

Industry-Based Curriculum and Graduate Employability: An Effort to Reduce Intellectual Unemployment

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Article Info

Article history:

Received May, 2026

Revised May, 2026

Accepted May, 2026

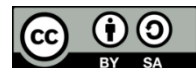
Keywords:

Critical Discourse Analysis;
Employability; Industry-based
Curriculum; Intellectual
Unemployment; Skill Mismatch

ABSTRACT

Intellectual unemployment is a major challenge in the modern education system due to the increasing mismatch between graduate competencies and the needs of the workforce. The transformation of the digital economy, the development of artificial intelligence (AI), and the Industrial Revolution 4.0 require educational institutions to produce graduates who are not only academically superior but also adaptable to technological changes and global industrial needs. However, the Indonesian education system still faces a skills mismatch problem due to a curriculum that tends to be theoretical, less responsive to industrial developments, and has not fully integrated 21st-century skills. This study aims to analyze the role of an industry-based curriculum in improving graduates' job readiness as an effort to reduce intellectual unemployment, while also examining the transformation of the curriculum from a Critical Discourse Analysis (CDA) perspective. The study uses a qualitative approach with literature study and critical discourse analysis methods. Data were obtained from reputable international journals indexed by Scopus, accredited national journals, reports from international institutions, and education and employment policy documents. The results show that an industry-based curriculum can improve graduate employability through strengthening project-based learning, industrial internships, digital literacy, and soft skills development. The implementation of the link and match program and the Independent Learning and Independent Campus (MBKM) program also contribute to improving graduates' job readiness. However, from a CDA perspective, the transformation of the industry-based curriculum demonstrates the dominance of economic logic and neoliberalism in education, which directs education as an instrument for providing labor for industry. Therefore, the development of an industry-based curriculum needs to be carried out in a balanced manner so that education is not only oriented towards job market needs but also maintains its humanistic function in developing critical, creative, and socially conscious individuals.

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1. INTRODUCTION

Education is a strategic instrument for developing human resources and enhancing national competitiveness in the era of globalization. From the perspective of Human Capital Theory, education is viewed as an investment capable of increasing the productivity, skills, and quality of the workforce, thereby contributing to national economic growth (Becker, 1993). However, increased access to higher education in various developing countries, including Indonesia, has not been fully accompanied by an increase in graduates' job readiness. This condition has given rise to the phenomenon of intellectual unemployment, a situation where higher education graduates are unable to be optimally absorbed into the workforce despite possessing adequate academic qualifications.

The phenomenon of intellectual unemployment in Indonesia shows a quite worrying trend. According to data from the Central Statistics Agency (BPS), Indonesia's open unemployment rate (TPT) in 2024 will still be dominated by the productive age group and graduates of secondary and tertiary education. BPS data shows that university graduates still contribute 5.25% of the unemployment rate, while diploma graduates account for 4.83% of the total national unemployment. This situation indicates that the increase in the number of higher education graduates has not been fully accompanied by an increase in labor absorption relevant to graduate competencies. Furthermore, Indonesia also faces the challenge of a demographic bonus, which is expected to peak in 2030–2040, requiring adaptive and competitive human resources to face global economic changes.

The phenomenon of intellectual unemployment demonstrates a mismatch between graduate competencies and the needs of the modern workforce. McGuinness, Pouliakas, and Redmond (2018) explain that skills mismatch is a major issue in the global education and employment system because graduate competencies often do not align with actual industry needs. This situation causes many graduates to struggle to find jobs relevant to their fields of expertise. In the Indonesian context, this problem is further complicated by disparities in education quality, low technology integration in learning, and weak links between educational institutions and the industrial world.

