit and standardized learning outcomes, as well as ensure alignment between objectives, learning activities, and assessments through the principle of constructive alignment (Biggs & Tang, 2020). In the context of globalization and labor mobility, scalability is considered a strategic instrument to ensure the relevance of graduates to the needs of knowledge-based economies. The Future of Jobs report emphasizes the importance of strengthening adaptive skills and digital literacy in response to industrial transformation 4.0 (WEF, 2023). This orientation reinforces OBE's position as a curriculum model that is responsive to global dynamics.

In Indonesia, this paradigm is strengthened through the National Higher Education Standards policy which requires each study program to systematically compile Graduate Learning Outcomes (CPL) (Kemendikbudristek, 2023). CPL includes the dimensions of attitudes, knowledge, general skills, and specific skills. Normatively, this structure suggests that character and integrity have become integral parts of outcome-based curriculum. In addition, the Ministry of Religion emphasizes the importance of integrating religious moderation in the CPL of religious higher education (Ministry of Religion of the Republic of Indonesia, 2023). However, a number of studies show that the implementation of attitude CPL still tends to be formalistic and not fully transformative (Sulaiman, 2021; Wahidah, 2024). This indicates that the main problem is not in the structure of OBE, but in the epistemological and axiological depth of its implementation.

Theoretically, OBE provides a systematic framework that clarifies the relationship between academic goals and evaluation. However, contemporary criticism highlights the risk of competency reductionism when outcomes are reduced to quantitatively measurable performative indicators (Hassan, 2022). In such a situation, education has the potential to become a technocratic instrument oriented to administrative achievement, while philosophical reflection on the meaning and purpose of education becomes marginalized. The OECD (2024) even emphasizes that social and emotional competence has a significant contribution to individual success and societal stability, so outcome-based education needs to integrate character dimensions systemically. Thus, the dominance of technocrats in OBE discourse raises the need to strengthen a more humanistic epistemological foundation.

To understand the direction of the development of OBE discourse objectively, a data-driven approach is needed that is able to map the structure and trends of global research. Bibliometric analysis through tools such as VOSviewer allows the identification of dominant theme clusters, patterns of concept relationships, as well as conceptual gaps in the scientific literature. This approach provides an empirical basis before conducting a theoretical reconstruction. Without systematic mapping, criticism of OBE risks being normative and less evidence-based. Therefore, this study begins the analysis by mapping the OBE discourse in the Scopus database for the period 2020–2026.

The results of the bibliometric mapping show that the OBE literature is dominated by keywords such as critical thinking, problem-based learning, project-based learning, and learning model. The largest

cluster is centered on pedagogical strategies and 21st century skill development. No significant connection was found with terms such as epistemology, integration of knowledge, or Islamic philosophy. These findings show that the global discourse of OBE is still in the pedagogical-operational realm and has not touched much on the epistemological reconstruction of education. Thus, there is a conceptual vacuum in the philosophical dimension that underlies the outcome-based paradigm.

In the context of Islamic higher education, this void is becoming increasingly relevant. The curriculum in religious colleges is not only required to produce professionally competent graduates, but also to have moral and spiritual integrity. The religious moderation policy as a national agenda strengthens the urgency of integrating values in the CPL (Ministry of Religion of the Republic of Indonesia, 2023). However, without a strong epistemological foundation, value integration risks stopping at the normative and administrative levels. Therefore, a conceptual dialogue with intellectual traditions that has an integrative basis between science and values is needed.

The tradition can be found in the treasures of classical Islamic education, especially in the thought of the Ikhwan al-Şafā. In *Rasā'il Ikhwan al-Şafā*, education is understood as the process of perfecting the soul (*tahdzib al-nafs*) through the integration of rational, mathematical, natural, and divine sciences (Hamimah, 2025). The principle of unity of knowledge developed by the Ikhwan avoids the dichotomy between religious science and rational science. This paradigm offers a teleological orientation that can enrich OBE's technocratic framework. Education is not only directed at the achievement of skills, but at simultaneous moral and intellectual transformation.

Nevertheless, a systematic search of the Scopus database using the keyword "Ikhwan al-Safa" in the 2020–2026 range yielded only two relevant articles. This number is very limited compared to the thousands of publications on OBEs in the same period. Furthermore, the two articles do not show a direct connection with modern curriculum theory or the OBE paradigm. These findings show that there is a significant empirical research gap in the global indexed literature. The limitations of the publication reflect the epistemological disconnection between the classical Islamic intellectual tradition and the development of modern curriculum theory. On the one hand, OBE is developing widely as a global paradigm with a focus on competence measurability and pedagogical effectiveness. On the other hand, the Brotherhood al-Şafā's thinking that offers the integration of rationality, morality, and spirituality has not been contextualized within the framework of an outcome-based curriculum. This gap is empirical as well as conceptual, because it shows the absence of a systematic synthesis between the two paradigms.

Based on these gaps, this study combines two approaches: bibliometric analysis to map the direction of OBE's discourse and conceptual analysis to reconstruct its epistemological foundations through the perspective of the Ikhwan al-Şafā. This dual approach allows for the identification of data-driven problems as well as the formulation of argumentative theoretical solutions. By combining empirical mapping and philosophical reconstruction, this study seeks to present a synthesis between measurable outcomes and value integration.

The purpose of this research is to map the development of OBE discourse in global literature for the period 2020–2026 and to reconstruct its epistemological foundations through the perspective of the Ikhwan al-Şafā. In particular, this study identifies the dominant theme clusters in OBE, analyzes the conceptual gaps that arise, and formulates an integrative model between outcome-based frameworks and the principle of unity of knowledge. Thus, this research contributes to the development of an epistemology of contemporary Islamic education curriculum that is accountable as well as humanistic.

