UNDERSTANDING CURRICULUM TRANSFORMATION TOWARDS EDUCATIONAL INNOVATION IN THE ERA OF ALL-DIGITAL TECHNOLOGY

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Abstract

Through a study of several curriculum kinds of literature and educational innovations, we have understood how curriculum change in various educational institutions is. This study analyzed and discusses how policymakers prepare various strategic policies, from government documents to schools. We reviewed all documents with a phenomenological approach from curriculum transformation policy documents, from central institutional and local internal schools expecting school involvement with the change towards transformation. With curriculum transformation positioned as an innovation in a challenging digital era, the theory and application of transformational learning encourage the lens to analyze the alignment of national policies with the goal of curriculum transformation. This paper explores the extent to which the government is changing from a high-risk, subject-content-based learning approach to the curriculum. Pedagogy of learning and applications was essential to achieve more complex educational goals and active learning theory. Three phases of commitment are distinguished through an assessment rubric, offering a system for evaluating educational plan change drives. Suggestions for instructive pioneers incorporate the need to coordinate institutional techniques with disciplinary mastery and ability and the significance of language reception as a forerunner to execution.

Keywords: Innovation, Transformation, Education, Digital technology, and Curriculum.

Abstrak

Melalui kajian berbagai macam literatur kurikulum dan inovasi pendidikan, kita telah memahami bagaimana perubahan kurikulum di berbagai lembaga pendidikan. Kajian ini menganalisis dan membahas bagaimana pembuat kebijakan menyiapkan berbagai kebijakan strategis, mulai dari dokumen pemerintah hingga sekolah. Kami meninjau semua dokumen dengan pendekatan fenomenologis dari dokumen kebijakan transformasi kurikulum, dari institusi pusat dan internal sekolah yang mengharapkan keterlibatan sekolah dengan perubahan menuju transformasi. Dengan transformasi kurikulum yang diposisikan sebagai inovasi di era digital yang penuh tantangan, teori dan penerapan pembelajaran transformasional mendorong lensa untuk menganalisis keselarasan

kebijakan nasional dengan tujuan transformasi kurikulum. Artikel ini mengeksplorasi sejauh mana pemerintah berubah dari berisiko tinggi, pendekatan pembelajaran berbasis konten mata pelajaran ke kurikulum. Pedagogi pembelajaran dan aplikasi sangat penting untuk mencapai tujuan pendidikan yang lebih kompleks dan teori pembelajaran aktif. Tiga fase komitmen dibedakan melalui rubrik penilaian, menawarkan sistem untuk mengevaluasi dorongan perubahan rencana pendidikan. Saran untuk pionir instruktif memasukkan perlunya mengoordinasikan teknik kelembagaan dengan penguasaan dan kemampuan disipliner dan pentingnya penerimaan bahasa sebagai cikal komunikasi .
Kata Kunci: *Inovasi, Transformasi, pendidikan, teknologi digital, dan kurikulum.*

INTRODUCTION

The increasingly high demands for education governance in Indonesia have driven a massive transformation through the spirit of creativity that gave birth to innovations marked by learning technology from the school to university level.[1] Good regulation has improved both from planning realization to evaluation with increasingly encouraging results. The change started two decades ago during the reform era.[2] Since then, Indonesia has entered an era of reform in all development sectors and advances in information and communication. So far, the reforms have brought about significant changes in finding and solving technology-assisted problems on a large scale. The government's approach was taken to reform Indonesia's education which began with continuous curriculum development under strict supervision at the school level both in cities and regions.[3] Now it is easy to see an improvement in the quality of services to improve education results.

This reform in school management is essential to ensure the value and quality of education, both in elementary schools and tertiary institutions. The reality is to put good results where policies seek to foster creativity towards innovation with curriculum development that can be applied easily to achieve educational goals.[4] However, there are indeed many areas where the quality of education has not received a significant increase, and this is because not all schools and local governments can carry out innovations, especially in the field of curriculum development leading to good education services to produce different outputs through a fast planning system, application of all budgets and equal distribution of education both from the city and to several regions.[5]

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[1] Marinu Waruwu, "Analisis Implementasi Prinsip Empowerment Pada Kepemimpinan Kepala Sekolah," *Edukatif: Jurnal Ilmu Pendidikan* 3, no. 6 (2021): 3721–27. Purniadi Putra dan Aslan, "PENGEMBANGAN BAHAN AJAR BERBASIS IMTAQ DAN IPTEK DI ERA REVOLUSI INDUSTRI 4.0 PADA MATA PELAJARAN SAINS MADRASAH IBTIDAIYAH," *Ta`Limuna: Jurnal Pendidikan Islam* 9, no. 1 (30 Maret 2020): 1–15, https://doi.org/10.32478/talimuna.v9i1.345. Purniadi Putra dkk., "The Relevancy on Education Release Revolution 4.0 in Islamic Basic Education Perspective in Indonesia (An Analysis Study of Paulo Freire's Thought)," *Test Engineering & Management* 83 (2020): 10256–63.

