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Model for Economical Digital Smart Classes Indonesian Islamic Primary Schools (Madrasah Ibtidaiyah) in The 21st Century

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Abstract

The emergence of the digital era is clear evidence of the evolution of the educational landscape. In education, the creation of cost-effective digital classrooms may be the answer to future problems. Inexpensive glass touchscreens are an alternative to digital classrooms. This research focuses on how to make digital smart classes at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik and how to use digital smart courses in the learning process at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik. This research will describe education in Madrasah Ibtidaiyah, Indonesia. Design/methodology/approach This research uses a qualitative case study methodology. This research involved eight participants, including school administrators, digital space teachers, and the information technology team. Use interview, observation, and documentation tactics to collect data. The data analysis technique uses the methods of reduction, presentation, and interpretation of the important themes found. Limitations/Research Implications The results of the study revealed that there were two important elements in this study, namely the learning process carried out in digital classrooms and the main obstacles to its implementation. Creating a digital smart class begins with the provision of infrastructure such as InFocus, a USB port, a USB cable, a dongle, a high-resolution camera, wireless, and a smart board (touch screen) connected wirelessly. Smart digital classes can really stimulate teacher creativity in producing the best media for teaching materials. Obstacles to adopting digital courses include the limitations of gadgets that support the implementation of digital classes, the competence of teaching teachers, and school regulations in providing supporting facilities. Originality/Value This new research is expected to be the starting point for creating teaching materials that are simple, economical, and effective.

Keywords: Creativity, Digital, Learning Media, Smart Class

INTRODUCTION

The 21st century is a time of reawakening from global trends, including the field of education. This is evidenced by the transition from industrial revolution phase 3.0 to 4.0, in which IoT (Internet of Things) and digitalization predominate (Jima'ain 2020) as well as the development of society 4.0 to 5.0. Therefore, releasing the finest discoveries in the form of innovation in the sphere of education becomes an unavoidable task. In addition, the continuing Covid-19 epidemic has set a new record in the world (Al-Zalfawi et al. 2021). As the world of education is accustomed to teaching and learning in the classroom (face-to-face), the model must be radically altered to incorporate online learning (e-learning) (Al Ahbabi and Ahmad 2021; Ally 2019; A et al. 2021; Kim 2020). As the world of education is accustomed to teaching and learning in the classroom (face-to-face), the model must be radically altered to incorporate online learning (e-learning).

In his book Transformation of Education in the 21st Century, Edmund O'Sullivan predicted the development of the world of education in the 21st century, stating that there is a need for rapid transformation, as challenges in the 21st century, with the development of the world of technology becoming a challenge in the fields of state, economy, culture, and spirituality (O'Sullivan 1999). This circumstance exemplifies the need for educational institutions to prepare for transformations in the world of education, so making the world of education more hospitable via positive adjustments. It is the responsibility of all components in the realm of education to improve their institutions so that the entire learning process continues to advance in spite of the continuous Covid-19 epidemic. This is evident from prior studies on the number of learning programs used to compensate for the loss of face-to-face interactions. However, this does not diminish the substance of the learning process facilitated by several learning platforms such as YouTube (Khan 2017), Whatsapp, Google Classroom (Arif, Munfa'ati, and Kalimatusyaroh 2021).

Sette de Sauza believes that the value of employing online-based learning resources during the Covid-19 epidemic cannot be discussed based on the findings of his research. Using Whatsapp and Google Meet in the learning process at the University of Pernambuco in Brazil, for instance, has shown to be an excellent option (Sette-de-Souza 2020). In the middle of the Covid-19 pandemic, DeWitt stated the same thing, namely that teachers should consider YouTube-based learning as a viable remedy (DeWitt et al. 2013). In addition, YouTube is a medium that is recognizable to people of all ages and is easy to use since it provides a variety of video tutorials (Ziewiecki 2018). Jaffar focuses more on selecting e-learning media as one of the sub-options to achieve the goal of success in the whole series of learning processes, YouTube media is a part of open access and unlimited media to make the learning process maximally (Jaffar 2012; Mutohhari et al. 2021).