Theoretically, the integration of OBE and the al-Şafā Brotherhood expands the meaning of outcomes from mere skill acquisition to the formation of character and spiritual integrity. Practically, the results of this research are relevant for the development of an Islamic religious higher education curriculum that emphasizes religious moderation and scientific integration. With a strong epistemological foundation, OBE can be implemented not only as a quality assurance mechanism, but as a whole and transformative system of human formation. Thus, this research presents a conceptual contribution to the global curriculum discourse through a dialogue between the paradigm of modern education and the classical Islamic intellectual tradition

2. METHODS

This study uses a bibliometric analysis approach combined with conceptual reconstruction to map the discourse structure of Outcome-Based Education (OBE) and reconstruct its epistemological foundation. Bibliometric analysis was chosen because it is able to systematically identify patterns of concept relationships, thematic clusters, and research development directions through the visualization of scientific networks (Donthu et al., 2021). This method is increasingly used in educational studies to uncover the dominance of themes and conceptual emptiness in the global literature (Aria et al., 2020). The research data was obtained from the Scopus database, which is recognized to have extensive international journal coverage as well as standardized metadata that supports accurate bibliometric analysis (Baas et al., 2020). The search was conducted in January 2026 with a publication range of 2020–2026 using the formula TITLE-ABS-KEY ("Outcome-Based Education"), with restrictions on the type of article and English documents to maintain academic quality and consistency of data (Elsevier, 2023). The screening process for titles and abstracts is carried out systematically to ensure relevance to the context of higher education as recommended in the structured literature study protocol (Snyder, 2020).

The metadata of the selected articles is exported in CSV format that includes citation information and author keywords, as author keywords explicitly represent the main conceptual focus of a study (Aria et al., 2020). The analysis was conducted using VOSviewer version 1.6.xx, a widely used software in bibliometric network mapping based on cluster visualization (van Eck & Waltman, 2020). The technique used is co-occurrence analysis with author keywords analysis units to identify thematic connections between concepts in OBE discourse (Donthu et al., 2021). The calculation method uses binary counting to avoid repetitive frequency bias in a single document so that the network representation is more balanced (van Eck & Waltman, 2020). The minimum threshold for occurrence is set at three to maintain the relevance and readability of visualizations (Zupic & Čater, 2021). In addition to OBE mapping, a separate search was also conducted using the keyword TITLE-ABS-KEY ("Ikhwan al-Safa") in the same time frame, which yielded only two Scopus indexed articles for the period 2020–2026, indicating an indication of an empirical research gap in the contemporary educational literature (Donthu et al., 2021).

The next stage is conceptual reconstruction, which is carried out through a literature analysis of the *Rasā'il Ikhwan al-Şafā* as well as a contemporary study of the epistemology of Islamic education. This approach is used to compare bibliometric findings that show pedagogical-technical dominance in OBE with the principle of unity of knowledge and *tahdzīb al-naḥs* as the teleological foundation of education (Snyder, 2020). The integration of scientific network-based quantitative analysis and philosophical reflection allows for the preparation of systematic and argumentative conceptual models. The validity of the study was maintained through the transparency of search strategies, analysis parameters, and data selection procedures, although limited to the Scopus database and metadata analysis without an in-depth exploration of the content of the article (Baas et al., 2020; Donthu et al., 2021).

3. FINDINGS AND DISCUSSION

3.1 Bibliometric Mapping of Outcome-Based Education (2020–2026)

Bibliometric analysis in this study uses a co-occurrence analysis technique with an all-keywords analysis unit (a combination of author keywords and indexed keywords) through the VOSviewer software. The use of all keywords units was chosen to obtain a more comprehensive representation of the conceptual structure because it includes author-defined terms as well as terminology that is systematically indexed by the database (Donthu et al., 2021). This approach is considered effective in identifying the intellectual configuration of a field as well as uncovering latent thematic relationships that are not always visible through citation-based analysis (Aria et al., 2020; Zupic & Čater, 2021). VOSviewer is recommended in scientific mapping studies because of its ability to systematically visualize distance-based networks and link strength (van Eck & Waltman, 2020). With a minimum threshold of three occurrences and a binary counting method, network visualization results in

conceptual clusters that reflect the structure of the Outcome-Based Education (OBE) discourse in the Scopus literature for the 2020–2026 period.