[2] Arman Syah Putra dkk., "Leadership in the Innovation Era: Transactional or Transformational Style?," *International Journal of Social and Management Studies* 1, no. 1 (2020): 89–94.

[3] Suhana Suhana dkk., "Transformational Leadership and Innovative Behavior: The Mediating Role of Knowledge Sharing in Indonesian Private University.," *International Journal of Higher Education* 8, no. 6 (2019): 15–25.

[4] Dedi Prestiadi, Imam Gunawan, dan Raden Bambang Sumarsono, "Role of Transformational Leadership in Education 4.0," dalam *6th International Conference on Education and Technology (ICET 2020)* (Atlantis Press, 2020), 120–24.

[5] Eddy Madiono Sutanto, "The influence of organizational learning capability and organizational creativity on organizational innovation of Universities in East Java, Indonesia," *Asia Pacific Management Review* 22, no. 3 (2017): 128–35.

The spirit of educational transformation in Indonesia starts from changing the educational plan, implementing the plan, and evaluating progress with the selected wedding plan idea, which determines the framework and determination to carry out the transformation commitment.[6] The problem of education in Indonesia is very confusing today and the complexity occurs because the scope and number of these subjects are vast throughout Indonesia. Based on available information, education in the regions starting from about 3 million educators and 60 million students and 480,000 school units makes this a big job for the government in managing managerial which covers extensive geographical problems throughout the Republic of Indonesia from Sabang to Merauke, which requires quality education services are equitable and fair.[7] This complexity is quite tricky for efforts to carry out the government's education transformation program; all efforts have changed the education program starting with studies of teaching methods developed in curriculum packages that start marriage plans effectively in developing them to a higher level.

Educational planning, which began in the 2013 curriculum, has been reviewed and improved continuously. However, there are still educational resources that are still relatively low where there are very few experts, especially when they have faced the demands of extensive educational services, and the availability of facilities is still insufficient. Make the educational transformation program instead work. Since the problem lies in the development of the program itself, it should not be assumed that the basic ideas are not yet owned. However, the effort to serve the 2013 curriculum design is still not optimal because of the enormous demands. The government envisions ways to achieve the teaching objectives set out in the curriculum profile, which is determined by the standard of expertise and is determined by the quality of student learning outcomes that are still concluded to have not met the standard of the substance of the planned material. So this is the basis for education in the country formed by changes in the form of transformation through government creativity to give birth to the latest innovations.[8]

Content guidelines are determined by process norms (learning execution plans) and appraisal principles (summative and developmental). Such a construction is highly wordy and confounded.[9] The instructor never focuses on the rationale of this idea yet quickly executes what is in the course reading. For instructors, the matter is the thing ought to be educated in the study hall. The propensity for following the Teacher's Book in the 2013 Curriculum also smothers and kills instructors' inventiveness, so the logical execution of the 2013 Curriculum has not happened. The weight of educator organization is likewise a different issue in the

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[6] Rusi Rusmiati Aliyyah dkk., "The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia," *Journal of Ethnic and Cultural Studies* 7, no. 2 (2020): 90–109.

[7] Choirul Mahfud, "Evaluation of islamic education curriculum policy in Indonesia," *Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran* 9, no. 1 (2019): 34–43.

[8] Keri Facer, *Learning futures: Education, technology and social change* (Routledge, 2011). Aslan, "Kajian Kurikulum Fiqih Pada Madrasah Aliyah Di Kabupaten Sambas Kalimantan Barat Pada Masyarakat Perbatasan," *Madinah: Jurnal Studi Islam* 5, no. 2 (2018): 115–24. Aslan Aslan, "MAKNA KURIKULUM TERHADAP TEORI TENTANG BELAJAR PADA PERUBAHAN PERILAKU ANAK DIDIK," *Cross-Border: Jurnal Kajian Perbatasan Antarnegara, Diplomasi Dan Hubungan Internasional* 1, no. 2 (2018): 56–65.

