Indonesian Journal of Education & Mathematical Science
Vol. 6, No. 3, September 2025, pp. 139~145
ISSN: 2715-985X, DOI: 10.30596/ijems.v6i3.25662

Knowledge Authority and Power Relations in Digital Non-Formal Education: A Foucaultian Perspective on Alternative Learning Spaces

Ridlo Febi Wicaksono[1], Ravik Karsidi[2]
[1,2]Faculty of Social and Political Sciences, Universitas Negeri Sebelas Maret, Surakarta, Indonesia
ridlofebiwicaksono@gmail.com

ABSTRACT

This study examined how digital non- -formal education platforms shaped knowledge authority and power relations within the Indonesian context. A qualitative case study of educational YouTube channels, national online courses, and global platforms was conducted through content observation, documentation, and critical discourse analysis grounded in Foucault's theory. The findings revealed a shift in knowledge legitimacy from academic authority to popularity metrics and algorithmic logic. Algorithms, gamification, and certification schemes act as disciplinary mechanisms that guide learning behavior while capturing user data. The learning subject was constructed as an independent and productive individual, yet simultaneously as a consumer and a data commodity. The study concluded that claims of digital educational inclusiveness remained partial, as access and digital literacy inequalities produced new forms of exclusion, and knowledge circulated fragmentarily outside the formal curriculum.

Keywords : Digital Non- -Formal Education, Knowledge Authority, Power Relations, Digital Platforms, Foucault Theory.

This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License .

Corresponding Author:
Ridlo Febi Wicaksono,
Faculty of Social and Political Sciences,
Universitas Negeri Sebelas Maret,
Kentingan, Jl. Ir. Sutami No. 36A, Jebres District, Surakarta City, Central Java 57126.
ridlofebiwicaksono@gmail.com

1. INTRODUCTION

The wave of digitalization triggered by the COVID- -19 pandemic has radically transformed the education landscape. As schools and universities in more than 190 countries closed, more than one billion students shifted to distance learning, but at least 500 million of them failed to be reached by official online solutions (UNESCO, 2023). This massive shift has widened reliance on commercial platforms such as YouTube, Coursera, and social media, which are now seen as "alternative learning spaces" for the global public. In Indonesia, digital transformation strategies are a key development agenda, but the OECD continues to note geographic, gender, and age gaps in internet adoption, as well as widespread digital skills shortages across the education sector (OCED, 2024).

Optimism about digital inclusivity often masks structural issues. On the one hand, Indonesian-language "educational" YouTube channels reach millions of viewers, while paid short courses from Ruangguru to Skill Academy claim to "democratize knowledge." On the other hand, 2023 Susenas data shows that internet penetration in rural areas is only 35.9% compared to 64.1% in urban areas, and the provinces -with the lowest penetration are in eastern Indonesia (Jamilatuzzahro & Alaudin, 2024). The World Bank confirms that individuals in the highest income decile remain five times more likely to be connected than those in the lowest decile (World Bank, 2021). Infrastructure inequality has even prompted the government to partner with commercial satellite projects like Starlink to reach remote areas—an expensive solution that actually reinforces dependence on global technology corporations (Marketwatch, 2024).

Beneath the access issue lies a more subtle layer of concern: the authority of knowledge. Digital platforms operate as *gatekeepers of* truth through recommendation algorithms, *engagement metrics* , and micro-certification schemes. Research on the "platformization of education" shows that Big Tech, academic publishers, and the EdTech industry are restructuring knowledge infrastructure for the purposes of data extraction and financial value (Williamson, 2024). At the micro level, the *algorithmic literacy gap* has given rise to an algorithmic knowledge gap, where users with -higher socioeconomic status are better able to understand and manipulate algorithms and monetize YouTube content than those with less power (Cotter &

Reisdorf, 2023). In other words, the digital divide has shifted beyond device ownership to the realm of algorithmic literacy, participation, and knowledge legitimacy (Van Dijk, 2020).