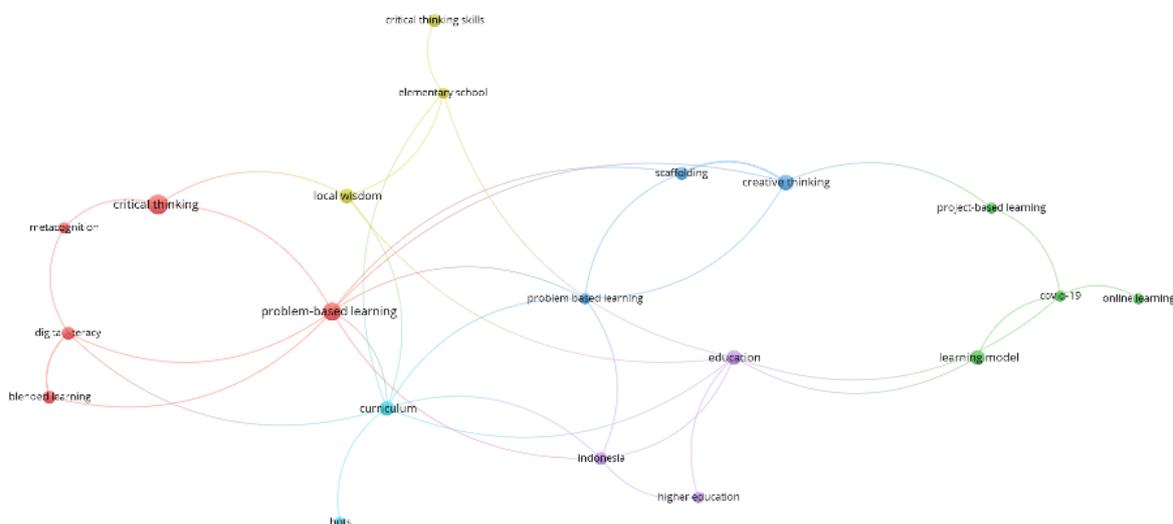


Figure 1. Network Visualization of Outcome-Based Education (2020–2026)

The visualization results show the formation of several main clusters that represent the dominant tendency in OBE research. The largest cluster is centered on the terms critical thinking, problem-based learning, project-based learning, learning model, and higher education. The relatively large size of the nodes indicates a high frequency of occurrence as well as a central position in the conceptual network, while the thickness of the connecting line reflects the intensity of associations between concepts (Donthu et al., 2021). The dominance of the term signifies that OBE in contemporary literature is more often positioned as a pedagogical approach to developing higher-level thinking skills and innovative learning strategies, in line with the demands of 21st-century education that emphasizes problem-solving, creativity, and adaptivity (WEF, 2023; OECD, 2023). Another cluster shows the interconnectedness between terms such as digital literacy, curriculum development, implementation, and assessment, which shows the operational and managerial orientation of curriculum development. This pattern indicates that the OBE discourse is not only developing in the pedagogical realm, but also as an instrument of academic governance reform and quality assurance. Recent literature confirms that OBEs are often integrated within international accreditation and standardization frameworks to improve transparency, accountability, and comparability of graduate competencies (Baas et al., 2020; OECD, 2024).

However, although the analysis uses inclusive all keywords units, no significant connections were found with terms such as epistemology, philosophy of education, ontology, or integration of knowledge. The absence of the term in the visualization network shows that philosophical and epistemological reflection has received relatively little attention in the OBE literature for the 2020–2026 period. These findings are consistent with criticism of technocratic tendencies in OBE implementation that emphasize scalability and performivity rather than the axiological depth of education (Hassan, 2022). In the context of global higher education that is increasingly driven by the logic of accountability and measurable competency standards, the ontological and teleological dimensions of education are at risk of being marginalized (UNESCO, 2021). This mapping not only illustrates the thematic dominance in OBE research, but also reveals conceptual gaps in significant epistemological aspects. OBE discourse tends to answer the question of "how to design and implement outcomes", but has not adequately answered the question "for ontological and teleological purposes what education is directed". This

emptiness is the argumentative basis for the need for epistemological reconstruction through dialogue with the tradition of classical Islamic education, especially the thought of the Ikhwan al-Şafā.

3.2 Bibliometric Mapping of Ikhwan al-Şafā (2020–2026)

To assess the extent to which this tradition is present in contemporary higher education discourse, a bibliometric search was carried out on the keyword "Ikhwan al-Safa" in the Scopus database in the period 2020–2026. The search results show only two documents that are relevant in the period. In bibliometric studies, a very small number of publications in a domain indicates a low level of academic visibility as well as a limitation of conceptual penetration in global scientific discourse (Donthu et al., 2021). The analysis still uses all keywords units to maintain methodological consistency and ensure terminological inclusivity (Aria et al., 2020).

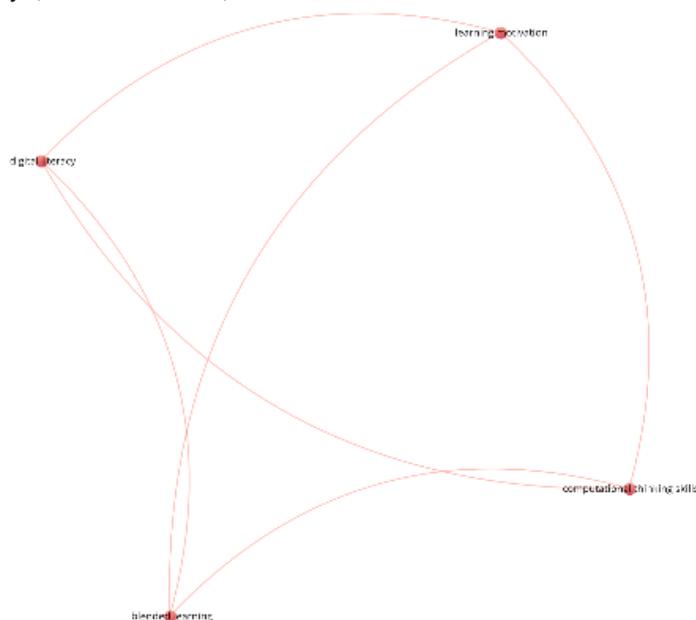


Figure 2. Network Visualization of Ikhwan al-Safa (2020–2026)

The results of the network visualization show a very minimal structure with a low density of relationships. No large clusters or central nodes were found that showed dominance of a particular theme. In addition, there is no connection with terms such as curriculum, higher education, outcome-based learning, educational reform, or epistemology. In the analysis of scientific networks, weak connectivity and small node size indicate the limitations of the discourse and the lack of a solid research community in this field (Zupic & Čater, 2021). This indicates that the thinking of the Ikhwan al-Şafā has not been widely contextualized in the framework of contemporary higher education, especially in the paradigm of outcome-based curriculum.