In his study, Peters demonstrated the significance of establishing a consistent framework in electronic learning (Peters 2021), especially during the covid-19 pandemic, the entire learning process was carried out online (Zaini et al. 2021), starting to the process, implementation and evaluation as a whole. As Gupta emphasizes, electronic-based learning procedures, such as Google Classroom, are more reliable in their evaluations, because all student work outcomes may be documented in Google Classroom in a comprehensive and secure manner (Gupta and Pathania 2020). In his research conducted in Papua, Indonesia, Yudiawan emphasized the significance of a number of key factors for achieving success in electronic-based learning in the midst of the Covid-19 pandemic, such as students' motivation to continue learning despite severe limitations, teachers' motivation to impart knowledge, a complete infrastructure, and a comprehensive evaluation system to guarantee the entire learning process (Yudiawan et al. 2021). In essence, Santosa emphasized the significance of digitization in Madrasah in the context of the globalization period (Ibda, Syamsi, and Rukiyati 2023; Santosa and Jazuli 2022). Therefore, Xie emphasized that digital class models in Mathematics must be applied to other courses in order to meet the demands of students (Slocum-Schaffer 2021; **salgarayeva**; Xie et al. 2021).

To present, hurdles in the field of education, particularly during the Covid-19 pandemic, have

spawned a type of information technology-based learning innovation. However, not all educational institutions are able to follow this trend due to issues such as infrastructure availability, teacher competency (Farihin 2023), and school rules that promote the success of the program. Madrasah Ibtidaiyah Negeri (MIN) 3 Tangerang, an elementary education institution, was one among the institutions that discovered innovative techniques and ways that might ease the learning process throughout the epidemic. Responding swiftly to the Covid-19 pandemic and continuing to implement their massive change program in 2020, educational institutions are well on their way to achieving this goal in 2020. As the data acquired at MIN 3 Tangerang, led by a female principal called Mrs. Jetty Maynur, exceeded the constraints of face-to-face (offline) teaching in Indonesia owing to the spread of the Covid-19 virus, an educational breakthrough was reached. So that it stimulates creative thinking in the form of creating cost-effective smart digital courses as a solution to the shortage of face-to-face meetings in schools and as proof of the fullest use of digital technology in the learning process. In addition, MIN 3 Tangerang in madrasah innovation produces glass smart whiteboards (touch screens) at a cheap price (Lakshmypriya, Rai, and Kudal 2021). The complete smart digital class learning process is highly effective and widely welcomed by all students; this condition increases the worth of the madrasa as a result of its revitalization. So that the existence of Madrasas with the notion of digitalization may meet the educational transformation problems of the 21st century.

The researchers consider the significance of research positions as a study of a sequence of digital smart class-based learning processes, depending on the preceding discoveries. In addition, no prior research has examined digital smart class models that are cost-effective and operate properly. Additionally, academics wish to investigate the usage of digital smart class in the twenty-first century. Considering these conditions, researchers have objectives to describe two focuses . First, with respect to the creation of digital smart classrooms at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik. The utilization of digital smart courses in the learning process at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik.

METHOD

This study uses a qualitative method with a case study approach (Huyler and McGill 2019) and a case study design to investigate implementation process two private and public madrasas. First, Madrasah Ibtaiyah Negeri 3 Tangerang, which utilizes digital smart courses to optimize the learning process during the current Covid-19 pandemic. Similarly, Madrasah Ibtidaiyah Nurul Huda Cerme Gresik, one of the madrasas in the district of Gresik, uses digital-based learning as a madrasa breakthrough among the educational problems of the 21st century (Jannah et al., 2020). In this study researchers focused on two things. First, how to make a digital smart class at Madrasah Ibtidaiyah Negeri 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik. Second, what are the forms of utilization and constraints of digital smart class in the learning process at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik.

Research Participant

The research data source on Creswell includes both primary and secondary sources. Primary data sources include: heads of MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik, smart digital class teachers, IT team. Observations and documentation at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik, Indonesia, were used to obtain secondary data sources. In this study, there were a total of eight participants. The selection of participants was established by means of purposive sampling in which pre-set criteria served as the baseline for gathering topic data from schools that had implemented smart digital classrooms that satisfied these requirements.

