



# Reinvention of Learning System as a Strategy to Improve School Quality in Post-pandemic Era

Arifah Setyaningrum<sup>(✉)</sup>, Karwanto Karwanto, and Bambang Sigit Widodo

Education Management, Universitas Negeri Surabaya, Surabaya, Indonesia  
arifah.21011@mhs.unesa.ac.id

**Abstract.** This study describes the quality of improvement strategy reinvented by SD Muhammadiyah 1 and 2 Taman Sidoarjo through innovation of learning system in the post-pandemic era. In its learning system, SD Muhammadiyah 1 and 2 Taman Sidoarjo is not only focus on teaching religious values, but also balance it by honing the interests and talents of students to improve the quality of graduate competency standards. Some of the innovations that have been reinvented by SD Muhammadiyah 1 and 2 Taman Sidoarjo include: (1) reinvention in formulating the “Multi Talent School” program, (2) reinvention in digital multimedia learning through the “Mumtaz Smart” application, and (3) reinvention in upgrading the school curriculum. Researcher used descriptive qualitative research method, with data collection techniques through in-depth interview, observation, and documentation. The analysis used by the researcher is the Miles and Huberman model, while the data validity technique used is the triangulation method. The results showed that the strategy adopted by SD Muhammadiyah 1 and 2 Taman Sidoarjo was quite innovative. These innovations can support the learning process so that it continues to run effectively while still facilitating students as needed in the post-pandemic era.

**Keywords:** innovation · reinvention · learning system · strategy · talent · school quality · post-pandemic

## 1 Introduction

Nowadays, the education has started a new stage which it was known that in early 2020, Indonesia was shocked by the Corona Virus Disease pandemic. But now the world of education is slowly starting to recover. All kinds of strategies are carried out to maintain school quality. Not a few schools continue to innovate during the pandemic in order to maintain their quality. Including SD Muhammadiyah 1 and 2 Taman Sidoarjo. Where the two schools are both under the auspices of the Muhammadiyah Branch Manager throughout Sidoarjo, they have the same program and curriculum, the only difference is the building. Before the pandemic until this post pandemic, SD MUMTAZ 1 and 2, the short form of SD Muhammadiyah 1 and 2 Taman Sidoarjo, always make continuous breakthroughs and innovations. According to these schools, innovation is a change and renewal which is the key word and starting point in developing the school.

Etymologically, innovation comes from the Latin word “*innovatio*” which means renewal and change. The verb “*innovo*” means to renew and change. According to Saud in Hasanah [1] “Innovation is a transformation towards another improvement or develop in different from the previous one, and is carried out purposely or planned (not by chance)”. According to Robbins in Hasanah, there are three fundamental principles of innovation: (1) New ideas that are a paradigm in a phenomena observation that is happening, especially in the sphere of education on the probability of concept crystallization. (2) Products and services, specifically the ongoing outcomes of the existence of new ideas that are followed by various activities, studies, research, and experiments in order to provide more concrete concepts in the form of products and services that are ready to be developed and implemented, including the outcomes of innovations in the field of education. (3) Improvement efforts are systematic attempts to produce advancements and maintain advancements such that the essence of the innovation is discernible.

The purpose of innovation is to make innovative breakthroughs that can be made in the development of products, technology services and other processes in order to achieve customer satisfaction, so that they can be better than those prepared by competitors, of course, schools will be able to maintain their quality. The main focus that needs to be put forward in this context is how this innovation is directed to the development of new products or new services.