Changes in the global economic structure resulting from the Industrial Revolution 4.0 and digital transformation are accelerating changes in workforce competency requirements. Developments in artificial intelligence (AI), industrial automation, big data, and the Internet of Things (IoT) have transformed the characteristics of jobs in various industrial sectors. The World Economic Forum (2023) reports that approximately 44% of workers' skills are projected to change in the next five years due to developments in digital technology and industrial automation. The future world of work will no longer require only academic abilities and theoretical mastery, but also critical thinking, creativity, communication, collaboration, technological adaptation, and problem-solving skills.

The development of the digital economy is also shifting the paradigm of global workforce competency. The OECD (2023) report shows that demand for digital skills and technological capabilities is increasing significantly across various global industrial sectors. Today's industry requires individuals with multidimensional capabilities and 21st-century digital skills more than simply academic mastery. van Laar et al. (2020) explain that digital literacy is a crucial factor in improving graduates' job readiness and competitiveness in the era of technological transformation. Therefore, educational institutions are required to update their curricula to be more responsive to changes in technology-based job structures and the needs of modern industry.

2. METHOD

This research employs a qualitative approach using literature research and critical discourse analysis (CDA). The qualitative approach was chosen because the research aims to deeply understand the phenomenon of intellectual unemployment, the transformation of industry-based curriculum, and the relationship between education and the needs of the workforce in the digital

age. According to Creswell (2018), a qualitative approach is used to explore and understand the meaning of a social phenomenon through the interpretation of various data sources and the contexts that underlie it.

The literature study method was used to examine various theories, concepts, research findings, and policies related to industry-based curriculum, employability, skills mismatch, intellectual unemployment, digital education, and educational neoliberalism. This research utilized various secondary sources, including reputable international journals indexed by Scopus, accredited national journals, academic books, reports from international institutions, and government policy documents relevant to the research focus.

In addition to using literature research, this research also applied a Critical Discourse Analysis (CDA) approach to analyze how the discourse of industry-based curriculum is constructed within modern education policy. CDA is used to identify power relations, economic interests, and ideologies that influence the direction of educational transformation in the era of globalization and the digital economy. Fairclough (1995) explains that language and policies are not neutral, but rather social practices related to domination and power relations in society. Therefore, the CDA approach is used to understand how narratives such as "work readiness," "global competitiveness," and "link and match" shape an educational paradigm increasingly oriented toward the needs of industry and the labor market.

The research data sources consist of scientific articles, theoretical textbooks, official reports, and education policy documents obtained through Google Scholar, Scopus, ScienceDirect, Springer, Taylor & Francis, as well as reports from international institutions such as UNESCO, the OECD, and the World Economic Forum (WEF). The research also utilizes data from the Central Statistics Agency (BPS) and policy documents from the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia regarding the implementation of Independent Learning and Independent Campus (MBKM) and the transformation of higher education.

Data collection techniques were conducted through documentation and a systematic literature search using keywords such as industry-based curriculum, graduate employability, intellectual unemployment, skill mismatch, digital education, Critical Discourse Analysis, and neoliberalism in education. The literature used prioritized publications from the last five to ten years to obtain a current overview of developments in the world of work and the transformation of digital education. However, the study also utilized several classical theories as a conceptual foundation, such as Becker's Human Capital Theory (1993), Fairclough's CDA theory (1995), and Foucault's concept of power (1980).

Data analysis utilized the interactive analysis model of Miles, Huberman, and Saldaña (2014), which encompasses data reduction, data presentation, and conclusion drawing. In the data reduction stage, researchers selected and classified various pieces of information relevant to the research focus. The data presentation stage was conducted by grouping findings based on key themes, such as intellectual unemployment, curriculum transformation, graduate work readiness, skill mismatch, and neoliberalism in education. Next, the conclusion-drawing stage is conducted through critical interpretation of various research findings to gain a comprehensive understanding of the relationship between industry-based curriculum and graduates' work readiness.