[9] Colleen Vojak dkk., "New spaces and old places: An analysis of writing assessment software," *Computers and Composition* 28, no. 2 (2011): 97–111.

execution of the 2013 Curriculum.[10] By and by, the planning of itemized regulatory records should join each learning movement, both in the arrangement of the Education Unit Level Curriculum archive, prospectus, illustration plan, and evaluation design. These must be in every way done yearly and should be printed. Assuming we examine how curriculum designer portrayals are made, we will observe numerous depictions that are muddled since a long time ago, tangled, and complex for instructors to comprehend. Convoluted, indulgent, joined by numerous managerial bills, and misuse of instructor time are the attributes of the 2013 Curriculum. Another issue is appraisal and assessment. Social and otherworldly perspectives, information, and abilities are surveyed independently.[11]

When added quantitatively and separated by three, these three things will bring forth a total person evaluation development. Also, the appraisal is not the same as the disposition evaluation outside of learning.[12] Indeed, as indicated by the 2013 Curriculum framework, more accentuation is put on the presence of different sorts of tests that consume the hour of educators and understudies—beginning everyday appraisals, midterms, end-of-semester tests, and year-end tests. Then, at that point, the public standard last test of the year, and the public test. The 2013 educational plan is indistinguishable from the test system. The test unquestionably means to survey the accomplishment of understudy learning, be it for development, help, advancement, or graduation. It likewise cultivates energy for legitimate discovery that encourages a demeanor of being prepared to advance anyplace and whenever. Tragically, practically speaking, this objective is hard to accomplish through the base culmination rules strategy, which is mistranslated as the base score in the report card. The convoluted approach to deciding the commutation rule has never been a thought in making the reason for the Minimum Completeness Criteria strategy.[13] Schools will quite often give high cumulation to show school accomplishment. Eventually, what happened was that understudies became demotivated.

METHOD

This second part will present the procedures for carrying out a literature review to understand curriculum transformation towards educational innovation in an all-technology era.[14] First, we formulate the problem and search online on several literature databases related to the transformation and technology design curriculum. Database underlines republicans article, President, then someone that website young American information. After data

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[10] Imam Gunawan, "Indonesian Curriculum 2013: Instructional management, obstacles faced by teachers in implementation and the way forward," dalam *3rd International Conference on Education and Training (ICET 2017)*, vol. 128 (Atlantis Press, 2017), 56–63. Aslan dkk., "CURRICULUM AS CULTURAL ACCULTURATION," *Santhet: (Jurnal Sejarah, Pendidikan, Dan Humaniora)* 4, no. 1 (7 April 2020): 1–9, https://doi.org/10.36526/santhet.v4i1.860. Aslan, "Kurikulum Bagi Anak Berkebutuhan Khusus (ABK)," *Jurnal Studia Insania* 5, no. 2 (28 November 2017): 105–19, https://doi.org/10.18592/jsi.v5i2.1358.

[11] Michael Michie, "Comparing the Indonesian Kurikulum 2013 with the Australian Curriculum: Focusing on science for junior secondary schools," *International Education Journal: Comparative Perspectives* 16, no. 2 (2017): 83–96. Aslan Aslan, *HIDDEN CURRICULUM* (Pena Indis, 2019).

[12] Francisco Urquiza Gómez dkk., "Adaptable model for assessing sustainability in higher education," *Journal of Cleaner Production* 107 (2015): 475–85.

[13] Mishul Jannah dan Muslimah Muslimah, "Minimum Completeness Criteria for Islamic Education Subjects," *Bulletin of Science Education* 1, no. 1 (2021): 22–29.

[14] Interpreting Qualitative Data dan David Silverman, "A guide to the principles of qualitative research" (Sage Publications, London, 2011).

collection, we continued by trying to summarize through deep understanding. Also, we tried to interpret and critically evaluate the data to find a variety of information or research that can answer the questions and hypotheses of this study.[15] Reporting our results chooses a literature review where all the data is from data text and updated data published from 2010 to 2022 to find updated and latest data. Previously we did an electronic search on complications that discussed curriculum and technology education issues, such as Erik's journal, complications Taylor and Francis Google books.[16]

RESULTS AND DISCUSSION
Completeness Criteria transformation curriculum-based

Particularly assuming to realize that in many schools, regardless of how languid understudies are, they will get a base Minimum Completeness Criteria score on their report cards.[17] The more annihilated the learning system in our study halls. One more grumbling regarding the 2013 Curriculum is the idea of cross-interest; to be specific, class X understudies who pick an interest in science or social examinations majors should concentrate on subjects that cross their inclinations. Subsequently, understudies who would rather avoid science should concentrate on sociologies as well as the other way around. Numerous kids pick specific majors since they would generally rather avoid different subjects. Accordingly, the people who complete cross-interest are in an impulse to learn. The 2013 Curriculum Policy has many more harmful impacts than developing excitement for learning in understudies.[18] This condition will thwart the seriousness of this country later on. Making the learning system a bona fide and pleasant growth opportunity is an imposing test in working on the 2013 Curriculum. Planning an Indonesian educational plan that is extraordinary, dynamic, and essential yet viable is unquestionably the desire of all schooling partners. The assignment of the new Minister of Education and Culture is to plan elective educational programs that are lithe, lightweight, dynamic, offer learning energy, energize valid learning, make it more straightforward for educators to instruct, lessen pointless authoritative weights, and react to difficulties and future ability need.[19]

In the meantime, it has adaptable systems and techniques to survey and assess the accomplishment of all essential and complete learning goals.[20] Framework organization Perhaps the test of educational plan change that Nadiem faces is framework coordination inside the Ministry of Education and Culture and the establishments that are accomplices in

[15] Brittany Landrum dan Gilbert Garza, "Mending fences: Defining the domains and approaches of quantitative and qualitative research.," *Qualitative psychology* 2, no. 2 (2015): 199.