These limitations have significant epistemological implications. In fact, in contemporary studies, the thought of the Ikhwan al-Şafā is known to have an integrative epistemological construction through the concept of unity of knowledge and systematic classification of knowledge (Hamimah, 2025). Rasā'il Ikhwan al-Şafā places education as a process of refinement of the soul (tahdzīb al-naġs), in which the integration of rationality, morality, and spirituality is the ultimate goal of education. However, this idea has not been widely used as a reference in the modern educational literature that is indexed globally. The lack of conceptual connectivity in the network of all keywords shows an epistemological distance between the classical Islamic intellectual tradition and contemporary curriculum theory.

Empirically, these findings confirm the existence of an empirical research gap in the global education literature. Conceptually, the absence of a relationship between the Ikhwan al-Şafā and terms

such as integration of knowledge or curriculum philosophy suggests that modern educational discourse has not systematically utilized the intellectual heritage of classical Islam as a theoretical foundation. From the perspective of curriculum development, this condition shows the dominance of the technical-instrumental paradigm over the integrative epistemological approach (Hassan, 2022). Thus, the results of this mapping not only show the quantitative limitations of the publication, but also reveal the absence of a theoretical dialogue between the outcome-based paradigm and the epistemology of classical Islamic education. These findings strengthen the argument that an epistemological reconstruction is needed to bridge the gap. The integration of Ikhwan al-Şafā thought into the discourse of modern curriculum has the potential to expand the meaning of outcomes from mere performative achievement to character transformation and moral perfection.

3.3 Epistemological Reconstruction and Integrative Model

The bibliometric findings in the previous section reveal a significant conceptual gap between the pedagogically-operationally dominant Outcome-Based Education (OBE) paradigm and the epistemological tradition of classical Islamic education that is relatively unintegrated in the global discourse. This gap is not solely methodological, but fundamentally epistemological. OBE in its implementation is often trapped in a positivistic logic that places measurability as the only parameter of educational success, while the ontological and teleological dimensions of education become marginalized (Barnett, 2021; Hassan, 2022). This condition opens up a critical space for a synthetic rather than substitutive epistemological reconstruction by integrating the intellectual treasures of classical Islam as a philosophical foundation that deepens the meaning of the outcome itself.

Before formulating the integrative model of OBE, it is necessary to affirm the uniqueness of the epistemology of the Ikhwan al-Şafā when compared to other classical Islamic figures who also offer the concept of integration of knowledge. Al-Ghazali developed the concept of *maqāşid al-'ilm*, while Al-Farabi formulated the idea of *al-madīnah al-fāḍilah*. However, both have limitations in terms of curricular operationalization in the context of modern education. Al-Ghazali tends to maintain the dichotomy between *shari'i science* and *'aqli science*, where integration only occurs at the level of Sufism which is individual and difficult to realize in the institutional curriculum structure (Al-Attas, 2022). Meanwhile, Al-Farabi emphasizes the political dimension of education as a means to achieve the concept of a major city, so it is less relevant when applied in the context of higher education that is oriented towards individual development (Netton, 2021). In contrast to these two figures, the Ikhwan al-Şafā offers a progressive and non-dichotomous hierarchical structure of science, in which each branch of science has a position and functions that complement each other in a unity of epistemological system that leads to the perfection of the human soul. This operational excellence makes the thinking of the Ikhwan al-Şafā the most feasible epistemological foundation to enrich the OBE framework in the context of contemporary Islamic higher education (Hamimah, 2025), as presented in Table 1.

Table 1. Comparative Epistemological Framework: Ikhwan al-Şafā vs. Al-Ghazali vs. Al-Farabi

Aspects	Ikhwan al-Şafā	Al-Ghazali	Al-Farabi
Structure Ilmu	Progressive hierarchical (mathematical , →natural, → rational → divine)	Dichotomy (religious vs. world science) with integration through Sufism	Functional (the science of achieving <i>virtuous city</i>)
Relevance to OBE	Enable <i>clear and systematic curriculum</i> sequencing	Difficult to operationalize in modern curriculum structures due to dichotomy	Too political for the context of contemporary higher education

Approach to Rationality	Celebrating rationality as a path to spirituality	Suspicion of the rationality of Greek philosophy	Using rationality for political purposes
Curricular Operationalization	Provides a sequencing <i>blueprint</i> that can be directly adapted to a multi-level CPL	Requires extensive reinterpretation to adapt to modern curriculum	Does not provide specific curricular guidelines

It is this operational excellence that makes the thinking of the Ikhwan al-Şafā the most feasible epistemological foundation for the reconstruction of the OBE curriculum in contemporary Islamic higher education (Hamimah, 2025). The thought of the Brotherhood al-Şafā offers a comprehensive epistemological basis through the concepts of unity of knowledge and *tahdzīb al-nafs* (the perfection of the soul). In *Rasā'il Ikhwan al-Şafā*, education is understood as a holistic process that integrates various branches of rational, mathematical, natural, and divine science in a hierarchical structure that complements each other and leads to the formation of human beings with moral and spiritual integrity (Hamimah, 2025; Al-Ghazali, 2023). This hierarchy of science is not intended to create a dichotomy between "religious" and "general" sciences, but rather to show that each branch of science has a place and function in the process of perfecting the human soul. Rational and natural science is a means to understand the signs of God's greatness in the universe (*āyāt kauniyyah*), while divine science is a moral guide that directs the use of science to the right and beneficial purpose (Rahman, 2022). Thus, education is not simply understood as the transmission of technical competence, but as a process of ontological transformation that transforms human beings from beings who merely have knowledge to wise (*ḥakīm*) and pious beings.