Table 1. Reserach Subject

Aspects	n(%)
Subject by gender	
Male	3
Female	5
Subject by age	
20-30 year	6
31-40 year	2
Subject by position in school	
Head master	2
Teacher	4
IT Staff	2
School characteristic	
Private	1
Public	1

Data Collection Instrument and Procedure

Researchers obtain data through unstructured interviews with all informants as well as data sources among study participants (Miles Matthew, Huberman, and Saldana 2014; Roller 2019). The researchers' two primary concerns were not addressed by unstructured interviews. First, how to make a digital innovative class at Madrasah Ibtidaiyah Negeri 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik. Some of the instruments that were asked included the number of costs, the tools needed, and the digital smart class manufacturing team. Second, how to use digital intelligent classes in the learning process. At this stage, the researchers looked in detail at planning, implementing, and evaluating the learning process through digital smart classes. Observing and documenting at those two schools, such as printed photos or some documents stored from digital media, and online newspapers that lead to digital smart classes at those two schools.

Table 2. Digital Smart Classes Research Instrument

No	Focus	Instrument
1	What is the process for making an economical digital smart class?	What tools are needed in making economical digital smart class? How much money is needed to make an economical digital smart class? What is the message for the IT team in the process of making an economical digital smart class?
2	How is the use of digital smart classes in the learning process?	How do teachers prepare digital smart class-based learning plans? How do teachers prepare for the implementation of digital smart class-based learning? How do teachers prepare digital smart class-based learning evaluations?

Data Analysis

The researchers employ the Miles and Huberman analysis with three stratum models to prevent misunderstanding in the data retrieval results. First, a summary of data from interviews about the implementation of digital smart classrooms in the learning process at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik (Miles Matthew, Huberman, and Saldana 2014),

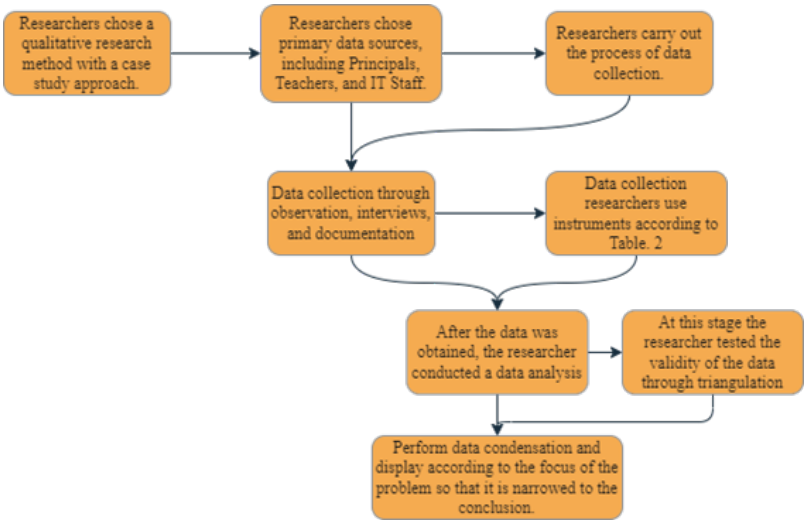

Figure 1. Flow in getting research results.

Accompanied by key data collection, classification to reduce confusion that comes out of the focus of the problem. As in the process of creating a digital smart class, the research objectives' responses will be categorized such that the only responses that reach the following stage are those that pertain to the establishment of a digital smart class. and its usage in education. Conclusion-drawing is the final required step for researchers; the preceding three steps are required for continuous analysis and produce the most comprehensive analysis. In addition, researchers utilized data triangulation as a data validity test (Noble and Heale 2019; Miles Matthew, Huberman, and Saldana 2014).

Result

Based on the results of the research, it shows that making digital smart classes is a necessity that must be carried out by educational institutions, especially madrasah Ibtidaiyah. This is inseparable from the needs of students, who need a comfortable learning environment. This is reinforced by the construct of Vygotsky's thinking about the condition of students who can accept reality in learning while developing social conditions. This is what happened to the two Islamic educational institutions, Madrasah Ibtidaiyah Negeri 3 Tangerang Selatan and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik.

Creating Smart Class Digital

At the stage of making digital smart classes at Madrasah Ibtidaiyah Negeri 3 Tangerang Selatan, researchers found something unique, especially in the manufacturing process, which experienced several failures. Creating a digital smart class costs around 9 million rupiahs. This condition was also justified by the head of Madrasah AB, who said that every process that was carried out began with the conditions of the COVID-19 pandemic until the idea of making a digital smart class emerged. Making a digital smart class involves preparing an Infocus, a USB port, and a dongle. The same condition was also reinforced by the IT team: the initial process that madrasas must carry out in

making digital smart classes is to prepare the required infrastructure, such as InFocus, USB port, USB cable, dongle, camera with the best resolution, wireless, and smartboard (touchscreen). Apart from that, the digital smart class at Madrasah Ibtidaiyah Negeri 3 Tangerang Selatan prepares tablets for each student to support their learning. AC, as the class teacher, also said that every lesson uses a smartboard, InFocus, and wireless, prepared by the school and the IT team, while students of Madrasah Ibtidaiyah Negeri 3 Tangerang Selatan use tablets in every lesson.