[16] Paola Tubaro dan Antonio A. Casilli, ""An Ethnographic Seduction"": How Qualitative Research and Agent-based Models can Benefit Each Other," *Bulletin of Sociological Methodology/Bulletin de Méthodologie Sociologique* 106, no. 1 (2010): 59–74.

[17] Estu Subekti, Ani Rusilowati, dan M. Khumaedi, "Teacher Evaluation in Determining Ability Minimum Completeness Criteria Subject First High School Mathematics," *Journal of Research and Educational Research Evaluation* 8, no. 2 (2019): 133–40.

[18] Fran C. Blumberg dkk., "Digital games as a context for children's cognitive development: Research recommendations and policy considerations," *Social Policy Report* 32, no. 1 (2019): 1–33.

[19] Amelia Haskell, "Creating meaning through theatre: a qualitative and phenomenological study exploring the positive power of theatre for adolescent girls in a single-sex private high school," 2014.

[20] René F. Kizilcec, Mar Pérez-Sanagustín, dan Jorge J. Maldonado, "Self-regulated learning strategies predict learner behavior and goal attainment in Massive Open Online Courses," *Computers & education* 104 (2017): 18–33.

educational plan advancement, specifically the National Education Standards Agency (NESA). It should be a free foundation that administers the plan of the Ministry of Education and Culture's educational program approaches and course readings delivered by the Curriculum Center and teams up, so the Ministry of Education and Culture executes the National Education Standards. Up until this point, the framework's coordination has not worked. The Minister of Education and Culture has not had the option to arrange for each directorate to cooperate. In the interim, NESA additionally works alone without having the option to administer the subsidiaries of educational program arrangements that have been planned in the National Education Standards. The framework coordination is also connected with guidelines.[21]

There are numerous thoughts of progress to change the educational program; in the end, they fizzled because they halted at the norm of guidelines. Regardless of whether it is secured in the 2003 National Education System Law, Government Regulation No. 19 on National Education Standards and different subsidiary amendments, and the Minister of Education and Culture Regulation connected with the 2013 Curriculum. Society towards our schooling strategy.[22] Particularly the number of subjects that understudies need to learn in Elementary School to High School. Analysis like this will stay simply an analysis without having the option to be changed because the issue in regards to the number of subjects is in the National Education System Law, which to transform it, we should further develop the National Education System Law itself.

Policy and transformational education

The primary test for the Minister of Education and Culture is to organize different directorates and foundations. Hence, they have congruity as inner organizations, specific arrangements that are as yet heavily influenced by the Minister of Education and Culture, and outer arrangements, particularly a course of verbose discourse to discuss and examine administrative issues.[23] Beginning from changes or modifications to the National Education System Law, further developing superfluous Government Regulations, and synchronizing approaches in the service in different sorts of coverage and insufficient Permendikbud in reacting to the difficulties of schooling in the period of interruption. Thus, the Minister of Education and Culture needs to campaign with the President, individuals from the board, and other essential establishments to change the Indonesian educational plan in a visionary

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[21] Mary S. McCabe dkk., "American Society of Clinical Oncology Statement: Achieving High-Quality Cancer Survivorship Care," *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology* 31, no. 5 (10 Februari 2013): 631–40, https://doi.org/10.1200/JCO.2012.46.6854.

[22] Virginie März dan Geert Kelchtermans, "Sense-making and structure in teachers' reception of educational reform. A case study on statistics in the mathematics curriculum," *Teaching and Teacher Education* 29 (2013): 13–24. Aslan dan Wahyudin, *Kurikulum dalam Tantangan Perubahan* (Medan: Bookies Indonesia, 2020), https://scholar.google.com/scholar?oi=bibs&hl=en&cluster=17745790780728460138. Gunawan Widjaja dan Aslan Aslan, "Blended Learning Method in The View of Learning and Teaching Strategy in Geography Study Programs in Higher Education," *Nazhruna: Jurnal Pendidikan Islam* 5, no. 1 (2 Februari 2022): 22–36, https://doi.org/10.31538/nzh.v5i1.1852.

