

PalArch's Journal of Archaeology
of Egypt / Egyptology

INVESTIGATING THE TEACHING MODELS, STRATEGIES AND
TECHNOLOGICAL INNOVATIONS FOR CLASSROOM LEARNING
AFTER SCHOOL REOPENING

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SCHOOL REOPENING--Palarch's Journal Of Archaeology Of Egypt/Egyptology
17(7), 13141-13150. ISSN 1567-214x**

**Keywords: Teaching Model, Strategy and Technology Innovation, and Learning in
Reopening schools.**

ABSTRACT

This qualitative study will discuss teaching models, strategies, and learning using technology innovations in the classroom after schools have reopened to respond to COVID-19. Educators believe that school learning outcomes are closely related to teaching models, strategies, and technological innovation. Related to that matter, we have conducted a data collection series to discuss this issue ranging from the literature review, observation, and documentation. After the data gathered, then the complexity is analyzed through coding, producing conclusions by considering the findings' validity and reliability that answer the study questions. As for the data search system, we used a search system assisted by Google search and data based on ERIC and Google Scholar. Meanwhile, the dominant keywords we use are "teaching strategy," "technology and innovation", "class learning after school reopening". The results we can report that there are teaching model at the beginning of school reopening, teachers are still adapting to the situation while choosing strategies that can invite students to return to face-to-face learning and involve technology as a tool to other facilities in the classroom.

INTRODUCTION

The learning model is a framework that provides a systematic description for carrying out learning to help students learn in specific goals to be achieved. That is, the learning model is a general description but still focused on specific goals. It makes the learning model different from learning methods that have implemented steps or learning approaches wider in scope. The definition above is in line with Suprihatiningrum, (2013) opinion, which states that the learning model is a conceptual framework that describes systematic learning procedures for managing student learning experiences to achieve specific desired learning objectives. (Aslan et al., 2020; Rachmawati et al., 2020; Putra et al., 2020). According to Roca et al., (2006) to strengthen the understanding of the learning model's validity, the following are some understanding of the learning model. (Lee, 2008). At the same time, the teaching strategy is all the teacher's actions in preparing a teaching plan. Including teachers' efforts in several variables that define goals, technology application used, use of methods, and all evaluation tools to help students achieve learning outcomes that have been systematically planned. Related to the above, we want to investigate teaching models, strategies, and technological innovations for classroom learning after school reopening efforts to respond to the spread of the coronavirus among students in the school environment.

The desired learning objectives must be as expected, so the goal designer must pay attention to the maximum policy and learning approach. McKimm & Swanwick, (2009) said that it is essential to pay attention to various learning approaches that can be planned, including strategic evaluation methods, methods, strategic techniques, and the ease of technological innovation into learning. If you want a more in-depth explanation, the curriculum and learning management strategy is the very initiation of learning and educational activities that teachers must carry out so that the intended learning objectives can be achieved effectively and efficiently.

Meanwhile, Ball et al., (2009) stated that learning methods can be interpreted as systems and methods used to prepare existing plans in real and practical activities to achieve the curriculum preparation goals. (Loewenberg Ball & Forzani, 2009; Gravemeijer & Cobb, 2006). Several learning methods and systems that can be applied to implement learning strategy strategies are talks, presentations, discussions, lab and laboratory simulations, field experiences, brainstorming, debates, symposia, etc. Furthermore, learning techniques can be interpreted as a way by which a person implements a method specifically to achieve implementation goals. Meanwhile, technology implementation and innovation are an effort in every possible way. As far as possible, informatics technology can be used and reliable to achieve student learning outcomes and educators' work in providing educational services to students.

Furthermore, Bakkenes et al., (2010) noted that the Important of learning outcomes has been a concern of every educational stakeholder. There are many kinds of recommendations for various learning methods. (Velthuis et al., 2014; Darling-Hammond, 2000; Tanang & Abu, 2014; Harslett et al., 2000). However, as an educator, he must be selective and innovative in critical thinking if he wants to apply a learning method to learning activities. Do not

let the methods used hinder the teaching and learning process or activities. The mismatch in the application of learning methods will result in the level of achievement of student learning outcomes. If the achievement is low, it can be said that the method used is not suitable because the achievement is low, the learning objectives to be achieved cannot be realized, or in other words, the strategy carried out in the learning activity does not reach the target. Therefore, teachers must be able to create a class atmosphere that is pleasant and enjoyable, not saturating, so that the use or implementation of learning strategies, methods, and tactics is needed. Using the right strategies, methods, and tactics will make students understand what the teacher is saying. In choosing a strategy, method, or tactic, the teacher must pay attention to his students' condition.