To maintain data validity, the study employed source triangulation techniques by comparing various references from scientific journals, international reports, and government policy documents. Furthermore, the researchers conducted a critical analysis of previous research findings to identify research gaps and identify patterns of relationships between industry-based curriculum transformation and the dynamics of modern workforce needs. With this approach, the study is expected to produce an objective, systematic, and critical analysis of educational developments in the digital economy era.

3. RESULTS AND DISCUSSION

3.1 *Intellectual Unemployment in the Dynamics of the Modern Workplace*

Intellectual unemployment is a phenomenon that indicates a mismatch between educational outcomes and job market needs. This phenomenon occurs when higher education graduates are unable to be optimally absorbed into the workforce despite possessing adequate academic qualifications. In the context of modern educational development, intellectual unemployment is an indicator that the education system is not yet fully capable of producing human resources relevant to industrial transformation and the development of the digital economy.

Changes in the structure of the workforce due to the Industrial Revolution 4.0 and the development of digital technology have significantly altered workforce competency requirements. Today's industrial world requires individuals with critical thinking, creativity, communication, collaboration, technological adaptation, and problem-solving skills rather than simply mastering academic theory. The World Economic Forum (2023) explains that developments in artificial intelligence (AI), automation, and digitalization are causing most jobs to experience changing characteristics and competency requirements in the future.

However, the Indonesian education system still faces the issue of curriculum relevance to the needs of the modern workplace. Many educational institutions still implement learning that focuses on memorization, grade achievement, and mastery of theory rather than developing practical competencies and professional experience. This situation makes it difficult for graduates to adapt to the ever-evolving needs of industry.

McGuinness, Pouliakas, and Redmond (2018) explain that skills mismatch is one of the main causes of high levels of intellectual unemployment in various countries. The competencies acquired during education often do not align with actual job market needs, resulting in graduates having difficulty finding jobs relevant to their areas of expertise. In the Indonesian context, this problem is further complicated by the disparity in educational quality, low digital literacy, and weak links between educational institutions and the industrial world.

From the perspective of Human Capital Theory, education should be an instrument for improving human resource quality and economic productivity (Becker, 1993). However, the high rate of intellectual unemployment indicates that educational investment has not fully produced competencies that meet the needs of modern economic development. This situation demonstrates that the education system still requires transformation to produce graduates who are more adaptable to changes in the global workplace.

Besides being influenced by educational factors, intellectual unemployment is also related to changes in global economic patterns that are increasingly competitive and technology-based. Many conventional jobs are starting to be replaced by digital systems and automation, requiring higher education graduates to possess multidisciplinary skills. Therefore, curriculum reform is an urgent need so that education can produce graduates who not only have academic knowledge, but also professional competence and the ability to adapt to technological changes.

3.2 *Weaknesses of Conventional Curricula in Meeting Industry Needs*

The curriculum is the core of the education system because it determines the direction of learning and the quality of graduate competencies. However, conventional curricula are considered incapable of meeting the challenges of the modern workplace due to the dominance of theoretical approaches in the learning process. The education system still tends to position students as passive recipients of information rather than individuals actively developing professional competencies and practical skills.

One of the main weaknesses of conventional curricula is the minimal integration of industry experience and workplace needs into the learning process. Education places greater

emphasis on completing academic material and achieving grades rather than developing problem-solving skills, creativity, and professional experience. As a result, graduates possess sufficient theoretical knowledge but are ill-prepared for the real-world workplace.

Aljohani (2022) explains that the gap between the competencies of university graduates and job market needs arises from the slow adaptation of curricula to developments in industry and digital technology. Higher education curricula are often not updated quickly enough, resulting in competencies taught lagging behind actual industry needs. This situation causes many graduates to struggle to compete in the increasingly dynamic modern workplace.

Furthermore, the development of soft skills within the education system remains relatively weak. The modern workplace requires a workforce with communication, collaboration, leadership, creativity, and adaptability skills. However, the learning process in many educational institutions still focuses more on cognitive and academic aspects than on strengthening interpersonal competencies. However, Harvey (2001) explains that employability is not only related to the ability to obtain employment, but also to an individual's ability to maintain the relevance of their competencies in a constantly changing workplace.