[23] Elfrianto Elfrianto, Irfan Dahnial, dan Bahdin Nur Tanjung, "The competency analysis of principal against teachers in conducting distance learning in Covid-19 pandemic," *Jurnal Tarbiyah* 27, no. 1 (2020).

manner.[24] The government opened the entryway for the mental fortitude to execute so the Minister of Education and Culture can change the educational program that can frame free Indonesian individuals who are prepared to work and ready to live amidst the difficulties of the worldwide computerized time. This conviction should be reacted to with the soul of fortitude to execute it, regardless of the number of difficulties inside the Ministry of Education and Culture and outside will be quite a large number. As the Minister of Education and Culture, who is trusted because he has the mastery to expect interruption, the primary fortitude is to change the educational program nomenclature.[25]

The name of our current educational plan plainly shows backwardness. How could it be conceivable that we live in 2019 areas yet utilize an educational program called Curriculum 2013? To change the classification, the government will confront individuals who need to keep up with the tradition of the 2013 Curriculum.[26] The subsequent mental fortitude is setting out to be disagreeable and not to follow the public analysis of the difference in clerical arrangement to change the educational plan. That image has been refuted. Mendikbud Anies Baswedan and Muhadjir Effendy didn't change the educational plan. Educational program changes are relied upon to happen in the Nadiem time. The adjustment of educational programs that are relied upon to happen is not simply a difference in name but also an adjustment of content, techniques, and approaches to overall overseeing instruction. Changing priests should change the educational plan since this moment is the opportunity to change. An educational program that hints at the past should be deserted right away. The third boldness is the mental fortitude to plan future educational program thoughts different from what has been done so far.[27]

Effective educational program change should be directed by scholars who comprehend the future and find ways to change steadily in the present. Extremist changes should be made in our educational plan.[28] Assuming that it is simply an interwoven amendment, we are not entirely sure if, later on, we will want to set up our kids for the unsure, unpredictable, vague, and complex elements of a worldwide life. Changing the educational plan is not bringing the learning system. It results nearer to human preparation to work or just bringing forth human students who have confirmations and capabilities, however an organized and deliberate cycle to bring forth Indonesian individuals who have profound social roots and Indonesian personality, yet who have profound roots in Indonesian culture and character receptiveness to worldwide relationship to fabricate the country's government assistance and have the option to take part in life in a worldwide society.[29]

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[24] Charlene Tan, "The culture of education policy making: Curriculum reform in Shanghai," *Critical Studies in Education* 53, no. 2 (2012): 153–67.

[25] Stephen Cory Robinson, "Trust, transparency, and openness: How inclusion of cultural values shapes Nordic national public policy strategies for artificial intelligence (AI)," *Technology in Society* 63 (2020): 101421.

[26] Ratu Ilma Indra Putri, "New school mathematics curricula, PISA and PMRI in Indonesia," dalam *School Mathematics Curricula* (Springer, 2019), 39–49.

[27] Rui Yang, "Soft Power and Higher Education: An Examination of China's Confucius Institutes," *Globalisation, Societies and Education* 8, no. 2 (Juni 2010): 235–45.

[28] Facer, *Learning futures*.

[29] Michael Fielding dan Peter Moss, *Radical education and the common school: A democratic alternative* (Routledge, 2010).

Assumption and execution of education innovation

Instruction program study in setting was driven in a significantly declined, moderate size metropolitan investigation amassed association in the Indonesia two years into a forceful program of progress, maintained by a various leveled, technique-driven, nine-year cash development system.[30] Rather than responding to unequivocal institutional or region challenges, it intends to convey world-driving preparation. Creating care taught this that traditional ways to deal with high-level training are overpowered by contingent punctilious talk movement (Cook, 2017 do not help students whatever amount they should, and are not complete and secure. Subsequently, there has been a discipline-based, educational assessment-driven change in science preparation.[31]

The author believes that students work and learn better in a well-groomed teaching environment with infrastructure and a healthy climate. In connection with the organization of the class with the wise homeroom teacher and the excitement for the values of the various establishments and goals of the school, the social culture in the academic sphere was essential.[32] Indeed, there is confirmation that substantial progress severely closes the door to learning gains for underrepresented minority students, perhaps because of expanded self-reason and more critical social sensations.[33] This is expanded by the creative use of further developmental learning important entry points that can be significantly persuaded and interacted with[34] and from which students interpret a great degree of satisfaction.

Moreover, the instructive arrangement change program reflected a yearning to develop research showing the benefits of working with students as accessories in instructive program plans.[35] This approach hopes to build a more grounded sensation of complete neighborhood address student satisfaction while conveying present-day, imaginative confirmation-based instructive plans to make graduates that can deal with puzzling, overall issues. The institutional change program relies upon four help focuses.