Moreover, attention to what subjects will be studied, then adjusted to methods that can support what will be studied. One example of learning renewal is contextual learning assisted by educational technology innovations. It means that when the real situation cannot be presented, technological assistance can be an alternative. Contextual learning helps teach using the material being taught and students' real-world situations and encourages students to make connections between their knowledge and its application. The daily learning involving the seven main components of effective learning, namely constructivism, asking questions, studying, analyzing, discovering, community learning, modeling, and actual assessment, is essential. So it is hoped that through the use of appropriate models, strategies, methods, and technological innovations and techniques, it is hoped that students can more easily understand what the teacher says. With the existence of strategies, methods, and learning techniques, learning activities become more interesting, fun and arouse students' curiosity more attractive to be achieved will become real as desired by all stakeholders, teachers, students, government, and the wider community.

After almost a year, all students took part in distance learning due to government policies responding to the COVID19 pandemic. During that period, many students, teachers, and parents had experienced everything; however, with the government's discourse to run the new normal, later students will go to schools reopened when the new normal is implemented. The question is how education in Indonesia will be in the post-pandemic era? Or will students still take part in distance learning or online? To answer that, we will try to discuss it with the scope and analysis of information to discuss the future post-pandemic teaching strategies, models, teaching, and technological innovations. As academics and researchers, writers, and observers of information technology, we will discuss learning after responding to the COVID-19 pandemic that has globally renovated all human life and education lines. It is just that, if everything goes well, then the community will be more challenging. It, of course, applies in the world of education. During this pandemic, students, teachers, and parents have their roles to play in educational activities. We researchers see this pandemic period is divided into four quadrants: namely, parents, students, teachers, and the community. In quadrant one, the parents act as teachers. Now there is intensive communication between children and parents. Parents interact with teachers to

clarify assignments. Parents provide added value to children in the form of character education, thought patterns, and behavior. Parents have the opportunity to get out of the zone of shadow. Quadrant 2 Students carry out independent learning.

Typical learning after a pandemic has been noticed by many educational experts. A great generation can get through times of crisis. Students try hard to fulfill their duties and obligations even with the minimum assistance from the teacher. Students are freer to be creative and imagine about assignments. Students are accustomed to managing time independently. The teacher can confirm student progress through social media. The teacher provides material that is important as a provision for students. Teachers try hard to adapt to technology that has been underestimated. The teacher racked his brain to build an atmosphere of maximum engagement with students is so essential. The teacher develops himself. Teachers are active and looking for learning resources. Teachers are increasingly open-minded to technology's convenience, while in quadrant four, society provides a learning platform in today's abnormal situations. Simultaneously the industrial organization provides flexibility for anyone without cost-free open quality educational content. The technology platform is also wide open. During this pandemic period, they will demand blended learning because everyone knows a lot about technology and parental support. To simplify this discussion, we are taking five strategic steps: Reviewing the learning targets to be achieved so that they are rationally aligned with the new standard's new situations and conditions, identifying the resources that need to be owned and held so that the new goals have been set can be achieved with existing resources, map the situation and conditions of each teacher and student who must get ready to undertake a new learning model based on blended learning as designed and assessing the gap between the need and availability to formulate strategic and operational steps that need to be carried out immediately to bridge it.

Execute these steps creatively and innovatively by forging various partnerships with external parties who care about Indonesian education.

METHOD

Based on the importance of understanding teaching models, strategies, and innovations for learning after reopening schools after the COVID-19 pandemic response, we would like to investigate the above problems. To facilitate this effort, we have conducted a series of data searches, including reviewing the literature, observation, and documentation. Next, we analyze the data with a coding system, in-depth analysis and synthesis, and interpretation to quickly find answers to these study questions to find valid and reliable answers or findings. The searching process is assisted by the Googling search engine and Google Scholar. With keywords, among others, "teaching strategy," "teaching model," "technological learning innovation," and "typical post-pandemic learning in Indonesia. All qualitative data analysis processes are based on Irwin, (2013) guiding qualitative secondary data analysis that takes in ethics, epistemological approach in an educational context.