Looking at the conditions that occurred at Madrasah Ibtidaiyah Negeri 3 Tangerang Selatan, it is indeed different from the states at Madrasah Ibtidaiyah Nurul Huda Cerme Gresik, as a private madrasah that dares to create digital smart classes. BA, as Head of Madrasah, revealed that making digital classes is a solution in the 21st century; moreover, students interact more directly with digital media. Some of what we have prepared for making digital smart classes includes human resources, namely the IT team, and teachers; after that, we prepare the infrastructure, such as projectors, USB ports, computers, and wifi. This condition is reinforced by the fact found in the field that every student in the digital class at Madrasah Ibtidaiyah Nurul Huda Cerme Gresik gets facilities in the form of a computer when learning takes place. BB, as the class teacher, also confirmed that the facilities at Madrasa Ibtidaiyah Nurul Huda Cerme Gresik are quite luxurious compared to other private madrasas; teachers and every student get wifi and computer facilities to access learning in class. Seeing the conditions of the two madrasas above, they have similarities in making digital smart classes used in every lesson. However, in substance, the two madrasas above have the same mission: to develop digitalization-based learning to answer the challenges of education in the 21st century.

Digital Smart Class Utilization in Learning

Making Smart Classes, Digital has real implications for every learning process in the classroom, especially the teacher's position as a student facilitator in every lesson. This condition challenges teachers in preparing, planning, implementing, and evaluating every study at Madrasah Ibtidaiyah Negeri 3 Tangerang Selatan and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik.

1. Learning Planning

   Every teacher should prepare students to learn optimally, without exception, in digital classes. AB, as the Head of Madrasah Ibtidaiyah Negeri 3 Tanggerang Selatan, confirmed that optimal planning would ensure maximum implementation of learning. As with the obligations of teachers in conventional classes, teachers in digital classes also have the same responsibilities. Starting with making an independent learning-based learning implementation plan, which must include the targets achieved in each lesson, selecting learning media appropriate to class conditions becomes a determinant in fostering student learning motivation. The above conditions are also justified by the AC digital class teacher's statement that at the beginning of each lesson, each teacher should make a lesson plan, which includes duplicating the modules that were made earlier so that each student can read each learning module given by the teacher on each tablet in the class. Similar conditions also apply to Madarsah Ibtidaiyah Nurul Huda Cerme Gresik and each teacher when starting learning in digital classrooms. BB and BD confirm that at the beginning of learning, the teachers in the digital class should develop learning strategies that suit the needs of students. In particular, the condition of the location of schools in villages makes it a particular challenge to develop learning strategies and media according to needs. One of them is the use of e-books in learning.
2. Learning Implementation

   At the stage of implementing learning, the teacher should follow the guidelines imposed by the school. As explained by the head of the madrasa and the class teacher, in each lesson, students use tablets as a media that must be used during learning in a digital smart class. Using tablets that are integrated and equipped with digital books can help implement learning to the fullest in schools. In addition, tablets and computers can be used as browsers to search for material provided by

teachers at Madrasah Ibtidaiyah Negeri 3 Tangerang Selatan and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik. From the integration of the two media above, the teacher can dynamically direct students to use several platforms that support the learning process, as exemplified by several digital platforms that are maximized by class teachers at Madrasah Ibtidaiyah Negeri 3 Tanggerang Selatan and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik in the learning process, such as media quizizz, form, padlet, and mentimeter.

3. Learning Evaluation

   At the learning evaluation stage, the class teacher assigns students to make projects through e-learning and CBT. The facilities of an innovative digital class support this situation. Classroom teachers have many choices in evaluating learning in digital classrooms. However, one of the significant differentiators at the digital class-based evaluation stage is the flexibility of time and the accuracy of the results. In addition, the selection of learning evaluation time is also very varied, as explained by class teachers at Madrasah Ibtidaiyah Negeri 3 Tanggerang Selatan and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik. The evaluation time carried out by the teacher is a choice, such as evaluation that is daily, weekly, or at a specific moment after all the series of implementation of learning runs optimally, and class teachers can know the benchmarks of the teacher's success in delivering material in each lesson schedule and student absorption of the material that the teacher has given.

