



## CYBERSPACE AS A PORTRAIT OF EDUCATION INOVATION FOR ISLAMIC BOARDING SCHOOL IN THE SERAMBI MEKAH CITY WEST SUMATERA

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### ABSTRACT

Cyberspace is examined in this study as an example of innovation in Islamic boarding schools in Veranda of Mecca, Padang Panjang. This study is restricted to six Islamic Boarding Schools located in Padang Panjang: the Padang Panjang Putra Thawalib, the Muhammadiyah Kauman, the Veranda of Mecca Integrated Islamic Boarding School, the Thawalib Putri Islamic Boarding School, and the Puteri Diniyyah College. This study approach makes use of qualitative research, and approaches for observation, documenting, and interviewing are used to acquire data. The findings revealed that a number of Islamic boarding schools made use of cyberspace as a teaching innovation during the pandemic, including the usage of robotics, YouTube, WhatsApp, Zoom, and other social media platforms, in addition to using lab space as a resource for learning innovations. The less competent signal, the fact that some professors still do not grasp technology, and the insufficient internet allowance are some of the suggestions and difficulties that educators and students encounter. Furthermore, a lot of students still do not comprehend distance learning, and there is still a lack of student enthusiasm in studying remotely.

**Keywords:** *Cyberspace, Education Inovation, Islamic Boarding School*

### 1. INTRODUCTION

Even now, as we enter the period of society 5.0, where technology and people are the primary players, education is impacted by the 21st century's revolution in civilization and the swift advancement of science and technology. As a result, during the COVID-19 pandemic, cyberspace emerged as a hub for educational innovation. Here, educators and learners were granted autonomy to facilitate learning, with the goal of fostering students' and teachers' independence, creativity, and inventiveness.(Islam, 2021)

An organization's development can also be guided by innovation (Yanto, M., & Fathurrochman, 2019). In order to facilitate more creative and inventive learning, innovation is required to enhance the quality of education (Jannah, 2015).Islamic boarding schools, as we all know, are often stigmatized as one of the educational institutions with a conventional stigma. This is because the schools were initially established in

Indonesia and have been there for hundreds of years. However, in modern times, this stigma has been broken because many Islamic boarding schools have adapted to scientific and technological advancements, making them appear more contemporary and modern. The Covid-19 pandemic has forced almost all schools in the world to implement online learning processes by utilizing existing applications and technological developments. (M. Arif, 2016). Called the city of the Veranda of Mecca, Padang Panjang is home to one of the oldest Islamic boarding schools on the island of Sumatra. Based on data from the Ministry of Religion for the 2020/2021 academic year, there are 6 Islamic boarding schools in the city of Padang Panjang such as, Thawalib Putri, Terpadu Serambi, Thawalib Gunung, Kauman Muhammadiyah, Perguruan Diniyyah Puteri, Thawalib Putra Padang Panjang (Islam, 2021).

Established in 1910, the Thawalib Islamic Boarding School, also called the Parabek Islamic Boarding School, is one of the most esteemed Islamic boarding schools on the island of Sumatra. Notable alums include Buya Hamka, Adam Malik, a former vice president of the Republic of Indonesia, and Daud Rasyidi Dt. Palimo Kayo, an ex-ambassador of Indonesia to Iraq, among numerous other notable individuals. The Thawalib Islamic boarding school managed to innovate education even in the face of the Dutch East Indies education system's marginalization of Islamic education. Since 1918, the school has offered an extracurricular debate club (debating club) where students receive instruction in speech writing, debate, and public speaking. Because the general public speaks Indonesian, Arabic, and English, and because the Thawalib Islamic boarding school has made numerous educational innovations since its founding, researchers are interested in finding out how much of these innovations have been implemented by Islamic boarding schools in Serambi City. Mecca (*Padang Panjang*), particularly during the early 2020 COVID-19 pandemic that struck Indonesia, which forced all systems—including education—to conduct instruction and learning online.

The researcher was interested in delving more into the topic of "How is the development of cyber space as a portrait of educational innovation in Islamic boarding schools during the COVID-19 pandemic in the Veranda of Mecca, West Sumatra?" based on the explanation provided above.

In the modern educational landscape, instructional innovation—including that seen in Islamic boarding schools—is crucial. Islamic boarding schools are similar to other educational establishments in that they not only provide religious knowledge but also foster general knowledge development via the use of digital technology (Mohammad Arif, 2016). Previous research studies have shown that some Islamic boarding schools have implemented innovative teaching methods. For example, during the COVID-19 pandemic, the Al Falah Islamic Boarding School made strides in educational innovation by using online assignment collection, video conferencing, and chat rooms. The most fascinating aspect is that

students can still improve their reading comprehension and memorization of the Qur'an through online recitation throughout the COVID-19 pandemic. (Rinawati, 2021) Additionally, the Nurul Yakin Imam Ghazali Islamic Boarding School has developed advances in information technology-based learning, including the use of Schoology, Zoom Meeting, and Google Classroom (Rajab, R., Zulmuqim, Z., & Hidayatullah, 2020).