Mawati, et al., stated that the existence of innovation is not only to improve the condition of an institution but also to build the integrity of educational goals holistically. So that in order for an institution to continue to advance and develop, innovations that are implemented must be based on the needs of ideals and existing realities so that school quality is maintained [1]. The quality of an educational institution shows the quality of the products produced (graduate students). An educational institution or school can be said to be good quality if it can be identified through the number of students who have achievements, both academic and non-academic achievements, as well as graduates who are relevant to the goals of the educational institution, which means that it is in accordance with the standards set by the school. H.A Rusdiana [5] stated, in the implementation of educational innovation there are several supporting factors that influence and are very important in its existence, both internal and external. These factors include: (1) the presence of students; (2) parents support; (3) teacher involvement; (4) involvement of experts such as supervisors, owners, and school consultants; (5) facilities; (6) development and educational research efforts; and (7) the existence of an organization such as a teacher’s union.

SD MUMTAZ 1 and 2 are the oldest Muslim schools in Taman Siodarjo. Established in the 1950s, to be precise January 1, 1953. This school is a favorite private school of choice for the people of Taman sub-district, Sidoarjo Regency and residents of South Surabaya. SD MUMTAZ 1 AND 2 presents the concept of a school characterized by Islam that provides facilities for students to explore and develop their various talents so that they are able to excel in all fields. Various strategic programs developed by these schools in order to realize the academic quality, among others, are by improving the quality of graduate competency standards, developing CTL-based learning (contextual teaching and learning), digital-based learning carried out in order to improve the quality

of content standards and process standards., as well as improving the quality of educators by conducting comparative studies, workshops, seminars and trainings. Various achievements have been achieved by students and teachers of SD MUMTAZ 1 and 2 Taman from national until international levels.

Based on the description above, the innovation of educational system is the development of service products to introduce new learning processes and new ways gradually from various factors, both internal and external. Therefore, the author wants to know the extent of the innovation strategy that has been implemented by SD MUMTAZ 1 and 2 and its effect on the quality of schools in the post-pandemic era.

## 2 Method

### 2.1 Types of Research and Techniques

Utilizing participant observation, in-depth interviews, and documentation, the researcher employed a descriptive qualitative research methodology to gather data. In order to correlate the empirical reality with the relevant theory, a descriptive technique was used in this study. She used this approach because she wants to describe the reality of the phenomenon. The use of this descriptive qualitative method intended to obtain an overview of the learning strategy of SD MUMTAZ 1 and 2 Taman during the Covid 19 pandemic. Data collection is mostly done using the observation method, by observing and taking notes directly from the object of research. Researchers participated in learning activities and observed the implementation of program innovations and coding subjects.

The next method used by the researcher is an in-depth interview, namely the process of collecting data by conducting intimate conversations both formally (planned/structured) and informally (not using notes, tape recorders, pictures, brochures and so on). Champion in Widodo [1] made three statements, as follows:

- Interviews are not just conversations, but more than that, interviews are conversations that result in obtaining verbal answers to verbal questions asked.
- Verbal conversations don't actually need to be done face-to-face (face to face), but can be done over a network such as by telephone/video conference. The important point emphasized here is that the interaction that occurs between the interviewer and the interviewee is verbal.
- Interviews do not limit the number of people interviewed, they can be only one person or conducted in groups.

And finally, the researcher uses the documentation method, which is the process of collecting data by collecting records of events that have passed or those that have just happened. This document can be in the form of writing such as diaries, stories, life stories, regulations, policies, biographies and so on. Meanwhile, documents in the form of works such as paintings, sculptures, films, and so on. While documents in the form of images such as photos, live images, sketches, and so on. According to Widodo [2], the data collected from this documentation is secondary data, while the data obtained through observation and interviews is primary data/data directly obtained from the first party.

## 2.2 Data Analysis

The Miles and Huberman model of data analysis was employed by the researcher. This approach starts with the collection of data, then condenses and displays it. Finally, it draws conclusions and verifies them using statements that are both descriptive and conclusive.

## 2.3 Data Validity

In the context of credibility testing, triangulation is the process of comparing information obtained from different sources using different methods and timings. Three different types of triangulation—source triangulation, technical triangulation, and time triangulation—are said to exist, according to Sugiyono in Widodo [2]. In this study, the researcher uses a type of source triangulation involving the vice principal of curriculum, vice principal of student affairs, talent coordinator, coding teacher and 2 students in different grades.