Academic literature on -digital non-formal education generally emphasizes pedagogical effectiveness, user experience design, or measurable learning outcomes. Few studies explicitly examine the power relations behind content curation, the logic of monetization, and the construction of learning subjects. Foucault's legacy has not been widely applied to understanding how algorithms act as disciplinary *apparatuses* that produce new "regimes of truth" in online educational spaces. The call for -critical sociological analysis is growing louder with the rise of paid online courses that position students as both consumers and data commodities.

This article departs from the Foucaultian power/knowledge framework (Foucault, 1977; 1980), which views knowledge and power as intertwined within institutional devices, discourses, and technologies. In the context of digital platforms, recommendation algorithms, instructional dashboards, and online certifications are understood as forms of *governmentality* —mechanisms for managing learning populations through performative norms and quantitative metrics. This approach allows for a three-layered reading: (i) the production and legitimation of knowledge; (ii) power relations in technological design; and (iii) the processes *of subjectivation* that shape the identities of "learners," "consumers," or "co-opted subjects."

Based on this framework, this study aims to: (1) identify how digital platforms produce and legitimize the authority of knowledge outside of formal education; (2) analyze the power relations that operate through algorithms, content curation, and platform design in directing learning experiences; and (3) reveal the process of constructing digital learning subjects who are positioned as active learners, consumers, or subjects co-opted by certain knowledge regimes. -These questions depart from the assumption that platforms are not merely neutral means, but fields of power contestation that produce new social differentiation.

The research's innovative value lies in integrating a Foucaultian perspective with contemporary digital inequality studies in Indonesia. First, this research links issues of access (*the first- -level digital divide*) with issues of knowledge legitimacy and algorithmic literacy (*the third- -level digital divide*), presenting a comprehensive map of inequality in -digital non-formal education. Second, this study produces analytical categories on how algorithms and platform designs, rather -than school institutions, discipline learning subjects. Third, the empirical findings are expected to provide policy input so that digital literacy initiatives and platform regulations are more sensitive to power-knowledge dynamics, not just technical infrastructure.

Thus, this article not only fills a gap in the literature on -digital non-formal education in Indonesia but also enriches the global debate on platforms, knowledge, and power in the post-digital era. Its spirit aligns with UNESCO's call for educational technology to be measured by the "right to meaningful connectivity" and not simply the distribution of devices (UNESCO, 2023), an ethical call that needs to be accompanied by a critical analysis of who benefits, who is repressed, and how learning is made possible.

LITERATURE REVIEW

Literature Review

Digitalization has expanded the scope of non-formal education by providing various forms of alternative learning spaces outside of formal institutions. Platforms like YouTube, Coursera, and various online course services open up access to knowledge previously only available within the context of a physical classroom (Selwyn, 2016). In Indonesia, the popularity of platforms like Ruangguru, Zenius, and Skill Academy reflects the phenomenon of "platformization of education," where the logic of the digital economy and information technology redefines the meaning of learning and the authority of teaching (Williamson, 2020; Nugroho, 2021).

However, this progress is not free from structural issues. The literature on *the digital divide* has identified three levels of inequality: physical access (first level), digital skills (second level), and the ability to utilize the internet for life improvement (third level) (van Dijk, 2020). In Indonesia, this gap is clearly visible: data from the 2023 Susenas (National Survey) shows that internet use for education in rural areas is much lower than in urban areas, with limited devices and internet costs being the main barriers (BPS, 2023). A study by Rakhmani & Siregar (2016) also noted that the digitalization of education often reaffirms social class inequalities, rather than eliminating them.

Previous studies have largely focused on the technical or pedagogical aspects of online education, such as the effectiveness of blended learning, digital curriculum design, or learning motivation (Alamary, 2019;

Ningsih, 2022). However, very few studies have explicitly examined how knowledge authority is constructed in digital spaces, who holds epistemic power in determining truth, and how digital platforms reproduce or challenge existing social structures.

This paper fills this gap by presenting a critical reading based on Foucault's theory of how knowledge and power mutually shape digital learning spaces. By examining the content, design, and structure of digital non-formal education platforms, this article highlights not only the learning practices themselves but also the mechanisms of power that accompany them.