There are many ways to reform the assessment system in innovative learning. For example, project reviews and instructive assessments; Active Learning: Evidence-based distinctions in informative strategies, to make the show more revelation-based; Diversity and Inclusion: The development of a holistic and distinct culture and a sense of belonging; Digital and Technology-Enhanced Learning: Development of online and electronic instruments for working on instructive plans, educational strategies, and environments.[36] Two years in this basic program, the entire offering of the undergraduate education program has been tested,

[30] Thomas Reardon dan Bart Minten, "Surprised by supermarkets: diffusion of modern food retail in India," *Journal of Agribusiness in Developing and Emerging Economies*, 2011.

[31] Catherine Anne Robertson dan Catherine Anne Du Plessis, "Leadership development for technical and vocational education and training college leaders in South Africa: A post-graduate curriculum framework" (PhD Thesis, Stellenbosch: Stellenbosch University, 2015).

[32] Rune Høigaard dkk., "Academic self-efficacy mediates the effects of school psychological climate on academic achievement.," *School Psychology Quarterly* 30, no. 1 (2015): 64.

[33] Emily P. Driessen dkk., "Demystifying the meaning of active learning in postsecondary biology education," *CBE—Life Sciences Education* 19, no. 4 (2020): ar52.

[34] John Daniel, "Education and the COVID-19 pandemic," *Prospects* 49, no. 1 (2020): 91–96.

[35] Catherine Bovill dan Cherie Woolmer, "How conceptualisations of curriculum in higher education influence student-staff co-creation in and of the curriculum," *Higher Education* 78, no. 3 (2019): 407–22.

[36] Shmuel Reis, "Curriculum reform: Why? What? How? and how will we know it works?," *Israel journal of health policy research* 7, no. 1 (2018): 1–4.

normalizes the credit framework, represents instinctual training and the introduction of imaginative performance strategies, maintains and changes assessment procedures, and considers overhauled learning progress and development. Extra-central sponsorship has maintained this to free up existing disciplinary experience and gain new educational tendencies to assist review collaborations; each office bids on and gets additional financing uniquely crafted to assist the study.[37]

Different levels of this critical method are achieved in a given work environment with great justification for comparable changes in thinking and practice, modernization of practice, and reactions to changing disciplinary events and developments.[38] There is also pressure beyond professional and administrative body standards in specific work environments to redesign enlightening projects to meet changing doubts and needs. While there is security to change across divisions, it is a relief to hesitate to waste an excellent opportunity to back up that added obligation with a to-do cycle. This means activity title clashes affect implementation. Out of the question, even in these more 'awake' work environments, there are often pockets of energy that need to be changed; however, these more energetic people are not always attracted to, or activated by, concentrating on correspondence. This option requires comprehensive techniques to monitor change rather than relying on streaming or division-level pushes.[39]

The curriculum is the heart of education.

The plans, objectives, content, learning materials, and methods used in the curriculum as a guide in the teaching and learning process were essential.[40] Some experts say good or bad educational outcomes are determined by a curriculum that can build students' critical awareness. The new paradigm shift in learning methods, especially at the elementary school level, is one of the solutions and alternatives in education and curriculum renewal.[41] Coordinator of Curriculum Development, Center for Curriculum and Books of the Ministry of Education, Culture, Research, and Technology Yogi Angarena said that technological, social, and environmental changes are happening globally, so that problem solving, cognitive, and social skills will become increasingly important.[42] Learning with the new paradigm is learning-oriented to strengthening competence and character development following Pancasila values through learning activities inside and outside the classroom held by the Ministry of Communication and Information and the National Movement for Digital Literacy Cybercreation. Desi[43] said that Indonesia needs around 9 million digital talents for 15 years, or

[37] Andrew Wilkins, "Professionalizing school governance: the disciplinary effects of school autonomy and inspection on the changing role of school governors," *Journal of education policy* 30, no. 2 (2015): 182–200.

[38] Kees Dorst, "The core of 'design thinking'and its application," *Design studies* 32, no. 6 (2011): 521–32.

[39] Michele Brunges dan Christine Foley-Brinza, "Projects for increasing job satisfaction and creating a healthy work environment," *AORN journal* 100, no. 6 (2014): 670–81.

[40] Najah Adreak dkk., "Incorporating a Women's Cardiovascular Health Curriculum Into Medical Education," *CJC open*, 2021.

[41] Jimat Susilo, "Pengembangan kurikulum bahasa Indonesia bagi penutur asing," *Deiksis Jurnal Pendidikan Bahasa dan Sastra Indonesia* 3, no. 1 (2016).

[42] Khalid Salim Saif Al-Jardani, "English language curriculum evaluation in Oman," *International Journal of English Linguistics* 2, no. 5 (2012): 40.

[43] Yolanda Presiana Desi, "Gerakan literasi digital berbasis sekolah: Implementasi dan strategi," *Jurnal Ilmu Komunikasi* 17, no. 1 (2020): 51–59.