Islamic boarding schools must be able to change with the times and meet the needs of the community while upholding Islamic traditions based on sharia (al-Quran and Hadith). Cyberspace enables them to develop literacy and digital channels (channels) by utilizing information technology developments in the 4.0 era (Manan, 2019). (Napitupulu, 2018) Examples of Islamic boarding schools that use cyberspace as an innovative teaching tool are Al Hikam Islamic Boarding School in Malang and Nahdlatul Ulama Japan Islamic Boarding School. Specifically, these schools use information technology to create virtual boarding schools where students learn about tarbawi interpretations through videos and other apps like YouTube, Whatsapp, Telegram, and websites (Mukhibat & Ghafar, 2019). He The COVID-19 pandemic has also forced the Manbaul Ulum Kedung adem Bojonegoro Islamic boarding school in Bojonegoro to implement innovative teaching strategies in the area of pesantren management, specifically non-physical management (curriculum reorganization by reducing lesson hours, reciting the Koran online, and helping teachers with their internet quota) and physical management (gardening, which reduces the financial expenditure of pesantren in buying necessities during the pandemic) (Kahfi & Kasanova, 2020).

During the COVID-19 epidemic, learning innovations and cyberspace in the field of education have gained popularity and have been the subject of numerous studies. based on the quantity of prior study references used. Researchers are now more motivated to examine cyberspace in the context of educational innovation, particularly at Islamic boarding schools—which are frequently regarded as traditional

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and fall behind in the adoption of new technologies. Researchers are interested in learning more about this at Islamic boarding schools in the City Veranda of Mecca, West Sumatra, which is known as the city of santri and its Islamic boarding school. While many studies have looked at cyberspace in public schools, few, if any, have examined cyberspace as a portrait of educational innovation in Islamic boarding schools.

**2. LITERATURE REVIEW**

Today's educational landscape, particularly that of Islamic boarding schools, depends heavily on innovative teaching practices. In addition to imparting religious knowledge, Islamic boarding schools are recognized for their ability to foster general knowledge and for integrating the latest developments in information technology into their teaching methods (Mohammad Arif, 2016). Prior studies have shown several innovative teaching practices in Islamic boarding schools. During the COVID-19 pandemic, Al Falah's Islamic boarding schools implemented innovative teaching methods such as video conferencing, chats, and online assignment submissions. The COVID-19 pandemic's online Qur'an recitation sessions are the most intriguing feature since they let students to keep getting better at reciting and memorizing the Qur'an (Riinawati, 2021). Islamic boarding schools like Nurul Yakin Imam Ghazali have also created innovations in technology-based learning, like Schoology, Zoom meetings, and Google Classroom (Rajab et al., 2020).

By utilizing technology breakthroughs in the 4.0 era, Islamic boarding schools have been able to establish digital channels and literacy through the use of cyberspace (Manan, 2019). Furthermore, in order to maintain Islamic traditions based on Sharia (the Qur'an and Hadith), Islamic boarding schools must change with the times and suit societal requirements (Dedi Sahputra Napitupulu, 2018). Examples of Islamic

boarding schools that use the internet for innovative teaching are Nahdlatul Ulama Japan and Al Hikam Malang. Through the use of websites, WhatsApp, Telegram, YouTube, and other programs, they create virtual Islamic boarding schools for tafsir tarbawi (educational exegesis) learning (Mukhibat & Ghafar, 2019). Manbaul Ulum Kedungadem Bojonegoro Islamic boarding schools were also inspired to innovate in Islamic boarding school management by the COVID-19 epidemic. This included both non-physical management (curriculum reorganization by reducing class hours, online Qur'an recitation, and providing internet data assistance to teachers) and physical management (gardening, using the produce to save on Islamic boarding school expenses during the pandemic) (Kahfi & Kasanova, 2020).

During the COVID-19 epidemic, learning innovation and internet in education have gained popularity and have been thoroughly examined by researchers. The countless citations from earlier studies support the researchers' determination to investigate cyberspace in the context of innovative education, particularly at Islamic boarding schools—which are frequently regarded as traditional and behind in terms of information technology advancement. While a large number of studies look at cyberspace in general education, very few, if any, examine cyberspace as an example of innovative teaching in Islamic boarding schools. Because Kota Serambi Mekah, West Sumatra, is well-known for its santri (Islamic students) and Islamic boarding schools, the researcher is interested in carrying out a thorough examination on this subject there.