Theoretical Framework

Michel Foucault's concepts provide a critical framework for reading educational spaces as a field of power relations. In *Discipline and Punish* (1977) and *Power/Knowledge* (1980), Foucault states that there is no such thing as neutral knowledge; knowledge is the result of institutionalized power configurations conditioned by dominant discourses (Foucault, 1980).

The concept of *power/knowledge* is used in this research to analyze how knowledge authority is shaped through algorithms, platform design, and new authoritative figures such as educational content creators. In this space, epistemic power is no longer monopolized by formal institutions, but rather shifts to digital entities that shape narratives and authority through views, likes, or online certifications.

Governmentality is used to understand how power operates subtly through algorithms and design features (learning dashboards, notifications, digital reward systems). This governance over the learning subject occurs without direct coercion, but through incentives, performance measurements, and interface interactions that regulate how individuals understand themselves as learners (Foucault, 2008).

The concept *of subjectivation* is crucial for explaining how individuals are constructed as productive, independent, and responsive learners to platform demands. In digital learning spaces, students are expected to become "ideal subjects" who not only absorb knowledge but also demonstrate active engagement, self-branding, and sometimes even monetize their own learning content (Nugroho & Sumarno, 2020).

2. RESEARCH METHODS

This research uses a critical qualitative approach with an orientation towards the sociology of knowledge , aiming to unravel power relations in the formation of knowledge and learning subjects in the digital space. This approach was chosen because it allows for reading of social dynamics and discourses that are not directly visible, but operate subtly through digital technology. The method used is a qualitative case study of three types of platforms: *First,* educational YouTube (e.g., Kok Bisa, Zenius); *Second,* national online course platforms (Skill Academy, QuBisa); *Third,* global platforms (Coursera, EdX).

Data collection techniques were conducted through non-participatory observation of content displays, algorithms, and interactive features, course description documentation , video metadata, and assessment systems, and a Foucault-based critical discourse analysis to uncover the logic of power in learning structures and narratives. Data collection was conducted over three months, from January to March 2025. Non-participatory observation was conducted on 15 educational videos on the “Kok Bisa” and “Zenius” channels, 10 course modules on Skill Academy and QuBisa, and 5 Coursera programs. The data collected included content descriptions, visual displays, metadata (views, likes, comments), and platform features such as gamification and certification.

Data analysis was conducted through thematic analysis built from three main categories: the production of knowledge authority, technological power mechanisms, and the construction of learning subjects. The thematic analysis technique (Braun & Clarke, 2006), began with the *open coding stage* of the content narrative, then *axial coding* to group it into categories: knowledge authority, power mechanisms, and learning subjects. Validity was strengthened through cross-platform triangulation , as well as rereading of the data by the researcher to ensure consistency and depth of analysis. Triangulation was carried out by comparing patterns across three platforms and peer review validation by colleagues to maintain consistency of interpretation.

Indonesian Journal of Education & Mathematical Science
Vol. 6, No. 3, September 2025, pp. 139~145
ISSN: 2715-985X, DOI: 10.30596/ijems.v6i3.25662

3. RESULTS AND DISCUSSION

Production of Knowledge Authority in Digital Non-Formal Education Platforms

A. Visual Dominance and Popularity as the New Authority

One of the key findings from observations of educational YouTube channels like "Kok Bisa" and "Zenius" is how popularity (number of subscribers, views, and engagement) becomes a primary indicator of knowledge authority. Compared to formal academic systems based on accreditation, degrees, or scientific publications, digital platforms create a new form of visibility-based legitimacy. Videos with engaging animation and fast delivery are more readily accepted as "valid knowledge" by viewers, even though they don't always have strong academic references (Foucault, 1980).

This aligns with Foucault's thesis on the regime of truth, which states that truth does not emerge solely from logical validity, but rather from its production and distribution through specific institutions and technologies. In this context, the YouTube platform acts as an algorithmic institution that validates knowledge based on technical performance.