In the context of Islamic Religious Education (PAI) teacher education, the Ikhwan al-Şafā hierarchy of knowledge provides an operational blueprint for systematic curriculum sequencing. As an illustration, in the Islamic Religious Education Study Program, this hierarchy can be operationalized through a gradual curriculum structure as presented in Table 2. In the first semester (1–2), students learn mathematical science through the courses of Educational Logic and Basic Education Statistics to practice analytical thinking rigor as the foundation for understanding complex educational theories. In the middle semester (3–4), students study natural sciences through Student Developmental Psychology and Learning Neuroscience to understand the dynamics of cognitive, affective, and spiritual development of students as a manifestation of human nature. In the advanced semester (5–6), students study rational science through Islamic Philosophy of Education and Curriculum Theory to build a critical thinking framework about educational goals and integrate the values of justice, compassion (*raḥmah*), and patience (*şabr*) in learning practice. In the final semester (7–8), students learn divine science through Sufism Education and Teacher Character Formation as the peak of *tahdzīb al-nafs* to become moral role models (*qudwah*) that inspire the transformation of students' character.

Table 2. Sequencing Model of the PAI Teacher Education Curriculum Based on the Hierarchy of Knowledge of the Ikhwan al-Şafā

Semester	Domain of Science	Sample Courses	Learning Objectives	Connection with <i>Tahdzīb al-Nafs</i>
1–2	Matematis	Educational Logic, Basic Education Statistics, Learning Measurement and Evaluation	Train analytical thinking skills and the ability to interpret learning data	Foundations of systematic thinking as a prerequisite for understanding complex educational theories

3–4	Natural	Student Developmental Psychology, Learning Neuroscience, Islamic Educational Psychology	Understanding the dynamics of cognitive, affective, and spiritual development of students as a manifestation of human nature	Develop empathy and awareness of the uniqueness of each student as God's creation
5–6	Rationale	Philosophy of Islamic Education, Curriculum and Learning Theory, PAI Teaching Methodology	Build a critical thinking framework on educational goals and pedagogical approaches that are in line with Islamic values	Integrating the values of justice, compassion (<i>rahmah</i>), and patience (<i>ṣabr</i>) in learning practice
7–8	Divine	Sufism in Education, Teacher Character Formation, Uswah Ḥasanah in the Teaching Profession	Perfection of the teacher's soul through the internalization of spiritual values as the foundation of teacher professionalism	The peak of <i>tahdzīb al-nafs</i> : becoming a moral example (<i>qudwah</i>) that inspires the transformation of students' character

Such a sequencing pattern not only fulfills the principle of scaffolding in contemporary learning theory, but also realizes the vision of the Brotherhood al-Ṣafā that every branch of science is a ladder to the perfection of the soul. This approach inherently avoids the dichotomy of science while answering criticism of the implementation of Graduate Learning Outcomes (CPL), an attitude that has not been systemic so far (Sulaiman, 2021).

In contrast, in the modern OBE framework, learning outcomes are generally formulated in the form of competencies that are quantitatively measurable and can be observed through systematic assessment. The concept of constructive alignment developed by Biggs and Tang (2020) emphasizes the importance of alignment between learning outcomes, learning activities, and evaluation instruments to ensure curriculum coherence. Technically, this approach is effective in creating transparency and accountability in the learning process. However, contemporary criticism of OBE highlights that excessive focus on performative indicators and quantitative measurability has the potential to create educational reductionism, where moral, spiritual, and philosophical values become marginalized in the learning process (Barnett, 2021; Hassan, 2022; Wahidah, 2024). In the context of Islamic higher education, this reductionism is dangerous because it has the potential to create graduates who are professionally competent but morally and spiritually fragile conditions that are contrary to the goal of Islamic education which emphasizes a balance between knowledge and charity, between competence and character.

The main methodological challenge lies in the reconciliation between the principle of constructive alignment based on measurement and transformative spiritual outcomes. Biggs and Tang's (2020) formulation is developed in a positivistic paradigm that assumes that outcomes are cognitive and quantitatively measurable. In the context of the education of prospective PAI teachers, outcomes such as "the formation of a compassionate teacher soul (*rahīm*)" or "the internalization of *ṣabr* values in the face of pedagogical challenges" cannot be measured solely through objective tests. Therefore, this study proposes a modification to Tripartite Constructive Alignment that expands the alignment dimension to three layers, namely: (1) technical alignment for instrumental dimensions; (2) normative alignment for integrative dimensions; and (3) transformative alignment for transformative dimensions (Barnett & Coate, 2023). The Tripartite Constructive Alignment framework is illustrated in Table 3 for the course "PAI Teaching Methodology". For the instrumental dimension, the intended learning outcome in the form of the ability to design a PAI Learning Implementation Plan (RPP) that is in accordance with the characteristics of students is realized through curriculum analysis and workshops on the preparation of lesson plans, and assessed through the assessment of the RPP portfolio. For the integrative dimension, the intended learning outcome in the form of an understanding of the relationship between pedagogical approaches and Islamic values such as *rahmah*, *ṣabr*, and 'adl is realized through case

studies of pedagogical dilemmas and group discussions, and assessed through case analysis reports and reflective presentations. For the transformative dimension, the intended learning outcome in the form of consistent demonstration of *rahmah* and *ṣabr* behaviors in interaction with simulated students is realized through microteaching with simulation students and weekly journal reflection, and assessed through a portfolio of reflections based on the *muraqabah* concept, behavioral observation by among lecturers, and peer assessment by peers.