RESULT

Research by Bradshaw & Hultquist, (2016) on innovative teaching strategies in nursing and related health professions have shown how important technological innovation is in teaching strategies in the Nursing and Related health profession. Details a wealth of teaching strategies, focusing on incorporating technology into the classroom, including Web 2.0 technologies like blogs and podcasts, has revolutionized teaching that has an impact on the achievement of learning objectives, namely achieving the highest learning outcomes. Another study done by Jang, (2008) in her study of innovation in the teaching of natural science teachers and the influence of technology adoption and team education strategies, has added He has combined team teaching and learning techniques facilitated the adoption of technology in designing science subjects and practicing micro-teaching and fostered friendly relationships through educational interactions. (Curry-Stevens, 2018; Parsons, 2006). The teaching model he adopted has been proven to increase class teacher candidates' practice experience and become useful literature for other teacher education institutions.

Laurillard, (2008) argues that technology-assisted enhanced teaching and learning are advanced tools for pedagogical and compelling innovation in modern education. (Selfe & Hugh BURNS, 1999; Cristian Barbieri, 2020). Technology education policies that aim very ambitiously from primary school to lifelong education demand quality improvements. Therefore, it is not easy to achieve goals effectively without a strategic approach to learning and education technologies that are often used practically are driven by technology to improve existing models, techniques, strategies, and technological innovations. The paper proposes that only teachers responsible for educational design are needed to adapt to the developed world. The comments in this paper are in the form of an approach pioneered by teaching in educational technology adaptation to improve educational services quality.

Seechaliao, (2017) has successfully focused its study on learning strategies supported by the collaboration and creativity of teachers and their ability to innovate post-crisis modern teaching. The study aims to focus on design, models, and learning innovations supported by technology to create innovative and creative, and productive education. The results show that technology learning strategies and models can deliver collaborative, creative, and productive education that focuses on improving the resilience system after being affected by various educational crisis problems. Teaching strategies and models that are usually based on traditional learning lack solutions in solving problems with creative, less thinking, non-data-based teaching, precisely-based learning weaken innovative teaching, leading to non-innovative education. According to his study, teaching that involves technological innovation must also be supported. These learning strategies and models have the same aspects and results. The results also show that learning strategies and models that use technological innovation will survive despite crisis shocks because there is a principle of inductive and deductive thinking assisted by media technology or social media networking to make students involved in many activities that create innovation.

Melnick & Darling-Hammond, (2020) reopened schools after the policy to respond to the pandemic ends. (Sheikh et al., 2020). The coronavirus policy has been used as a model and learning strategy between maintaining health and safety. In this regard, education and learning policymakers have thought carefully about arguments for reopening school doors after the COVID-19 pandemic response ends when school education policymakers assess early schools in a way that allows students and staff to remain healthy and safe. Their study's results have provided input on safety guidelines and distance learning methods for socializing in school environments that have successfully reopened their schools in the context of COVID-19. The study's sample findings are intended to support school-level policymakers and school management in the US as they reopen schools and colleges across the state.

Cheng et al., (2020) successfully examined how to safely reopen colleges and schools' doors after COVID-19: a new experience from Taiwan. The reopening of universities during and after the COVID-19 pandemic is a formidable challenge for all countries, including Taiwan, one of the few countries where schools usually function. Government efforts to secure students' and staff's safety in Taiwan have established protocols as standard guidelines on many campuses. Guidelines in Taiwan describe cluster officers' formation at university sites, with school location-based risk screening adhering to life history, job, contact life, and multiple clusters. One campus is temporarily closed while adopting long distances and two weeks of reopening days of contact tracing and strict quarantine with possible contact. Taiwan's experience has ensured that, in any situation, reopening schools and universities with a save this semester is possible with a combination of models, strategies, and approaches that include utilizing technology access and learning from various techniques so that mitigation practices can work.

Quezada et al., (2020) researching from red bricks and mortar to virtual teaching: responding to teacher education projects in response to COVID-19. The emergence of the COVID-19 pandemic penetrates the world through devastating events disrupting the economy and health and teaching at all levels in all nations and indiscriminately. The above studies have impacted primary, continuing, and tertiary education, leaving closed educational institutions that are quasi-majors to save themselves. In many countries, teaching knowledge of COVID-19 management in old rooms is being transformed into online teaching in stages as quickly as possible. Their study reveals how many colleges and postgraduate teacher education programs have organized their faculty during this tough transition for teaching and education management and teaching strategies that are different models and technological innovation that responds to the pandemic: technology-based support, alternative technology-based program assessment as feedback for improving learning services.

DISCUSSION

It was reiterated that the core objective of this educational study was to investigate teaching models, strategies, and technological innovations starting a learning class after school reopening efforts to respond to the COVID-19 pandemic in Indonesia which has entered almost a year with the study title

"Investigating the Teaching Models, Strategies and Technological Innovations for Classroom Learning after School Reopening.