B. The Role of Content Curators as "New Teachers"

Online courses like Skill Academy and Coursera demonstrate that content curators (content developers and tutors) now play a crucial role in authoritative knowledge. However, compared to traditional teachers who hold teaching licenses or are bound by national curricula, these curators tend to come from professional industries. They are positioned as practitioners who are "more relevant" than academics.

This phenomenon demonstrates a shift in epistemic power: from the educational bureaucracy to the digital private sector. Correspondingly, several narratives on the platform, such as "learning from successful mentors" or "mastering skills quickly," illustrate how a pragmatic orientation has become dominant in knowledge production (Rakhmani & Siregar, 2016).

Power Mechanisms in Algorithms and Platform Design

A. Algorithm as a Normalization Mechanism

Another important finding is how algorithms operate as mechanisms of power, determining what users see, learn, and ignore. On YouTube, algorithms recommend videos based on viewing history, trends, and interactions. This creates a highly personalized learning space, but it also blocks critical reflection on the material.

This mechanism demonstrates the practice of disciplinary power as described by Foucault (1977), where algorithms act like invisible supervisors that direct learning behavior without explicit coercion. Learning subjects are unaware that they are being directed to continue consuming a particular type of knowledge.

B. Gamification and Certification Schemes as Disciplinary Techniques

Platforms like Skill Academy and Ruangguru employ gamification systems (points, badges, progress bars) and certificates to entice learning. While effective in increasing participation, this strategy also creates performative pressure and anxiety to complete modules without truly understanding the content. This supports the concept of governmentality, where individuals are encouraged to self-regulate to meet standards set by the platform system.

Construction of Learning Subjects in Digital Space

A. Subjects as Independent and Productive Learners

Non-formal education platforms shape students as independent learners who are responsible for their own progress. Slogans like "learn anytime," "skills for the future," and "career starts here" demonstrate how learning is positioned as an individual project. This reinforces neoliberal logic in education, which obscures the role of the state and collectives in education provision.

B. Subjects as Consumers and Commodities

Another aspect of the construction of digital subjects is how students are also positioned as consumers of educational products. In Skill Academy, for example, users can purchase various classes based on promotions, ratings, and testimonials. In fact, user behavioral data is used to design subsequent promotions. Furthermore, students also become data commodities. Their interactions are recorded, analyzed, and used as the basis for commercial decisions by the platform. This is where power positions become complex: students are not only users but also objects of a knowledge system controlled by algorithms and market logic.

Indonesian Journal of Education & Mathematical Science
Vol. 6, No. 3, September 2025, pp. 139~145
ISSN: 2715-985X, DOI: 10.30596/ijems.v6i3.25662

Social Implications: Pseudo-Inclusivity and Knowledge Fragmentation

While seemingly inclusive, digital non-formal education spaces create new forms of exclusion. Lower-class users with low digital literacy tend to access popular but shallow materials, while middle-class groups with premium access can take intensive courses and network globally (BPS, 2023).

Furthermore, the logic of algorithm-based curation leads to the fragmentation of knowledge. There is no unified curriculum structure, so users often access knowledge in a fragmented and unsystematic manner. This reinforces Foucault's critique that modern knowledge production is increasingly divorced from formal pedagogical functions and more closely resembles the consumption of scattered and fragmented information (Foucault, 1980).

Knowledge Authority in Digital Platforms

Digital platforms shape knowledge authority based on popularity and technological design, rather than academic validity. Algorithms and gamification features act as power mechanisms that discipline and regulate learning subjects. Learning subjects are constructed as independent learners, consumers, and data objects. The inclusiveness of digital education is illusory because it is still based on access, social class, and algorithmic literacy. Digital non-formal education demonstrates a shift from a pedagogical system to a fragmented model of knowledge consumption. By understanding these five findings, this paper suggests that digital education policy in Indonesia should not only focus on technology distribution but also pay attention to power structures, knowledge production, and the forms of learning subjects generated by platforms.