In today's world of education, innovation is crucial. According to Kusnandi, educational innovation is the courage to be unique. The innovation used in this instance is based on the idea of daring to be different, which implies that each teacher in this situation introduces a fresh idea while

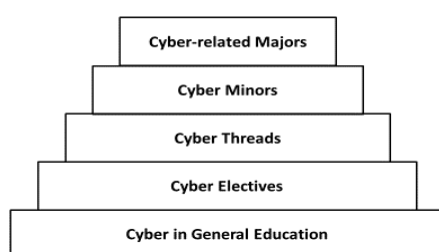
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maintaining alignment with the preexisting innovation notion (Kusnandi, 2017b). Apart from this, there are a number of reasons why the social community finds the internet to be an intriguing and powerful creative space.

a. **Cyber Space in the Education World**

Cyber space is a main place which contains various forms of social simulation in finding a place of life (Piliang, 2012). Based on the explanation above, it can be concluded that cyberspace is a primary space used by the community as a place to gather, convey, and share information through the virtual world or online. In the current education world, especially when the COVID-19 pandemic struck the world at the end of 2019, the virtual world space greatly aided the implementation of educational processes in schools and offices for meetings and discussions. In this field, cyberspace is also known as cyber education or cyber learning, which is a form of learning using information technology to enhance learning models in the education sector. There are several classifications of cyber education, as seen in the image below (Sobiesk et al., 2015):

Cyber Education: A Multi-Level, Multi-Discipline Approach



- 1) Cyber In General Education, educational innovation in the field of curriculum, the relevance of global science with attitudes and several other disciplinary matters.
- 2) Cyber Electives, educational innovations which utilize the development of information technology in the learning process.
- 3) Cyber Threads, educational innovations where students learn by utilizing machines/applications via the internet.
- 4) Cyber Minors, educational innovation which is a combination of technical and non-technical things.

b. **Educational Innovation**

Richard and Wilson claim that the word innovation originates in Latin, from which the English word novus (new) meaning renewal or renovation, is derived. Ideas are the starting point of innovation, which is subsequently translated into a useful product or course of action. Every person in the society 5.0 age must use current technologies to respond promptly and accurately. Innovation also includes the use of human resources in the creative process to generate novel concepts or original approaches to attain greater success (Huberman, 1973). This leads one to the conclusion that innovation is an original thought, a creative act, and something that is novel to an individual or a group of individuals. In order for the concept to develop into a fresh creative that may be applied to a certain task.

There are two types of innovation in the education sector: (1) top-down innovation, which originates from the government (Ministry of National Education) and aims to improve and level the educational experience; and (2) bottom-up innovation, or educational innovation. From this vantage point, it originates with the educational establishment itself and its constituent parts, including instructors and other staff members who develop concepts, projects, and original works of art for the establishments in which they are employed (Nahwa, 2017). Some educational innovation processes:

- a. Invention (invention), is the addition of
- b. teaching or educational methods in an area adapted from previous inventions.
- c. Development (development), is a renewal process that usually has a previous development to add to the next development.
- d. Diffusion is the spread of a new idea from the source of its invention to the final user or absorber.
- e. Adoption (absorption), is the acceptance of ideas or practices / habits, by individuals / groups into a certain culture.

Ideas or novel approaches that are implemented with the intention of producing something beneficial for a large number of people might be considered forms of

innovation. One method used in the field of education to help teachers overcome challenges in the process of teaching and learning is educational innovation. This study defines educational innovation as the process by which educators create and apply new things that improve the learning process, including the usage of technology or applications in the context of online learning. The idea of "daring to be different" is one type of educational innovation in which teachers introduce new ideas while adhering to pre-existing notions (Kusnandi, 2017a). Educational innovation is crucial to improving and advancing education. In addition, students and teachers can be involved as innovators and innovation organizers in the future (Kadi & Awwaliyah, 2017). This is closely tied to the completeness of current facilities and community surroundings (Fitriyani, 2019).

c. Innovative Boarding House Education  
Teachers and students must adjust to the increasingly complex technology advancements of the society 5.0 era. Unquestionably, all face-to-face activities have shifted to online platforms throughout this COVID-19 time. Naturally, an internet network is necessary for the majority of these activities, including schooling. Schools can use the Ministry of Education and Culture's circular letter on handling and preventing COVID-19 within its education unit as a guide for implementing online learning. During the COVID-19 epidemic, teachers must exercise inventiveness and ingenuity in implementing online learning. Even with online learning, teacher creativity in the classroom is anticipated to encourage and boost students' excitement for learning. Innovation is required in the field of education in order to bring about beneficial improvements in the areas of lesson planning, execution, and assessment.