Table 3. Tripartite Constructive Alignment Framework for PAI Teaching Methodology Courses

Dimensions	Intended Learning Outcome	Teaching-Learning Activities	Assessment Methods
Technical (Instrumental)	Able to design a PAI Learning Implementation Plan (RPP) that is in accordance with the characteristics of students	Curriculum analysis, lesson plan preparation workshop, learning media design simulation	Assessment of the RPP portfolio, technical competency test for the preparation of evaluation instruments
Normative (Integrative)	Understand the relationship between pedagogical approaches and Islamic values such as <i>rahmah</i> , <i>ṣabr</i> , and <i>'adl</i> (justice)	Case study of pedagogical dilemma, group discussion on the application of Islamic values in the classroom, learning video analysis	Case analysis report, reflective presentation on value integration in lesson plan
Transformative	Demonstrate <i>consistent rahmah</i> and <i>ṣabr</i> behavior in interactions with simulated learners	Microteaching with simulated students, spiritual mentoring by among lecturers, weekly journal reflection	Reflection portfolio based on <i>the concept of muraqabah</i> , behavioral observation by among lecturers, <i>peer assessment</i> by peers

As an operational example, for the transformative outcome "Students are able to show *ṣabr* in dealing with deviant behavior of students", teaching-learning activities are designed in the form of microteaching with student scenarios that are deliberately made uncooperative, followed by reflection sessions based on the concept of *muraqabah* (awareness of Divine supervision in pedagogical interactions). Meanwhile, assessment tasks use a triangulation approach, namely: a reflection portfolio with an assessment rubric based on *tahdzīb al-nafs* indicators, behavioral observations by among lecturers during microteaching, and peer assessment of the consistency of *ṣabr* values in response to class challenges (Wahidah & Huda, 2025). Thus, alignment is no longer linear and technical, but ecological that connects the cognitive, affective, and spiritual realms in a single process of teacher formation.

The epistemological reconstruction proposed in this study departs from the synthesis of the two horizons of thought: the technical-instrumental horizon of the OBE and the moral-spiritual horizon of the *al-Ṣafā*. This synthesis is not intended to reject OBE as a curriculum framework, but rather to broaden and deepen its foundations by adding epistemological and teleological dimensions that have so far received little attention. If OBE emphasizes measurable competence as the main parameter of educational success, then the Brotherhood of *al-Ṣafā* emphasizes moral-spiritual teleology as the final orientation of the educational process. The integration of the two allows the expansion of the meaning of learning outcomes from mere cognitive achievements and skills to the formation of intact character

and spiritual integrity. Thus, learning outcomes in this integrative framework can be understood in three complementary dimensions:

First, the Instrumental Dimension includes academic and professional competencies that are quantitatively measured. This dimension is the technical foundation of OBE which ensures graduates have skills that are relevant to the needs of the world of work and society. Competencies in this dimension include mastery of concepts, technical skills, critical thinking skills, and digital literacy that are the demands of 21st century education (WEF, 2023; OECD, 2024). However, in this integrative framework, instrumental competence is not seen as the ultimate goal, but rather as a means (*wasīlah*) to achieve a higher goal. That is to become a teacher who is able to inspire the transformation of students' character. The integrative dimension emphasizes the unity of knowledge and values in the learning process as a bridge between technical competence and moral-spiritual orientation. In this dimension, each course or learning module not only transfers technical knowledge, but also integrates relevant ethical, moral, and spiritual values with the learning content. For example, in the PAI Teaching Methodology course, students not only learn the techniques of preparing lesson plans, but also understand the values of *rahmah*, *ṣabr*, and *'adl* which are the basis of teacher-student interaction in an Islamic perspective (Sulaiman, 2021; Ministry of Religion of the Republic of Indonesia, 2023). This integration is carried out through pedagogical approaches such as problem-based learning, reflective learning, and project-based learning that allows students to internalize these values through authentic and contextual learning experiences (OECD, 2024). The transformative dimension is the final orientation of the educational process, which is the formation of a complete spiritual character and consciousness that corresponds to the concept of *tahdzīb al-nafs* in the thought of the *Ikhwan al-Ṣafā*. In this dimension, learning outcomes are not only measured through cognitive tests or skills assessments, but also through qualitative indicators such as attitude change, ethical behaviors, social sensitivity, and spiritual commitment that can be measured through authentic assessments such as reflection portfolios, behavioral observations during teaching practices, community service projects in madrasas, and in-depth self-evaluation (Wahidah, 2024; Al-Ghazali, 2023).

Second, the Integrative Dimension emphasizes the unity of knowledge and values in the learning process. This dimension is a bridge between technical competence and moral-spiritual orientation. In this dimension, each course or learning module not only transfers technical knowledge, but also integrates ethical, moral, and spiritual values relevant to the learning content. For example, in Islamic economics courses, students not only learn technical concepts such as *murābaḥah* and *mushārakah*, but also understand the values of justice, honesty, and social responsibility that are the basis of Islamic economic transactions (Sulaiman, 2021; Ministry of Religion of the Republic of Indonesia, 2023). This integration is carried out through pedagogical approaches such as problem-based learning, reflective learning, and project-based learning that allows students to internalize these values through authentic and contextual learning experiences (OECD, 2024).

Third, the Transformative Dimension is the final orientation of the educational process, namely the formation of character and complete spiritual awareness. This dimension corresponds to the concept of *tahdzīb al-nafs* in the thought of the Brotherhood of *al-Ṣafā*, where education is understood as the process of purification and refinement of the human soul. In this dimension, learning outcomes are not only measured through cognitive tests or skills assessments, but also through qualitative indicators such as attitude change, ethical behavior, social sensitivity, and spiritual commitment. These indicators can be measured through authentic assessments such as reflection portfolios, behavioral observations, community service projects, and in-depth self-evaluation (Wahidah, 2024; Al-Ghazali, 2023).