Another weakness lies in the limited integration of digital technology into learning systems. Developments in AI, big data, and industrial automation require a higher level of digital literacy. However, many educational institutions still face limitations in infrastructure, the quality of teaching staff, and technology-based learning systems. This situation leaves graduates underprepared for the digital-based job transformation.

Weak links between educational institutions and industry also widen the competency gap among graduates. Curriculum development is often carried out without active involvement of the industry sector, resulting in learning materials that are less aligned with real-world work needs. Internship and work experience programs are also still administrative in nature and do not fully provide optimal professional experience for students. Therefore, curriculum transformation is urgently needed to increase the relevance of education to the needs of the modern workplace.

3.3 *Industry-Based Curriculum as a Strategy to Strengthen Employability*

An industry-based curriculum is an educational strategy developed to increase the relevance of graduates to the needs of the modern workforce. This approach emphasizes the integration of the learning process with industry needs through strengthening practical competencies, professional experience, and the development of 21st-century skills. In the context of higher education, an industry-based curriculum is seen as a strategic effort to reduce skills mismatch and increase graduate employability.

The concept of employability relates not only to an individual's ability to obtain employment but also to their ability to adapt, develop, and maintain the relevance of competencies in an ever-changing workforce (Harvey, 2001). Therefore, higher education is no longer sufficient to produce graduates with only academic abilities, but also individuals with multidimensional competencies, interpersonal skills, and the ability to adapt to technological developments and social change.

One of the key characteristics of an industry-based curriculum is the implementation of project-based learning. This learning model provides students with opportunities to solve real-world problems related to industry needs, thereby enhancing critical thinking, creativity, collaboration, and problem-solving skills. This approach helps students understand the application of theory in a professional context while also building relevant work experience before entering the workforce.

Furthermore, industrial internship programs are a crucial component in strengthening graduates' job readiness. Through internships, students gain direct professional experience, understand industry culture, and develop adaptability to real-world work environments. These experiences help students build their professional identity and enhance their mental preparedness for the dynamics of the modern workplace. Jackson (2016) explains that professional identity and practical experience during the educational process are important factors in increasing graduate employability.

In the Indonesian context, the implementation of the Independent Learning and Independent Campus (MBKM) program is one form of industry-based curriculum transformation. This policy provides students with opportunities to gain off-campus learning experiences through internships, humanitarian projects, research, student exchanges, and entrepreneurial activities. Through this approach, students are expected to acquire not only academic competencies but also professional experience and social skills relevant to the needs of modern industry.

The industry-based curriculum also emphasizes the importance of strengthening digital literacy as a key competency for the 21st century. The development of the digital economy and industrial automation has led to an increasing need for individuals capable of utilizing technology effectively in the workplace. van Laar et al. (2020) explain that digital skills are a crucial factor in increasing workforce competitiveness in the era of technological transformation. Therefore, educational institutions need to integrate technology-based learning, data analysis, artificial intelligence, and digital literacy into their curriculum systems more comprehensively.

In addition to technological mastery, the development of soft skills is also a crucial component of an industry-based curriculum. The modern workplace requires a workforce with communication skills, teamwork, leadership, creativity, and the ability to adapt to change. However, conventional education systems often focus too much on cognitive and academic aspects rather than developing interpersonal competencies. Therefore, learning needs to be designed in a more collaborative and participatory manner so that students can optimally develop social and professional skills.

Active collaboration between educational institutions and the industrial sector is a key factor in the successful implementation of an industry-based curriculum. Industry needs to be involved in curriculum development, competency evaluation, practical laboratory development, and the provision of internship and professional certification programs. With this involvement, educational institutions can produce graduates who are more relevant to job market needs while increasing graduates' employment opportunities upon completion.