600,000 people per year to support the digital transformation process. In this process, of course, while still paying attention to digital security aspects. "As a form of support for the acceleration of digital transformation, the Ministry of Communication and Informatics has formulated a digital literacy roadmap which is a reference for improving digital literacy skills according to the characteristics or personas of the Indonesian people.

Digitalization of education in the pandemic era

With the development of the times, technology is proliferating in all aspects of life, including the world of education.[44] Education is transforming to be more modern, especially during a pandemic that relies entirely on technology due to the implementation of Distance Learning. This has resulted in various digital platforms being widely used, for example, Zoom to Google Classroom. All of this cannot be separated from the role of technological advances that dominates.[45] Technological developments provide opportunities for the creation of new methods of learning. Technology can provide facilities that make education more meaningful, effective, and efficient. We can see this in the use of digital technology in education. During the pandemic, the use of digital technology had a significant influence on education, which entered a new culture, namely the digitalization of the world of education. This is based on the many phenomena of using digital technology products in the education implementation system.[46]

Then, what exactly is the digitalization of education? How significant is the influence and effectiveness of digital education in distance learning during a pandemic? What are the challenges faced in implementing digitalization of education for learning during a pandemic? Digitization of education itself is defined as an effort to support online learning without reducing the meaning of the teaching-learning process by maximizing various existing technology platforms, especially during this pandemic that demands online learning, which requires various parties to seek practical, efficient, and effective learning and fun but still flexible.[47]

Digitization of education is not just the latest learning method that must be applied to students; more than that, the digitalization of education plays a role as a guide for change in facing the era of the Industrial Revolution 4.0.[48] Why is that? This is because the digitalization of education changes learning methods that were initially traditional to modern, which brings a change in orientation to students such as teaching students technology by using technology in teaching, learning to work together, collaboration, improving communication, cultivating

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[44] Sang M. Lee dan Silvana Trimi, "Convergence innovation in the digital age and in the COVID-19 pandemic crisis," *Journal of Business Research* 123 (2021): 14–22.

[45] Kwame Ansong-Gyimah, "Students' Perceptions and Continuous Intention to Use E-Learning Systems: The Case of Google Classroom.," *International Journal of Emerging Technologies in Learning (iJET)* 15, no. 11 (2020): 236–44.

[46] M. Muktiarni dkk., "Digitalisation trend in education during industry 4.0," dalam *Journal of Physics: Conference Series*, vol. 1402 (IOP Publishing, 2019), 077070.

[47] R. Raja dan P. C. Nagasubramani, "Impact of modern technology in education," *Journal of Applied and Advanced Research* 3, no. 1 (2018): 33–35.

[48] Linda Castañeda dan Neil Selwyn, "More than tools? Making sense of the ongoing digitizations of higher education," *International Journal of Educational Technology in Higher Education* (SpringerOpen, 2018).

creativity and innovation, teaching relevant learning with the real world, learning model to students.[49]

Innovation policy for education and curriculum

For the past thirty years, the phrase "innovation" has become a trendy expression in education administration and governance. In winning the opposition, business pioneers and legislators generally use extremist progress or change as the language of business contests and struggles in their work.[50] The subject of authority agrees, as expressed in the reference word very well, it can be described that "innovation and transformation" are characterized as "replacing the previous way with another way," while pioneers are carriers of new ways".[51] Means innovation. Thus the expression "Trend-setter" is perceived as "creator of new ways, or "pioneer." The terms development, change, and recovery are often used interchangeably to describe progress.

In the view of the Center for Educational Research and Innovation studies, it is characterized as represents a novel novelty in the hierarchy and human existence.[52] For this state, development is a deliberate work to further develop practice in achieving goals, and besides that, it is said that progress is the development of a framework for a broad scope,[53] that development is a work to present new things with the ultimate goal of developing further what has been utilized so that new practices emerge both in manners and approaches to achieve goals, progress is expected as "refilling," both in the form of thoughts or thoughts, behavior or things, as expressed that: "A development here is characterized as any guess, action, or breakthrough since subjectively it is not the same as the current quality.[54] Indeed the slogan in development is "change." Thoughts, thoughts, and considerations for changes that can be made following all everyday problems for the better as The paramount importance of development Change can occur by chance and not methodically, but for change to be called progress, the change must contain components of attention and reflection solid.

This is the place where "arranging" is utilized. This implies that planners should know what they need to change, why, and how. Reformers should likewise know which course to head or, all in all: reformers should have characterized objectives. Nonetheless, this does not imply that people should design each progression in the change. Instructive development is a work to develop parts of training, practically speaking. For additional subtleties, Educational advancement is another change and subjectively not the same as things (which existed previously), and is intentionally endeavored to build the capacity to accomplish explicit

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[49] Chui–Lin Lai dan Gwo–Jen Hwang, "Effects of mobile learning time on students' conception of collaboration, communication, complex problem–solving, meta–cognitive awareness and creativity," *International Journal of Mobile Learning and Organisation* 8, no. 3–4 (Januari 2014): 276–91, https://doi.org/10.1504/IJMLO.2014.067029.