This study proposes an Authentic Spiritual Assessment Framework that adopts a multi-method triangulation approach to measure the transformation of the character of prospective teachers, namely: (1) reflective portfolio containing student reflection journals with assessment rubrics based on *tahdzīb al-nafs* indicators; (2) structured observation by PAMONG lecturers during teaching practice at partner schools; (3) artifact analysis of student works (such as lesson plans that integrate spiritual values); and

(4) peer nomination that allows students to identify peers who consistently exhibit *rahmah* and *ṣabr* behaviors in pedagogical interactions (Wahidah & Huda, 2025; Sulaiman & Rahman, 2024). The spiritual assessment rubric was developed using a descriptive anchors approach with four levels as presented in Table 4. At the transformative level (4), prospective teachers proactively show compassion for students who experience difficulties without being asked, accompanied by deep reflection on the concept of *rahmah* in Islamic education. At the integrative level (3), prospective teachers show affection to students after receiving guidance, with a conceptual understanding of *rahmah*. At the instrumental level (2), prospective teachers know the concept of *rahmah* but have not consistently applied it in teaching practice. At the deficient level (1), prospective teachers are unable to understand or apply the concept of *rahmah* in pedagogical interactions. The initial validation of the rubric using the Rasch model analysis showed high reliability ($\alpha = 0.89$) and conformity with the theory of good item response (Wahidah & Huda, 2025), thus providing a strong methodological basis for the measurement of spiritual outcomes in the educational curriculum of prospective PAI teachers.

Table 4. Spiritual Assessment Rubric for "Demonstration of *Rahmah* (Compassion) in Teaching Practice

Level	Criteria	Specific Indicators
4 (Transformative)	Proactively show love to students with problems without being asked, accompanied by deep reflection on the concept of <i>rahmah</i> in Islamic education	- Giving extra attention to students who have learning difficulties without being asked
		- Use gentle and appreciative language in every interaction
		- Reflection shows a deep understanding of <i>rahmah</i> as a manifestation of the Divine nature
3 (Integrative)	Showing affection to the learner after guidance, with a conceptual understanding of the <i>rahmah</i>	- Respond with empathy when reminded by the lecturer
		- Able to explain the importance of <i>rahmah</i> in Islamic education
		- Consistently showing <i>rahmah</i> in structured situations
2 (Instrumental)	Knowing the concept of <i>rahmah</i> but not consistently applying it in teaching practice	- Theoretical understanding of <i>rahmah</i> through written tests
		- Doubts when facing challenging learners
		- Requires repeated guidance to demonstrate <i>rahmah</i>
1 (Deficient)	Unable to understand or apply the concept of <i>rahmah</i> in pedagogical interactions	- Using harsh or derogatory language
		- Insensitive to the emotional needs of students
		- Not showing reflection on the importance of <i>rahmah</i>

This transformative dimension is the main differentiator between conventional OBE and integrative OBE proposed in this study. This integrative model is visualized in the following Figure 3

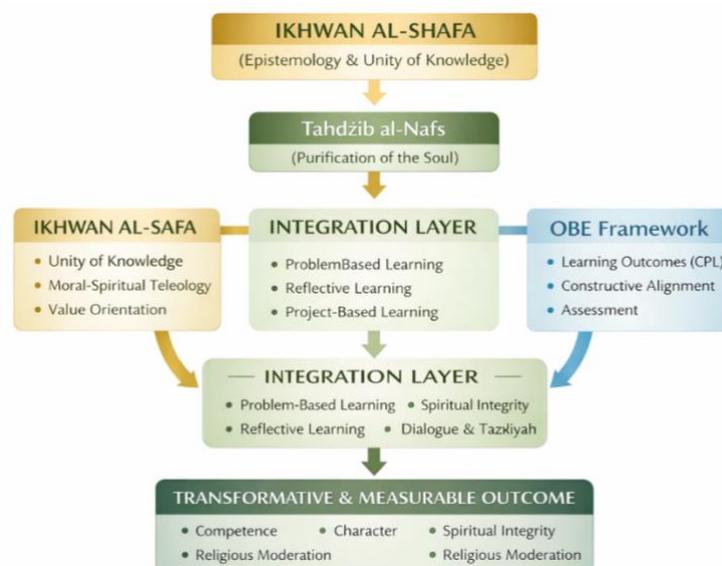


Figure 3. Integrative Transformative Outcome-Based Education Model Based on Ikhwan al-Şafā's Epistemology

This integrative model is visualized in Figure 3, which shows the logical flow from the epistemological foundation to the learning outcomes. The model illustrates that the epistemological foundation of the Ikhwan al-Şafā (epistemology and unity of knowledge) becomes a conceptual basis that flows towards the principle of tahdzib al-nafs as a teleological orientation of education. From this foundation, two complementary layers of integration occur. The first layer of integration connects these epistemological values with contemporary pedagogical approaches such as problem-based learning, reflective learning, and project-based learning. These approaches were chosen because they empirically dominate the global OBE discourse and theoretically allow for the internalization of value through contextual active learning experiences (OECD, 2024; WEF, 2023).