# 3 Result and Discussion

## 3.1 Reinvention of Multi Talent School Program

According to Scarbrough in Hasanah [1] the emphasis in innovation is how new ideas can be communicated to the community or organization so that they can determine to adopt these new ideas. While reinvention, is a renewal of the work of humans in the form of new ideas from these innovations. Thus reinvention, can be interpreted as an effort to renew new ideas to be adopted as new products or new services.

The Multi Talent Program is the flagship program of SD MUMTAZ 1 and 2, namely a class program for developing student interests and talents, which is carried out every day after learning activities at school. According to Heni Dwi Utami, S.Sos as vice principal for student affairs, this program was first initiated in 2015 by developing thirty talent classes, which are generally divided into six major groups, namely academic talent, al-Islam field, arts, language, life skills and sports. As the years change, in 2022, the Multi Talent Program reinvention, by upgrading its program with the addition of talent programs in the life skills category, namely Coding. Coding teaches students to communicate via computers using algorithmic codes. This life skills education is held in order to realize the ideals of SD MUMTAZ 1 and 2 Taman in order to make a positive contribution and contribution to society, especially in educating the nation's generation, so that they are ready to compete in all fields, in this era of globalization. From six major groups above in the academic category, there are talent classes in Science, Mathematics, English, Arabic, and Literacy. Non-Academic talent classes consist of arts, sports, and Life skills. Talent classes in the arts, namely karawitan, band, choir, orchestra, theatre, dance, painting, violin, mime. Talent classes in the field of Religion are the art of reading the Qur'an or Qiro'ah, Calligraphy and Tahfidzul Quran. Talent classes in the field of sports include Swimming, Tapak Suci Martial Arts, Football, Futsal, Badminton, Chess, Basketball, Table Tennis. Talent classes in life skills are Entrepreneur class, Little Doctor, Public Speaking, Robotics, Multimedia, and the latest is Coding.

According to Heni, incorporating coding into life skills is a key addition to 21st century education. Where Coding is practiced as learning programming skills and computational thinking that can be integrated into various subjects, such as mathematics, language, science and so on. In a number of affluent nations, such as Finland, South Korea, Australia, and several U.S. states since 2014 they have included Coding lessons starting from elementary school as a new digital technology standard. SD MUMTAZ 1 and 2 Taman also began to adopt Coding learning, not only into the curriculum, but deepening it through extra-curricular activities with 90 min of learning per meeting, 2 meetings a week.

### **3.2 Reinvention of Mumtaz Smart Application**

SD MUMTAZ 1 and 2, during the pandemic, launched the “Mumtaz Smart” application as a form of responsibility and seriousness in maintaining the quality of schools and students through this innovation at the beginning of the pandemic. In the application there are e-reports, e-library, attendance, finance, lesson schedules, and announcements. In addition, students or parents can download learning materials and videos that are taught on that day so that communication between schools, teachers, parents, and students remains well established. In this application, the teacher can provide or upload materials such as learning videos, as well as power points and assignment columns. This application can also make parents easier for parents to monitor and directly access learning materials every day. In the application there is a classroom to facilitate the learning process. The application has meeting rooms such as zoom or video calls or group chats such as using WhatsApp in general.

In this post-pandemic era, SD MUMTAZ 1 and 2 will continue to reinvent this application is no exception. At the beginning of the 2022/2023 school year, SD MUMTAZ 1 and 2 upgraded a new feature titled E-Self Monitoring, which is an interaction feature between parents and schools where parents can report what activities students do at home on weekends, such as the Qur’an, congregational prayers, and other religious activities. The aim is to synergize the school’s vision with parents, by strengthening its moral and character education. According to Arif Yuli, Deputy Principal for Curriculum, defines the E-Self Monitoring feature as a multi-step process in which parents or guardians of students observe whether or not student behavior occurs on weekends with the family. It is intended to monitor and improve social behavior and academic achievement of students.