Discussion

Creating Smart Class Digital

In the 21st century, digital smart class is a requirement in the field of education (Ally 2019; Peters 2021), without exception at the elementary school level education (Madrasah Ibtidaiyah). MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik have made a breakthrough by creating digital smart courses, a class-based learning model by harnessing the digital world. Starting with the preparation of supporting infrastructure, such as infocus, USB ports, USB cables, dongles, high-resolution cameras, Wifi, and Smartbord (touchscreen) with Nikebel. The similar message was provided by Jannah, Prasojo, and Jerusalem 2020., namely that the use of technology in learning at the primary school level is essential, especially given that students are engaged and passionate about learning at every stage (Jannah, Prasojo, and Jerusalem 2020). Besides, the presence of digitalization also encourages teachers to strengthen the competence of class teachers in examining the use of digitalization through digital literacy (Arif, Munfa'ati, and Kalimatusyaroh 2021; Nurhidayah, Lastuti, and Akbar 2023; Akimkhanova, Turekhanova, and Karwasz 2023).

The digital smart class produced by those two schools is rated as affordable and offers optimum benefits. In the same manner as the Covid-19 pandemic (Al-Maroof et al. 2020; Arif, Munfa'ati, and Kalimatusyaroh 2021; Kim 2020; Yudiawan et al. 2021; Zaini et al. 2021). It requires Madrasah Ibtidaiyah and all levels of human resources to innovate in the world of education (Adiputra, Mujiyati, and Hendrowati 2019; O'Sullivan 1999). The digital Smart class presented by the Tanggerang 3 Public Elementary School and the Nurul Huda Cerme Gresik Elementary School did not result in a sequence of learning procedures. However, digital smart class stimulates teacher innovation in the production of the most effective instructional media. Beginning with YouTube and video use (Jaffar 2012), PowerPoint and E-Learning. The Ministry of Religion is the main player of a role as a database for learning program plans for each subject, Core Competences and Basic Competences as well as student assessment results which can be accessed by every parent. Utomo et al, strengthened a similar study that the teacher's position must be adaptive in developing digital application-based learning media as an improvement in learning in the era of the industrial revolution 4.0 (Utomo, Kurniawan, and Ria 2021; Wilking, Schleich, and Wartzack 2021).

Digital Smart Class Utilization in Learning

At MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik, the existence of

a breakthrough in the construction of a digital smart class is expected to aid the whole learning process to the greatest extent possible (Predictors of the subjective effectiveness of emergency remote teaching during the first phase of the covid-19 pandemic 2022). Participation in the learning process is appealing to students, especially in light of the presence of an unpredictable epidemic and the obstacles posed by the digitization of education (Yudiawan et al. 2021). The teacher's position is required to continue to innovate in learning (Al-Ahmed 2020; MARKHAICHUK and PANSHIN 2022), such as preparing digital-based teaching materials, uploading learning materials, worksheets, and tools used in digital smart classes starting from planning, implementation and evaluation. Since a consequence of their research, Hakim, Kustijono, and Wiwin 2019. validated the significance of teachers being accustomed to giving digital-based learning (Android), as 85 percent of students provided more effective and efficient feedback (Hakim, Kustijono, and Wiwin 2019; Laksita, Oktaviani, and Pangestu 2020) compared to traditional type learning which tends to lack innovation and students resulting in student boredom in participating in learning (Puradireja 2022; Rahman 2020).

1. Learning Planning

   Teachers are obliged to create digital class-based learning implementation plans (RPP) during the planning phase of digital smart classes. Additionally, teachers must create worksheets and upload them to the Indonesian Ministry of Religion's E-Learning (Alhashmi and Moussa-Inaty 2020; Gupta and Pathania 2020). In order for all students to have unrestricted access to all content (students who study from home and at school). Schwartzbeck and Wolf emphasized that digital-based learning is the best option for primary schools in establishing 3T (Teaching, technology, and time), a process that can preserve the existence of education in a growing society (Schwartzbeck and Wolf 2023). As a result, the position of the teacher's planning stage is required to be able to maximize the learning media that has been fulfilled in the classroom (Ally 2019). Similar to the process of evaluating all learning media, tablets for students are present in class (Akyüz and Yavuz 2015), Internet, smart boards that can be accessed full internet so that it makes it easier for teachers to carry out learning. agree with Min and Siegel that the role of the smart board in the classroom helps the learning process optimally (Min and Siegel 2023). However, it should be noted that teachers must keep up with developments so they are not far behind in the world of digitalization (Al-Qirim et al. 2010; Preston and Mowbray, n.d.).
2. Learning Implementation