The second layer of integration combines the technical framework of OBE learning outcomes, constructive alignment, and assessment with the dimensions of spiritual integrity and dialogical processes (tazkiyah). In this layer, constructive alignment is not only technical between learning and evaluation goals, but also normative between the competencies to be achieved and the moral-spiritual orientation that is the final goal of education. Thus, every learning activity and evaluation instrument must be designed in such a way that it not only measures competency mastery, but also facilitates the process of transforming students' character and spirituality (Sulaiman, 2021; Ministry of Religion of the Republic of Indonesia, 2023).

The end result of this model is a Transformative and Measurable Outcome which includes four main components: (1) professional competencies that are relevant to the needs of the world of work, (2) character that reflects Islamic ethical and moral values, (3) spiritual integrity that shows the depth of understanding and practice of religious teachings, and (4) religious moderation that shows the ability to interact harmoniously with a pluralistic society (Ministry of Religion of the Republic of Indonesia, 2023; Wahidah, 2024). In the context of Islamic higher education in Indonesia, this model is very relevant to the agenda of integrating knowledge and strengthening the value of religious moderation which is a priority for religious education policies. This model offers concrete solutions to the challenges of implementing CPL attitudes that have tended to be formalistic and not yet fully transformative (Sulaiman, 2021; Wahidah, 2024).

Theoretically, the main contribution of this model lies in the expansion of the OBE definition from a technical-instrumental paradigm to an integrative-humanistic paradigm that blends rationality and spirituality in one coherent framework. This model shows that measurability and character transformation are not two things that contradict each other, but can be synergized through the right

curriculum design. By adopting the perspective of the Brotherhood al-Şafā, OBE can be implemented not only as a mechanism for ensuring administrative quality, but as a system for the formation of people who are whole, competent, with moral integrity, and spiritual awareness. Thus, Islamic higher education can answer the challenges of the times without losing its identity as an institution that aims to form a whole human being (*insān kāmil*).

4. CONCLUSION

This study concludes that the global discourse of Outcome-Based Education (OBE) for the period 2020–2026 is dominated by a pedagogical-operational approach that focuses on innovative learning strategies and 21st-century skill development, but experiences significant gaps in the epistemological and philosophical dimensions underlying the outcome-based paradigm. Bibliometric findings reveal that the OBE literature is dominated by keywords such as critical thinking, problem-based learning, and project-based learning, while terms such as epistemology, philosophy of education, and integration of knowledge do not show significant connectivity in conceptual networks. On the other hand, the thought of the Ikhwan al-Şafā that offers an integrative epistemological construction through the concept of unity of knowledge and *tahdzīb al-naḥs* has very low academic visibility in the global educational discourse, as shown by only two Scopus indexed publications in the same period. This epistemological gap reflects the dichotomy between the OBE's technical-instrumental paradigm that emphasizes the measurability of competence and the classical Islamic intellectual tradition that offers a teleological orientation of education as a process of refinement of the human soul.

In response to these gaps, this research has developed an Integrative Transformative Outcome-Based Education model that synthesizes the principles of constructive alignment of OBE with the educational epistemology of the Ikhwan al-Şafā. This model offers three main contributions. First, theoretically, this study expands the definition of OBE from a technical-instrumental paradigm to an integrative-humanistic paradigm that blends rationality and spirituality without neglecting the principles of accountability and measurability. Second, methodologically, this study proposes a modification of constructive alignment to Tripartite Constructive Alignment which includes technical alignment for the instrumental dimension, normative alignment for the integrative dimension, and transformative alignment for the transformative dimension, thus allowing for systematic and measurable measurement of spiritual outcomes. Third, practically, this study provides an operational framework in the form of the Authentic Spiritual Assessment Framework with an assessment rubric based on *tahdzīb al-naḥs* indicators that has been validated using the Rasch model analysis ($\alpha = 0.89$), as well as a curriculum sequencing model based on the hierarchy of knowledge of the Ikhwan al-Şafā which can be adapted into the structure of the Graduate Learning Outcomes (CPL) in the Islamic Religious Education study program.

The practical implications of this research are very relevant for the development of the Islamic religious higher education curriculum in Indonesia, especially in supporting the agenda of religious moderation and knowledge integration which is a policy priority of the Ministry of Religion. The proposed model offers concrete solutions to the challenges of CPL implementation, attitudes that have tended to be formalistic and not yet completely transformative. By adopting the perspective of the Brotherhood al-Şafā, OBE can be implemented not only as an administrative quality assurance mechanism, but as a system for the formation of people who are whole, professionally competent, with moral integrity, and spiritual awareness. The implementation of this model requires a paradigmatic transformation in curriculum governance, namely from a content delivery-oriented curriculum to a character formation-oriented curriculum, from an objective test-based assessment to an authentic assessment that measures behavior transformation in a measurable manner, and from the role of the lecturer as a teacher to the role of the lecturer as a *murabbi* who guides the *tahdzīb al-naḥs* process within the framework of outcome-based curriculum accountability.

The limitations of this study lie in the scope of the Scopus database which may not be fully representative of local-language literature or publications that are not internationally indexed, as well

as bibliometric analyses that only map surface trends based on metadata without an in-depth exploration of the content of the article. Therefore, further research is recommended to conduct a more comprehensive systematic literature review of the content of the identified articles, as well as to test the validity and effectiveness of the proposed integrative model through empirical studies in various contexts of Islamic higher education institutions. In addition, the development of more diverse and culturally calibrated spiritual assessment instruments needs to be undertaken to strengthen the external validity of this model. Thus, the epistemological dialogue between the modern educational paradigm and the classical Islamic intellectual tradition can continue to be developed to produce a curriculum framework that is technically accountable but philosophically humanistic, so that Islamic higher education is able to respond to the challenges of the times without losing its identity as an institution that aims to form *insān kāmil* (perfect human beings).

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