Vey et al., (2017) on learning and development in digital transformation have facilitated a culture of progress and innovation. This study's findings have stated that technological transformation has helped to change the mindset of the educational culture from the old way without technology to the digital age with full technology at every level of education. The relevance is that both Vey's findings and our study both find a combination of technology to start schools with educational models, techniques, and strategies based on innovation and transformation in all levels of the education community. Investigation of development models and strategies to innovate post-pandemic education services is very important. Because more findings of relevant models and strategies are used during the re-adaptation period, it will further assist educators in designing and restructuring facial care programs that are considered still relevant to Indonesia's real learning conditions.

The teaching model is a problem in educational programs because it is a unique science that is very important and useful for students to understand their lessons. Choosing the correct model in the learning room will help increase understanding, creativity, and student activity. It will depend on if the experienced teacher cannot distinguish between the study space and the boundaries and models. Students' education and teaching as prospective teachers in teacher education institutions are based on the teaching profession that teachers must be carefully prioritized.

In an advanced education system, participants must obtain the right to education services of a high degree and higher autonomy. This model shows that education providers must initiate initiatives in the learning service process, check teaching materials according to the interests and demands of learning that have been agreed upon, and understand how to manage them regularly. Efficient education services inside and outside the school only occur when students have access to the skills they want from the process, guide, and control information retrieval, processing, and storage efforts. In this study, teaching did not emphasize what techniques were appropriate and were called learning strategies. Since 2006, the project has been promoting high-talent children between the ages of 10 and twelve. In contrast, learners aged fifteen to nineteen are mentored in the Columbus program. Students from selected local schools were invited to participate in engaging sessions of high interest related to health issues, biology, and trends at the university. The first project session was designed and implemented by students planning to choose the teaching profession. They must also be supported by the academic staff of the Department of Biology. This means that students can improve the many competencies needed for future careers after graduating from college and as teachers, for example, designing and realizing teaching units or identifying and dealing with student personalities that need special attention.

Current pedagogical research is very focused on the learning process during the COVID-19 era in general, where teachers need to think about learning strategies that are following the demands of the field where teaching models

and techniques can attract students' interest and enthusiasm. For this reason, teachers must be able to become leaders who understand many current issues, especially in the fields they are cared for, to enable effective and autonomous teaching. The terms strategy and learning model do not have to cover only one concept, so they must be uniform. A good teaching model is that it should encapsulate all the various concepts of various research references. Meanwhile, Haston, (2007) sees the teaching profession as modeling as a complex and whole idea that brings an effective teaching strategy. (Bakkenes et al., 2010; Leithwood, 2003; Assunção Flores & Gago, 2020). The learning strategy must be a sequence of work that must achieve the ultimate learning goal that describes strategies, procedures, less complex, different continuation, intentionally or not recognized that good learning must realize learning goals and describe learning needs even in difficult times.

Furthermore, teachers' formulation model and strategy in the post-COVID-19 period must determine the model based on student needs. Teachers who understand them are indeed allowed to determine what models and strategies they should apply. This is indeed something that is not easy to do if the teachers have an understanding of the various techniques and approaches in the field. Experiences often inspire teachers regarding the choice of models and strategies that must be applied when they are present to help make student learning programs more organized and selective. So so that this does not become a big scourge for teachers, the knowledge and skills of choosing strategies and models must seek advice from many professionals in the fields of their respective majors. This is something serious even though sometimes you do not understand how important it is to choose between many choices.

CONCLUSION

As if you want to investigate the above for this study model's aim, the right strategy is used in starting new learning after a long period of school closure to respond to COVID-19. By considering existing data and information from both secondary and primary data, we can summarize our findings. Our results can report that the teaching strategy and model at the beginning of school reopening, teachers are still ready to adapt to the situation when choosing a school for almost a year so that Teaching and learning strategies can invite students to return to face-to-face learning and involve technological innovation as a tool for other facilities in the classroom. Therefore, the information needed to become an important input for decision-makers in teaching policies in Indonesia's post-education response period. The closest thing to being alert to is selection and modeling training. The right strategy is to produce and improve learning outcomes as expected by students, parents, curriculum compilers, and the wider community, who will hope for on-target contribution and innovation.

ACKNOWLEDGMENTS

We thank all colleague, working supervisor, and friends those who have contributed during the planning, process and completion of this social study entitled "Investigating the Teaching Models, Strategies and Technological Innovations for Classroom Learning after School Reopening".

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