Discussion

The findings of this study confirm that power relations in digital education spaces are not only mediated by technology but also institutionalized through algorithmic structures and performative narratives. Within the *power/knowledge framework* , as proposed by Foucault (1980), algorithms and the logic of popular visuality shape new knowledge authorities, replacing conventional academic authority. This is evident in how educational YouTube channels are judged credible based on the number of views and engagement, rather than scientific validity. This process is intertwined with *governmentality,* where features such as certificates, progress bars, and notifications encourage individuals to self-regulate in a disciplined manner to continue learning and be productive (Foucault, 2008). Furthermore, the process *of subjectivation* occurs when digital learners are constructed as ideal subjects who are autonomous, competitive, and responsive to the demands of algorithms and the market (Nugroho, 2021). These findings align with Cotter and Reisdorf (2023), who highlight *algorithmic knowledge gaps* in educational platforms, and Van Dijk (2020), who suggests that the third-level digital divide now determines actual inequality. Williamson's (2020) and Rakhmani & Siregar's (2016) studies also emphasize that educational platformization creates a new power structure that aligns users as consumers and commodities in a data capitalism system.

These findings align with Nugroho's (2021) study, which shows that educational platformization in Indonesia reinforces market logic and popular visualizations as indicators of authority. Similar findings are found in India, where EdTech platforms like Byju's create "virtual teachers" based on motivational narratives and performative logic (Chattopadhyay, 2022). In Brazil, de Souza's (2023) study demonstrates how educational platforms collect learning behavior data to be used as advertising commodities. This comparison demonstrates that the tendency of platforms to act as spaces for the reproduction of power is a global phenomenon in Global South countries.

Table 4.1. Mapping of Power Mechanisms in Digital Platforms

Dimensions of Power	Practical Form on Platform	Foucault's Concept
Knowledge Authority	Popularity, engagement, mentor rating	Regime of truth
Disciplinary Mechanism	Recommendation algorithms, gamification, certificates	Disciplinary power
Self-Government	Progress bar, self-study notification	Governmentality
Subjectivation	Self branding, content monetization	Subjectivation

Digital Exclusion	Access gap, algorithmic literacy	Biopolitics, exclusion

Mapping power in digital platforms reveals five main dimensions: (1) authority based on technical performance; (2) normalization through algorithms and popular visualizations; (3) self-governance mechanisms via gamification features; (4) subjectivation in the form of the neoliberal ideal student; and (5) reproduction of exclusion through access structures and algorithms. These five dimensions work simultaneously to form indirect but highly determinant power relations.

4. CONCLUSION

This research has successfully achieved the objectives as formulated in the Introduction, namely to analyze how digital non-formal education platforms such as YouTube, Skill Academy, and Coursera shape knowledge authority and construct learning subjects within a framework of power relations. The findings presented in the Results and Discussion chapters indicate that this phenomenon can be explained not only through the dynamics of technology and accessibility, but also through a critical analysis of the mechanisms of power that operate covertly through algorithms, content curation, and platform design structures.

Some of the main conclusions that can be drawn from this research are as follows:

A. Digital platforms are shaping new knowledge authorities, shifting from traditional academic authority towards legitimacy based on popularity, visuality, and algorithmic logic.
B. Algorithms and other interactive features function as mechanisms of power that discipline the learning subject, indirectly determining the type of knowledge accessed, the rhythm of learning, and the form of engagement expected.
C. Learning subjects in digital space are constructed as independent, productive individuals who are responsible for their own progress, but also function as consumers and data objects in the logic of the digital economy.
D. Claims of inclusivity in digital education are partial and problematic, as inequalities in access and digital literacy create deeper social class divisions in terms of knowledge acquisition.
E. The knowledge produced and consumed in digital educational spaces tends to be fragmented, not bound by a structural curriculum, and more like a process of information consumption than a systematic formal education.

From the results of this study, there are a number of theoretical and practical implications that can be taken:

A. Theoretical Implications: This research extends the application of Foucault's theory to the context of contemporary digital education, specifically in mapping how power/knowledge, governmentality, and subjectivation operate in technology-based informal spaces. This suggests that power relations in education no longer operate directly, but through seemingly neutral technological infrastructures.
B. Practical Implications: These findings are important for policymakers, online learning platform developers, and educators to be more critical of the impact of algorithms, content curation, and learning design models on the formation of learning subjects and the dissemination of knowledge. Intervention strategies based on digital justice and critical literacy for learners are needed.

