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The Challenges of Implementing the Independent Curriculum in Facing Technological Developments in the Era of the Industrial Revolution 4.0

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Abstract: The goal of this study was to evaluate how well the autonomous curriculum was being used to address technical advancements in the era of the fourth industrial revolution. The descriptive qualitative methodology is used in this study. Utilizing interviews, documentation, and literature reviews as a data collection method. The study's findings revealed that: 1) school assessments, character assessments, an effective zoning system called RPP, and the implementation of report cards made up the independent learning curriculum; and 2) the difficulties of implementing an independent curriculum in the face of technological advancements in the industrial era 4.0 are more closely related to the implementation of learning, including the demands for the availability of adequate infrastructure, the competence of teachers, and the independence of educational institutions.

Keywords: Character Education, Curriculum Management, Independent Curriculum, Technological Development

A. Introduction

Information and technology advanced quickly throughout the Industrial Revolution 4.0 era, resulting in quick and competitive changes (Yusnaini & Slamet, 2019). Science and technology advanced at a remarkable rate during the fourth industrial revolution. Science and technology have advanced quickly, resulting in several new breakthroughs that have an impact on a variety of areas, including the economy, culture, and society. Technology alters how humans do their roles, which alters how they interact with one another and work (Tritularsih & Sutopo, 2017).

The ability to use technology like the Internet of Things, artificial intelligence, robotics, and even big data to solve social dynamics is also required in this period (Indarta et al.2022). Therefore, in order to live in the period of Industrial Revolution 4.0, the following generation must change (Astuti et al., 2019).

As a result, the educational curriculum must be adaptable enough to accommodate students' and instructors' demands as well as their interests in

adopting new technologies in the classroom (Simarmata, et al., 2020). ICT and flexible education systems must be prioritized, to put it briefly (Iskandar et al. 2020).

The improvement of Indonesian education is the primary goal of changing the curriculum into an autonomous curriculum (Priantini et al., 2022). Making Indonesia a wise, just, and cautious nation was the driving force behind the independent learning policy. a nation that improves the quality of life for all of its citizens. In this situation, it is essential to put education first in order to satisfy Indonesians' needs and aspirations. Education and time must coexist in educational institutions (Asfiati & Mahdi, 2020).

As its implementation calls for support for teacher training and teaching materials as well as cutting-edge teaching tools supported by local services, the independent curriculum has been implemented in 2,500 schools but is unavoidably facing challenges with regard to the availability of resources, technology, financial support, and community support (Priantini et al, 2022). According to information from Kompas.com, more than 140,000 schools will be using independent curricula in the 2022–2023 school year (Kompas.com, 2022).

This study was carried out in a public high school in South Sumatra that uses an independent curriculum for its academic program. The difficulty of adopting an independent curriculum is actually observed in schools that are situated in places with little resources, technological advancements, financial backing, as well as oversight and direction from the local government. Major adjustments are therefore required, particularly in the area of education administration, to resolve issues that make it difficult for educational institutions to implement an independent curriculum in a way that is effective, particularly in the age of the fourth industrial revolution. Simarmata et al. (2020) made the case that the industrial revolution 4.0 will necessitate significant changes in the management of education, as educational programs must be created to satisfy shifting demands.

B. Methods

One of the South Sumatra State Senior High Schools served as the site of this study. The descriptive qualitative method was employed in this study. The school's principal and teachers served as the informants who later evolved into significant figures. Techniques for gathering data include observation, literature review, and interviewing. The goal of this study is to examine and track how independently managed curriculum is being implemented in these schools. The stages of the research make reference to Miles and Huberman's (2003) theory. The initial phase of data gathering. The researcher now gathers all the data. Data reduction is the second stage. Any data collected are summarized by the researcher. The third stage involves organizing the data for presentation, and the final stage involves making judgments and confirming the results.

C. Results and Discussion

Implementation of Free Learning Curriculum

The implementation of the independent learning curriculum at the school where the research was conducted has been well implemented, according to the implementation indicators, which include the following: 1) School Assessment; 2) Character Survey; 3) Effective RPP; 4) Zoning System; and 5) Implementation of Independent Curriculum E-Reports Integrated into *Dapodik*. In actuality, the school has switched out the USBN for a school evaluation. Applying school evaluations lessens the workload for pupils and allows teachers at the school to conduct assessments in a more thorough manner (Results of interview on October 2, 2022 with representatives of the school curriculum).

In accordance with guidelines from the ministry of education and culture, the school has also completed a minimal competency evaluation and character survey. Students are initially provided information about the evaluation before it is administered. Students also receive preparation prior to the exam through a simulation (Results of interview on October 2, 2022 with the Principal).

Teachers at the school have also put into practice creating a Learning Implementation Plan (RPP) that is successful, efficient, and student-focused. The teacher administration method is made simpler by RPP, which is more practical and led by independent curriculum. It has also been done in accordance with the regulations of the Ministry of Education and Culture for the acceptance of new students utilizing the zoning system, specifically through the neighborhood, affirmation, achievement, and exceptional reasons such transferring domicile.

The school can accept students more equitably by implementing zoning through a number of these channels, which not only benefits students who live nearby but also gives exceptional kids the chance to attend the school. Therefore, the adoption of the independent learning curriculum is consistent with student approval.

The Challenges of Implementing the Free Learning Curriculum

The difficulties of implementing an independent curriculum in light of technological advancements in the industrial era 4.0 in the research institutions' schools are more closely related to the implementation of learning, including 1) requirements for ongoing improvements in teacher competence; 2) requirements for the availability of adequate infrastructure; and 3) requirements for the independence of educational institutions.