Thus, an industry-based curriculum can be an effective strategy for increasing graduate employability and reducing intellectual unemployment. However, implementation of this curriculum needs to be adaptive and sustainable so that education not only produces an economically competitive workforce but also individuals who are creative, critical, and able to face the changing world of work in the future.

3.4 Challenges in Implementing an Industry-Based Curriculum

Although an industry-based curriculum has significant potential to improve graduates' employability and work readiness, its implementation in Indonesia still faces various structural and technical challenges. These challenges relate not only to the readiness of educational institutions but also to the quality of human resources, educational infrastructure, policy support, and the involvement of the industrial sector in the learning process.

One major challenge is the limited competence of educators in addressing the transformation of industry-based education and digital technology. Many lecturers and

teaching staff still use conventional learning approaches that focus more on delivering theory than on developing practical skills and collaborative learning. Furthermore, not all educators have professional experience in the industrial world, resulting in the learning process often lacking relevance to actual workplace needs. This situation has prevented the implementation of an industry-based curriculum from running optimally.

Limited educational facilities and infrastructure also hinder curriculum transformation. The development of technology-based learning requires the support of modern laboratories, industrial practice equipment, digital learning systems, and adequate internet access. However, there is still a disparity in educational facilities between universities in urban areas and remote areas. This disparity contributes to the uneven quality of the implementation of the industry-based curriculum nationally.

Furthermore, weak collaboration between educational institutions and industry remains a significant issue in curriculum development. Many educational-industry collaborations remain administrative in nature and have not yet reached the strategic partnership stage in curriculum development or graduate competency evaluation. Industry is often seen only as a place for internships, without actively participating in learning development and improving educational quality. Consequently, the gap between graduate competencies and job market needs persists.

Another challenge relates to rapid technological change and global workforce needs. Developments in artificial intelligence (AI), automation, and the digital economy are causing the types of jobs and competencies required by industry to rapidly evolve. However, curriculum change in educational institutions is often slow due to academic bureaucracy and inflexible regulations. This situation causes the curriculum to lag behind the development of actual industry needs.

On the other hand, the educational culture in Indonesia still tends to prioritize academic success as the primary indicator of graduate quality. The focus on grades, diplomas, and formal achievements often outweighs the development of professional competencies and work experience. As a result, some students focus more on administrative completion of their studies than on developing practical skills and preparing for the workforce.

Funding issues are also a factor hindering the implementation of an industry-based curriculum. Developing modern laboratories, training faculty, providing competency certification, and industrial internship programs require significant funding. Not all educational institutions have sufficient budgetary capacity to undertake comprehensive curriculum transformation. Therefore, government support and partnerships with the industrial sector are crucial factors in the successful implementation of industry-based education.

More broadly, the challenges of implementing an industry-based curriculum are also related to social and digital inequalities within the national education system. Universities in regions with limited access to technology tend to struggle to develop industry-based learning and digitalize education. This situation has the potential to widen the gap in graduate quality between regions and reinforce the inequality of job opportunities in Indonesia.

Given these challenges, implementing an industry-based curriculum requires an integrated and sustainable strategy. Education reform requires more than just changes to curriculum documents; it also requires improving the quality of educators, strengthening digital infrastructure, changing the learning culture, and strengthening synergy between the government, educational institutions, and the industrial sector.

4. CRITICAL DISCOURSE ANALYSIS

4.1 *Industry-Based Curriculum from a Critical Discourse Analysis Perspective*

The transformation of the industry-based curriculum cannot be separated from the changing orientation of global education, which is increasingly influenced by economic and labor market needs. From a Critical Discourse Analysis (CDA) perspective, industry-based education policy can be understood as part of a discourse construction that positions education as an instrument of economic development and a provider of labor for modern industry. Discourses regarding "work readiness," "global competitiveness," and "link and match" demonstrate how policy language is used to shape an educational paradigm increasingly oriented toward market needs.