### **3.3 Reinvention of Mumtaz Curriculum**

Curriculum is described by Ornstern & Hunskin [5] as an educational design that maintains a highly strategic role in all aspects of educational activities. The development of the curriculum cannot be done without applying a strong and solid framework, given the significance of the role of curriculum and the development of students’ lives. The principal’s support, colleague teachers’ support, students’ support, parents’ support, and teacher support within the classroom are the five key factors that affect how well the curriculum is implemented.

Due to the increasing human needs and the increasingly rapid development of the times, the curriculum which is a tool in education needs to be continuously innovated. With innovations in the curriculum, changes and renewals should occur in the direction of improvement. Curriculum changes will be followed by learning changes as well. According to Muhali, in Mawati [3] in this 21st century era, educational institutions are required to equip students with 21st century skills, namely; (1) Process-oriented learning with the characteristics of interactive, integrative, comprehensive, scientific, contextual, collaborative, thematic, effective learning; (2) Assessment that measures aspects of knowledge such as; critical thinking, problem solving, creativity, innovation, collaboration, and communication; (3) Then, aspects of intrapersonal abilities such as; collaboration, communication, and coordination; (4) Next is the interpersonal aspect such as; self-management and emotional relationships.

A new breakthrough that is quite bright and competitive in the field of learning, in order to achieve a complete independent learning curriculum, SD MUMTAZ 1 and 2 this year includes a new subject, namely Coding. According to Arif Yuli Purwanto, S.T, M.Pd, mentioning the idea of the principal who stated that it was time to include coding into the curriculum because he saw the urgency and benefits were quite high, so the Deputy Principal for Curriculum and the IT team and the Multimedia team formulated a new curriculum. In the curriculum, Coding will be taught from grades 1 to 6, for IJP (30 min) in 1 week. For grades 1 to 3 elementary school students will be taught about the basic theory of coding learning, while grades 4 to 6 elementary school are taught to practice programming, such as games, web applications, learning media and so on. According to Arif Yuli, "Coding was indeed chosen by SD Mumtaz as a subject in the curriculum because it has many benefits if it is taught to students from an early age in the current era". Coding can hone a systematic, structured, and creative mindset, besides that it can train students' abilities in overcoming and solving a problem. For now, said Arif Yuli, Coding is a stand-alone subject, but in the future, after the basic theory has been delivered and begins to go into practice, Coding will indirectly be integrated with other subjects so that it can support the claim that Coding is literacy that can be applied in learning any subject.

## 4 Conclusion

Based on the results of authors' findings in the field, if it is associated with the literature, it can be concluded that the success of educational innovation, is very dependent on how far the management is carried out by the originator and implementer of the innovation itself. The management carried out must meet four management principles, namely P (Planning), O (Organizing), A (Actuating), and C (Controlling). Without good management, no matter how good the innovation that is rolled out will not bring the impact of change for the better. On the other hand, it will make the system that has been built a mess.

Before the idea of new programs and features will be implemented, SD MUMTAZ 1 and 2 conduct a survey and observe new phenomena that are trending, this is what we call, planning and organizing. After that the new idea will be tested, developed, and implemented, this is what we call, actuating. The existence of adequate facilities

and infrastructure as well as great support from parents of students, this completes the realization of re-invention programs and new features, this is controlling.

With new programs and features, namely the talent coding program and coding subjects as well as the E-Self Monitoring feature on the Mumtaz Smart application, it is quite clear that SD MUMTAZ 1 and 2 Taman have succeeded reinventing the learning system, especially during the pandemic and post-pandemic. These reinventions are a strategy to improve school quality, such as: to make educational programs and activities more effective. With the use of reinvented learning system, students are expected to be able to study more intensively, through in both regular system (in the curriculum) and extracurricular (in talent), also get many achievements and graduates based on the standards which are set by the school, so it will further improve the quality of the school.

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