ACKNOWLEDGEMENT

The author would like to express his gratitude to the Master of Sociology Study Program at Sebelas Maret University for its academic support throughout this research. He also thanks the interviewees, data providers, and other parties who provided information and time during the data collection and analysis process. He also appreciates the input and guidance from his supervisor and colleagues who contributed to the development of this manuscript.

REFERENCES

Alammary, A. (2019). Blended learning models for introductory programming courses: A systematic review. *PLOS ONE, 14*(11), e0221765. https://doi.org/10.1371/journal.pone.0221765
Central Statistics Agency. (2023). *2023 people's welfare statistics*. BPS.
Chattopadhyay, R. (2022). EdTech and the marketisation of learning in India: Platform logics and neoliberal subjectivities. *International Journal of Educational Development, 92,* 102624. https://doi.org/10.1016/j.ijedudev.2022.102624
Cotter, K., & Reisdorf, B. C. (2023). Algorithmic knowledge gaps: A new horizon of digital inequality. *International Journal of Communication, 17,* 745–765.
De Souza, L. M. (2023). Datafication and inequality in Brazilian online education: A critical perspective on platform power. *Globalisation, Societies and Education, 21*(1), 58–74. https://doi.org/10.1080/14767724.2022.2104399
Foucault, M. (1977). *Discipline and punish: The birth of the prison* (A. Sheridan, Trans.). Vintage.
Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings 1972–1977* (C. Gordon, Ed.). Pantheon Books.
Foucault, M. (2008). *The birth of biopolitics: Lectures at the Collège de France, 1978–79* (G. Burchell, Trans.). Palgrave Macmillan.
Jamilatuzzahro, M. S., & Alaudin, F. G. (2024, November 18). Leveraging digital technology for greater inclusion in Indonesia. *EQUITAS FEB UGM.* https://equitas.feb.ugm.ac.id/2024/11/18/leveraging-digital-technology-for-greater-inclusion-in-indonesia/
MarketWatch. (2024, May 19). Elon Musk launches Starlink satellite internet service in Indonesia, world's largest archipelago. *MarketWatch.* https://www.marketwatch.com/story/elon-musk-launches-starlink-satellite-internet-service-in-indonesia-worlds-largest-archipelago-f56b0cd2
Ningsih, R. (2022). The effectiveness of online learning platforms in improving students' digital literacy. *Journal of Open and Distance Education, 23*(2), 87–98.
Nugroho, H. (2021). Platformization of education and digital capitalism. *Journal of Sociotechnology, 20*(1), 55–68.
Nugroho, H., & Sumarno, D. (2020). Learning subjects in the logic of digital platforms: A critical study of education in the algorithm era. *Journal of Reflective Sociology, 14*(2), 145–162.
OECD. (2024). *OECD economic surveys: Indonesia 2024*. OECD Publishing. https://www.oecd.org
Rakhmani, I., & Siregar, F. (2016). *Media and education in post-authoritarian Indonesia*. Routledge.
Selwyn, N. (2016). *Education and technology: Key issues and debates* (2nd ed.). Bloomsbury.
UNESCO. (2023). *Global education monitoring report 2023: Technology in education – A tool on whose terms?* UNESCO Publishing. https://gem-report-2023.unesco.org
Van Dijk, J. A. G. M. (2020). *The digital divide*. Polity Press.
Williamson, B. (2020). *Big data in education: The digital future of learning, policy and practice*. SAGE Publications.
Williamson, B. (2024). Re-infrastructuring higher education: Platformised research & teaching. *Dialogues on Digital Society, 8*(1), 1–9. https://journals.sagepub.com
World Bank. (2021). Ensuring a more inclusive future for Indonesia through digital technologies [Press release]. *World Bank.* https://www.worldbank.org