Fairclough (1995) explains that language and policy are not merely communication tools but also social practices related to power relations and specific ideologies. In the context of modern education, the dominance of narratives of productivity, competition, and economic efficiency demonstrates the increasing influence of neoliberal logic in the higher education system. Education is no longer viewed solely as a space for intellectual development and character formation, but also as a mechanism for producing human resources that meet the needs of industry and the global labor market.

Industry-based curriculum policies fundamentally have the positive goal of increasing the relevance of education to the needs of the workforce. However, this approach has also raised criticism regarding the increasing dominance of industry over the direction of higher education. Universities are gradually being pushed to produce graduates who are "ready for work" for industry, leading to a shift in academic orientation and the development of humanistic values. Under these conditions, universities are at risk of losing academic independence as curricula become more geared toward meeting market interests rather than developing knowledge and social awareness.

Giroux (2014) explains that educational neoliberalism encourages higher education institutions to operate using market logic through an orientation toward competition, productivity, efficiency, and competency certification. As a result, educational success is often measured by the rate of graduate employment and economic contribution rather than the quality of students' intellectual and character development. Education then undergoes commercialization as humanitarian values begin to be displaced by the demands of industry and the needs of the global economy.

From Foucault's (1980) perspective, education can be understood as an instrument of power used to shape individuals to meet the needs of the dominant social and economic system. Through an industry-based curriculum, students are indirectly constructed as productive workers who must adapt to the needs of the global market. The discourse of "work readiness" then becomes a mechanism of social discipline that encourages individuals to continuously improve their competencies according to modern industrial standards.

Furthermore, the dominance of the industrial paradigm in education also has the potential to narrow the meaning of education itself. Education should not only produce economically competitive individuals, but also individuals with critical awareness, reflective skills, and social responsibility towards society. However, when education is overly oriented toward job market needs, the humanities, critical thinking, and moral development often receive less attention within the learning system.

Apple (2004) explains that the curriculum is never neutral because it is always influenced by specific social, political, and economic interests. Therefore, the transformation of the industry-based curriculum needs to be understood not only as a technical education policy, but also as part of the dynamics of ideology and power relations in modern society. Education must be able to maintain a balance between the needs of the workplace and its

humanistic function as a space for character formation, social awareness, and intellectual development.

However, a critical approach does not mean rejecting the industry-based curriculum entirely. Curriculum transformation is still necessary to address the challenges of intellectual unemployment and changes in the world of work due to the development of digital technology. However, the implementation of the industry-based curriculum needs to be carried out proportionally so that education does not become merely a tool for labor production, but also continues to function as a space for developing creativity, critical thinking, and social transformation for students.

4.2 *The Ideal Model of an Industry-Based Curriculum in the Digital Era*

The development of digital technology and the transformation of the global workplace demand an education system that is more adaptive to the changing needs of future industries. Therefore, developing an industry-based curriculum is not only oriented towards short-term job readiness but must also be able to produce graduates who are flexible, innovative, and capable of lifelong learning. In this context, a curriculum model is needed that can integrate academic competencies, practical skills, digital literacy, and character development in a balanced manner.

One relevant concept is the adaptive industry-based curriculum, a curriculum dynamically designed to adapt to technological developments and the needs of the workplace. This model positions the industrial sector as a strategic partner in curriculum development, competency development, and evaluation of learning outcomes. With this approach, learning materials can be regularly updated to remain relevant to the transformation of the digital economy and changes in the global job structure.

In its implementation, learning needs to be directed towards a student-centered learning approach that positions students as active participants in the educational process. Project-based learning, industry case studies, digital simulations, and fieldwork practices are important strategies for enhancing critical thinking, creativity, communication, and problem-solving skills. This approach not only improves graduates' job readiness but also builds their adaptability to complex professional situations.