   When the learning planning process is optimized, learning implementation will be carried out to the maximum extent (Kim, 2020). As demonstrated by the instructors of MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik, the Learning Implementation Plan is an excellent guide. (Coburn Penuel, 2016). In addition, the results of class teacher and topic teacher talks serve as a guide for the implementation of the learning process. TAB is one of the required learning media in digital smart classrooms, which are also supplied with digital learning media books that assist students at school and at home (Slocum-Schaffer, 2021), e-raport (Febriansyah Muntari, 2021), website and several additional tools provided by those two schools.

   In addition to the facilities and infrastructure, the teachers carry out learning with their professionalism (Alhashmi and Moussa-Inaty 2020; Sabiela et al. 2022), such as providing learning through media that can focus students from saturation. some of the media used by class teachers at those two schools, such as Quizizz media (Yan, Zalika, and mei 2018; Zhao 2019), Padlet (Jaganathan 2016) and Mentimeter (Pichardo et al. 2021; Puspa and Imamyartha 2019). In addition, the presence of a touch-screen smart board facilitates learning for classroom teachers (Min and Siegel 2023; Gerard, Greene, and Widener 2023). Therefore, no markers or erasers are needed. Because the instructor can use fingers or a ballpoint pen to interact with the smart board. Learning must be implemented in digital smart classrooms, particularly learning that may be accomplished in a restricted and unpredictable manner.

3. Learning Evaluation

   During the assessment phase of teacher learning at MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik, many tasks were employed to evaluate the complete learning sequence. Such as assigning pupils e-learning and CBT project creation tasks. This circumstance is facilitated by digital smart class amenities. Attwell also recognizes the significance of digital evaluation as one of the adjustments of the education industry in the digital age (Attwell et al. 2006). The evaluation time carried out by the teacher begins to be daily, weekly or at certain moments after the whole series of learning implementations has run optimally (Oliver, 2000). Learning evaluation is essential as a measure of the instructor's performance in providing content in each lesson plan and as a benchmark for student absorption of the material that the teacher has provided. Miller's research in Japan on the significance of establishing digital smart classes in the twenty-first century confirmed the presence of the aforementioned phenomenon. In addition, during the Covid-19 surge, it became a new breakthrough in the absence of face-to-face

Limitation

This study was limited to two elementary schools with an Islamic background (madrasah ibtidaiyah) from two different institutions. The public manages one primary school, and the private sector manages one. In addition, in this study, the researchers only focused on one research method (qualitative) with eight in-depth data sources. Based on these limitations, researchers have hopes that in the future, they will research whether educational development is influenced in public or private institutions.

Implication and Conclusion

On the foundation of the above data, it can be stated that both MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik are in the process of implementing digital smart courses, and tend to cut expenses economically. As the production process begins, infrastructure such as infocus, USB ports, USB cables, dongles, high-resolution cameras, wifi, and smart boards (touchscreens) are prepared in conjunction with Nikerebel. Digital smart class fosters teacher innovation in the production of the most effective instructional media. Beginning with the Ministry of Religion's usage of video, youtube, pptx, and e. learning as a database for Learning Program Plans for each topic, Core Comptence and Basic Comptence, as well as student assessment results that can be accessible by any parent. The usage of digital smart class in education begins with the creation of lesson plans and the preparation of instructors for digital-based learning material. Teachers are expected to be more innovative in the application of learning so that pupils do not become bored, such as by employing TAB media, which includes digital books, e-reports, and websites. In contrast, during the evaluation process, the instructor assigned more students to create projects using e-learning and CBT, which were supported by digital smart class facilities from MIN 3 Tangerang and Madrasah Ibtidaiyah Nurul Huda Cerme Gresik.

AUTHOR CONTRIBUTION STATEMENT

M.A. conceived of the presented idea and developed the theory. M.K verified the analytical methods and analyzed the data and interpreted it. A.Y. encouraged M.A. to investigate and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

DECLARATION

The authors of this study certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or

materials discussed in this manuscript.

DATA AVAILABILITY

The dataset generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

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