[50] P. Lombardi dkk., "Modelling the smart city performance Innovation: The European Journal of Social Science Research 25 (2): 137–149," 2012.

[51] Bob Hinings, Thomas Gegenhuber, dan Royston Greenwood, "Digital innovation and transformation: An institutional perspective," *Information and Organization* 28, no. 1 (2018): 52–61.

[52] Hinings, Gegenhuber, dan Greenwood.

[53] Martyn D. Winn dkk., "Overview of the CCP4 suite and current developments," *Acta Crystallographica Section D: Biological Crystallography* 67, no. 4 (2011): 235–42.

[54] Simon D. Pollett dkk., "The SARS-CoV-2 mRNA vaccine breakthrough infection phenotype includes significant symptoms, live virus shedding, and viral genetic diversity," *Clin Infect Dis*, 2021, ciab543.

objectives in schooling.[55] In this unique circumstance, it very well may be perceived that instructive development is new and subjectively not the same as the past circumstance, which is purposely endeavored to build the capacity to accomplish explicit objectives ideally in schooling.[56]

Stringently talking, instructive development is an advancement (reestablishment) in the field of schooling or advancement done to take care of instructive issues; instructive development is a thought, thing, a technique that is felt or seen as new for an individual or gathering (society) either as creations (new) or revelation (change the old) which is utilized to accomplish instructive objectives or tackle instructive issues.[57] From a portion of the well-qualified feelings above concerning instructive development, it tends to be presumed that instructive advancement is a thought thing. This strategy is felt or seen as new for an individual or gathering (society) that is utilized to accomplish explicit objectives in schooling or take care of issues and training issues. Instructive advancement in Indonesia should be visible from four viewpoints: instructive objectives, instructive and showing designs, educational programs and techniques, and changes to instructive angles and cycles.[58]

In comparison, educational reform can be a fundamental change in education that will involve both goals and policies in education. Therefore, educational reform is always an act of a political nature, based on an ideological basis. However, renewal does not always have to be a significant change. So reforms will generally affect many disciplines, including labor systems, health care, free time, and possible economic systems.[59]

CONCLUSION

Finally, we can summarize the main points that we have explained in the discussion section and the results, including seeing how innovation and transformation can work by adhering to the transformation criteria competence in curriculum design. Because every innovation to be achieved has a platform and indicators for the Yani curriculum. The second core operation is where education policy and transformation are vital. Without the cable Man police being carried out in the school environment, it will be difficult for school administrators to create educational transformation from below. This means that in designing the policy, the central government must think about how they can apply and realize all the other styles and the police prepared by the government. Next, we look at how educational innovations have conceptual thinking and assumptions so that if the concept is clear, it will be easier to implement.

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[55] Pollett dkk.

[56] Inge Bakkenes, Jan D. Vermunt, dan Theo Wubbels, "Teacher learning in the context of educational innovation: Learning activities and learning outcomes of experienced teachers," *Learning and instruction* 20, no. 6 (2010): 533–48.

[57] Evelien Ketelaar dkk., "Teachers' Positioning towards an Educational Innovation in the Light of Ownership, Sense-Making and Agency," *Teaching and Teacher Education* 28, no. 2 (1 Februari 2012): 273–82, https://doi.org/10.1016/j.tate.2011.10.004.

[58] März dan Kelchtermans, "Sense-making and structure in teachers' reception of educational reform. A case study on statistics in the mathematics curriculum."

[59] Sherman Folland, Allen Charles Goodman, dan Miron Stano, *The Economics of Health and Health Care: Pearson New International Edition* (Routledge, 2016).

The execution will require high creativity to give birth to innovation and change that never stops. Next, we look at how the curriculum is central to educational change. So that designing the curriculum requires various reasons behind the curriculum that is designed by considering the capabilities and availability of existing resources. Explain here how the digitalization of education is irrelevant even though the Indonesian people and the rest of the world are experiencing one threat, namely. So, the implementation of digitalization in education will make it easier for students and teachers to continue to carry out their marriages if they have not stopped. Likewise, we explain how the innovation has the policy to develop education based on the existing curriculum. Here the innovation policy must aim to improve education with a background on advertisements in the education curriculum by the government by holding several essential and historical elements. Furthermore, we also see that there are too many weaknesses and shortcomings in presenting this data, so we ask those who feel this is a deficiency so that a few others can provide meaningful direction and input so that this will be useful.

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