Furthermore, the integration of digital technology into the education system is an unavoidable necessity. Future curricula need to incorporate competencies such as data literacy, artificial intelligence, digital analytics, cybersecurity, and the use of information technology as part of core learning. van Laar et al. (2020) explain that digital skills are a crucial factor in increasing workforce competitiveness in the era of technological transformation. Therefore, educational institutions need to develop technology-based learning systems capable of producing graduates who are adaptive to developments in the digital industry.

However, the development of an industry-based curriculum must also maintain humanistic values in education. Education should not be solely directed at meeting job market needs but should also function as a space for developing students' morals, character, social awareness, and critical thinking skills. From a critical perspective, education that is too oriented toward industry needs has the potential to neglect the function of the humanities and limit intellectual freedom in the learning process.

Therefore, future curriculum models need to integrate humanistic approaches and character development more comprehensively. Students need to be equipped not only with technical and digital skills, but also with reflective skills, social empathy, leadership, and ethical awareness in navigating technological developments and global social change. Thus, education can produce graduates who are not only economically competitive but also capable of contributing to sustainable social development.

In addition to preparing graduates as job seekers, an industry-based curriculum should also encourage the development of entrepreneurship. The digital economy opens up significant opportunities for young people to create jobs based on innovation and technology. Therefore, education needs to foster a creative, collaborative, and innovative culture so that graduates are equipped to independently create economic opportunities.

Collaboration between educational institutions, the government, and industry is crucial in developing an effective and sustainable curriculum model. The government needs to support educational transformation through adaptive policies, strengthening digital infrastructure, and improving the quality of teaching staff. Meanwhile, industry needs to be actively involved in curriculum development, providing internship programs, and developing practice-based learning to create synergy between education and the needs of the workplace.

Therefore, the ideal model for an industry-based curriculum in the digital era must be adaptive, collaborative, technology-based, and remain oriented toward holistic human development. This transformation is a strategic step in improving the quality of Indonesia's human resources while reducing intellectual unemployment in a sustainable manner.

4.3 Research Implications

The results of this study indicate that industry-based curriculum transformation has important implications for the development of higher education policy in Indonesia. Intellectual unemployment is not only caused by limited job opportunities but also by the mismatch between graduate competencies and the needs of the modern workforce. Therefore, curriculum reform is a strategic step in increasing the relevance of education to the changing structure of the digital economy and global industrial developments.

The first implication relates to the importance of continuous curriculum renewal. Educational institutions need to periodically evaluate and adjust their curricula to ensure that the competencies taught remain relevant to technological developments and job market needs. Curriculum renewal should not only address learning materials but also encompass learning methods, evaluation systems, and the development of students' professional experiences.

The second implication demonstrates the importance of strengthening collaboration between educational institutions and industry. Industry needs to be actively involved in curriculum development, the development of practical laboratories, internship programs, competency certification, and the evaluation of learning outcomes. This collaboration can reduce the skills mismatch between graduates and improve students' work readiness before entering the professional world.

The third implication relates to strengthening digital literacy and 21st-century skills within the higher education system. The development of artificial intelligence (AI), automation, and the digital economy is causing the need for workforce competencies to continue to change dynamically. Therefore, educational institutions need to integrate digital skills, data analysis, communication, creativity, and technological adaptability into their learning systems more comprehensively.

Furthermore, this research also demonstrates the importance of developing soft skills and character education in industry-based curricula. The modern workplace requires not only technically competent workers but also individuals with communication, leadership, collaboration, and social awareness skills. Therefore, higher education needs to develop a more participatory, collaborative, and experiential learning system to enable students to optimally develop interpersonal competencies.

From a Critical Discourse Analysis (CDA) perspective, this research demonstrates that the transformation of the industry-based curriculum is inseparable from the influence of neoliberalism in education and the dominance of economic logic in modern education policy. Therefore, curriculum reform needs to be carried out critically and proportionally so that

education is not merely an instrument for providing labor for industry but also continues to fulfill its humanistic function as a space for the intellectual, moral, and social development of students.