The independent curriculum is currently used as the school curriculum in the examined institutions. Three training sessions were held for principals, educators, and teachers on how to use the autonomous learning curriculum. Additionally, the Ministry of Education and Culture offers access to the Merdeka Teaching Platform via the website https://guru.kemdikbud.go.id/ to aid teachers in adopting the Independent Curriculum by providing resources, literacy, and knowledge.

According to Priantini et al. (2022), the Merdeka Platform for Teaching serves three purposes: improving the delivery of the independent curriculum; acquiring new ideas; and working to produce a work or product of teaching practice. According to the Merdeka Curriculum, references have been supplied in the Merdeka Platform.

The implementation of the autonomous curriculum, particularly for instructors, necessitates that they be sensitive, continually work to improve their competence, and stay current with the rapidly evolving fields of information and technology. As a result, the difficulties teachers confront now and, in the future, as they implement the independent curriculum are leading them to become more proficient in IT. The Merdeka Learning Platform application must at the very least enable the teacher to conduct analyses in accordance with the degree of student development achievements and locate references to teaching resources that support teachers. (The outcome of an interview with the school principal on October 2, 2022).

The difficulty for teachers in these institutions is to keep coming up with new ways to teach. As a result, in order to successfully execute the independent learning curriculum in the current era of the industrial revolution 4.0, teachers in these institutions must increase their competency. As a result, instructors must be proficient in technology and realize that education and technology must coexist in every stage of the teaching and learning processes in order to implement the independent curriculum in the period of the fourth industrial revolution. Schools must offer instruction, learning materials, and cutting-edge teaching methods to meet these needs. Local governments, school administrations, and principals must support teachers by meeting their needs for professional development.

The demand for infrastructure, which needs to be owned by educational institutions, is the next obstacle. In order to implement the autonomous curriculum, educational institutions must have the infrastructure in place to enable technology-based learning methods. Schools in areas with sparse infrastructure must necessarily rely on qualified teaching staff. Teachers must be able to conduct instruction using the facilities that are now available due to the lack of infrastructure facilities that can keep up with technological advancements. To achieve learning that continuously innovates and interacts with technology, infrastructure must be accessible.

The independence of educational institutions is the following difficulty. The ability of educational institutions to steer their institutions toward creative schools that are responsive to technology advancements that change so quickly is what is meant by the independence of educational institutions in issue. Rahayuningsih & Iskandar (2022) underlined that school administrators must provide a new literacy culture, namely with a digital literacy culture, in order to establish a positive school culture in the industrial revolution period 4.0 and prepare students to compete in line with contemporary needs.

According to the study's findings, the independent learning curriculum has been successfully implemented in the high school where it was studied, as evidenced by the following implementation indicators: 1) school assessment; 2)

character survey; 3) effective RPP; 4) zoning system; and 5) application usage, including report cards (for evaluating student learning outcomes that are integrated with *dapodik*). In schools where this research is more focused on the implementation of learning, the challenges of implementing the independent curriculum in light of technological advancements in the industrial era 4.0 include 1) demands for continuous improvement of teacher competence; 2) demands for the availability of adequate infrastructure; and 3) demands for independence of educational institutions.

The findings of this study highlight the need for every educational institution to be able to keep up with the increasingly quick advancements in information and technology in order to adopt the autonomous learning curriculum in the age of the fourth industrial revolution. Technology advancement will play a significant role in the implementation of education.

Every sector of educational institutions must thus be able to prepare itself for changes that demand more competency in a world where learning systems and technology are two sides of the same coin, especially teachers who are at the forefront of executing school core activities. Technology-savvy teachers must be able to innovate in the classroom. According to Joenaidy (2019), the first stage in learning in the context of current learning is the teacher's creative adoption and development of current teaching strategies.

Continuous training is therefore required in an effort to boost teacher proficiency. According to Priantini et al. (2022), school administrators must assist the implementation of an independent curriculum by offering training, teaching resources, and learning aids on their own. According to Rahayuningsih & Iskandar (2022), it is the responsibility of the school principal to develop new forms of literacy in the classroom, one of which is becoming familiar with digital literacy to meet the demands of the fourth industrial revolution.

Teachers can also use the independent teaching platform as a resource for putting the autonomous curriculum into practice during the learning process.

Additionally, each school must be independent in order to meet the demands of the era of the fourth industrial revolution. In addition to having qualified and technologically savvy instructors, schools that have implemented an autonomous learning curriculum also need to have imaginative, qualified, and open-minded school administration. School administrators can run institutions that are adaptable to technological advancements while maintaining a comfortable environment for teaching and learning. The application of the independent learning curriculum makes all parties feel freer without being burdened in accordance with government regulations which aim to produce or create fun learning and improve students' abilities to become better, smarter and more characterful individuals towards the nation. and a better and developed country (Asfiati & Mahdi, 2020). A policy on independent learning that is anticipated to make the educational environment easygoing (Amalia, 2022).

D. Conclusions

The following conclusion can be drawn based on the findings of the research and conversation: 1) The use of an effective RPP, zoning system, character surveys, school assessment, and e-reports are all part of the autonomous learning curriculum's implementation; 2) The difficulties of implementing an independent curriculum in the face of technological advancements in the industrial era 4.0 are more closely related to the implementation of learning, including demands for the availability of adequate infrastructure, demands for the independence of educational institutions, and demands for the continuous improvement of teacher competence.

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