Another implication relates to the government's role in supporting the transformation of national education. The government needs to strengthen education policies that are more adaptive to changes in the global workplace through the development of digital infrastructure, improving the quality of teaching staff, and providing equitable access to educational technology. This support is crucial to ensure the effective and equitable implementation of industry-based curricula across Indonesia.

Therefore, this research confirms that the development of industry-based curricula must balance orientation to the needs of the workplace with holistic human development. Education aims not only to produce work-ready graduates, but also individuals who are critical, creative, adaptive, and socially responsible in facing global change in the digital era.

5. CONCLUSION

Intellectual unemployment is a major challenge in the modern education system, demonstrating a mismatch between graduate competencies and the needs of the workforce. The increase in the number of higher education graduates has not been fully accompanied by increased job readiness due to the curriculum's weak relevance to industrial developments and digital technology transformation. This situation is exacerbated by changes in the job structure in the Industrial Revolution 4.0 era, which demands multidisciplinary skills, digital literacy, and mastery of more complex soft skills.

Research shows that conventional curricula, which are overly focused on theoretical aspects and academic achievement, have not been able to produce graduates who are adaptable to the dynamics of the modern workforce. Lack of practical experience, low integration of digital technology, and weak collaboration between educational institutions and industry are key factors widening the skills mismatch. As a result, many higher education graduates struggle to enter the job market despite possessing adequate academic qualifications.

In this context, an industry-based curriculum is a crucial strategy for improving graduate employability and job readiness. This approach emphasizes integration between education and the needs of industry through project-based learning, industrial internships, teaching factories, strengthening digital literacy, and developing 21st-century skills. The implementation of policies such as the Independent Learning and Independent Campus (MBKM) program also demonstrates efforts to transform education to make it more relevant to the needs of the modern job market.

However, the implementation of an industry-based curriculum still faces various challenges, such as limited quality teaching staff, disparities in educational infrastructure, slow adaptation of the curriculum to technological developments, and suboptimal involvement of the industrial sector in educational development. Furthermore, from a Critical Discourse Analysis (CDA) perspective, the transformation of the industry-based curriculum demonstrates the dominance of economic logic and neoliberalism in education, which directs education as an instrument for providing labor for industry. Education is slowly shifting its orientation from developing critical individuals to strengthening labor productivity.

Therefore, the transformation of the industry-based curriculum needs to be carried out in a balanced manner so that education becomes not only an instrument for providing labor but also maintains its intellectual, social, and humanitarian functions. Future curriculum models must be designed in an adaptive, collaborative, technology-based manner, and remain oriented toward developing students' character, creativity, and critical awareness. Thus, education can produce

graduates who are not only work-ready but also able to innovate, contribute to social development, and address global challenges sustainably.

Based on the research findings, several recommendations can be made to improve the effectiveness of implementing an industry-based curriculum in reducing intellectual unemployment.

- 1) Educational institutions need to regularly update their curriculum by engaging with the industrial sector to ensure that the competencies taught remain relevant to job market needs and developments in digital technology.
- 2) Universities need to strengthen project-based learning, industrial internship programs, soft skills development, and digital literacy as an integral part of the educational process.
- 3) The government needs to increase support for educational transformation by strengthening digital infrastructure, training educators, and providing more flexible and adaptive education policies to address changes in the global workplace.
- 4) The industrial sector needs to be actively involved in curriculum development, graduate competency evaluation, and learning program development to create a stronger synergy between education and workforce needs.
- 5) The development of an industry-based curriculum must continue to prioritize humanistic values to ensure that education does not lose its function in developing students' character, social awareness, and critical thinking skills.
- 6) Future research is expected to develop empirical studies on the implementation of an industry-based curriculum at various educational levels and fields of expertise to obtain a more comprehensive picture of its effectiveness on graduates' work readiness.

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