It is impossible to separate the rise of educational innovation from the role of Islamic boarding schools as a type of educational institution that teaches broad science and religion to its students. Islamic boarding schools exhibit three key elements: innovation and modernization, which are evident in the teaching strategies, curriculum, and pesantren administration (Hasan, 2015). Aside from the online learning process using

readily available online learning programs like Zoom Meeting, Google Classroom, Teacher's Room, Whatsapp Group, Google Meet, and so on, one type of educational innovation implemented at Islamic boarding schools during the COVID-19 pandemic was the Koran. and online tadarus from each student's home, online deposits for memorization of the Qur'an, and so forth. As a result, it is evident that cyberspace, a virtual environment, plays a significant role in facilitating students' seamless learning during the COVID-19 epidemic.

### 3. METHODS

The goal of this case study-based, descriptive qualitative research project is to gather information regarding a symptom as it existed at the time the study was carried out. In this instance, the goal is to learn more about how the growth of cyberspace has portrayed innovative Islamic boarding school education in Mecca, West Sumatra. Methods used in this study to collect data: Methods of Observation (Observation). Using this method, information about the evolution of cyberspace was investigated in order to paint a picture of the innovative teaching practices of Islamic boarding schools in Mecca, West Sumatra. Two phases of observations were conducted: first, researchers watched firsthand as students at Islamic boarding schools in Mecca, West Sumatra's City of Veranda, were taught. Indirect observation is the process by which researchers observe an event indirectly; in this instance, they are studying how cyberspace is developing as a representation of Islamic boarding school educational innovation in the Mecca Veranda, West Sumatra. Methods of Interviewing (Interview) Researchers conducted interviews with instructors and students at Islamic boarding schools in Serambi Mekah City, West Sumatra, using this technique.

#### Documentation Techniques

In this instance, data about innovative teaching methods developed and used by instructors and students in the

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classroom in Mecca, West Sumatra's City of Veranda, will be gathered by researchers. Provide the study's materials, procedures, questionnaire, survey, and other tools. The study's methodology—experimental, review, simulation-based, or survey-based—should be explained by the author. Talk about the gear and software used for the study along with their brand names. List all of the study parameters, presumptions, and theories that were used. Any reader should be able to replicate the study under similar settings with ease after reading this section.

**4. RESULTS AND DISCUSSION**

**The Development of Cyber Space as A Portrait of Islamic Boarding School Educational Innovation During the COVID-19 Pandemic in the City of Veranda of Mecca, West Sumatra.**

1) The Kauman Muhammadiyah Padang Panjang Islamic Boarding School

One of the contemporary halafiyahs, or Islamic boarding schools, is the Kauman Muhammadiyah Padang Panjang Islamic Boarding School, located in the West Sumatra Province's Padang Panjang. Based on its past, it appears that this Islamic boarding school was not founded recently. This Islamic boarding school, which was established during the Dutch colonial era with the Diniyah Putri, Sumatra Thawalib, and Kauman Muhammadiyah universities, has endured to this day. Established on January 2, 1930, as Tabligh School, Madrasah Aliyah Kulliyatul Muballighihen Muhammadiyah (MA KMM) Padang Panjang West Sumatra was the brainchild of prominent Muhammadiyah figures in West Sumatra, such as DR. H. Abdul Karim Amarullah or Inyiah Rasul (Father of Prof. DR. HAMKA), AR St. Mansur, SY. St. Mangkuto, and others. Beginning in 2012, MA. KMM Kauman worked with the Asia Moslem Charity Foundation (AMCF) and founded the Markaz Tahfiz Al Qur'an Haroen El Ma'any. As a result, 48 students with varying degrees of memory up to 8 Juz were

able to complete the Huffaz AL-Qur'an right away.

The education office, the ministry of religion, Islamic boarding schools, and the central muhammadiyah all use integrated curricula at Kauman Muhammadiyah Islamic Boarding School. Tahfiz Qur'an, Arabic, English, Japanese, Mandarin, and robotics are the major programs. Three majors have been opened by the Muslim community's Islamic Boarding School: Science, Social Sciences, and ITT (International Middle East). Memorizing at least seven juz of the Qur'an is a requirement for graduation from the Middle East International Department. In the meantime, students in social studies and science subjects need to memorize at least four chapters. There were 350 students enrolled in Madrasah Aliyah and 125 students in Madrasah Tsanawiyah. Islamic boarding school, or Muhammadiyah Islamic Boarding School, admitted international students prior to the COVID-19 epidemic. There are a number of students from Thailand, Malaysia, and other Indonesian provinces. Nevertheless, the student was ultimately returned to his nation when the COVID-19 pandemic struck.

The integration of Islamic and contemporary religious education that promotes science and technology, faith, and piety is one of the benefits of Muhammadiyah Islamic Boarding School. As part of its mission to produce high-caliber alumni, Islamic boarding schools also prepare their students for study abroad. Up until 2022, graduates of the Mu Kauman Pontren were noted to have received tuition scholarships for admission to universities in Egypt, Turkey, Sudan, Malaysia, and several other nations. Infrastructure and facilities, learning innovation, and quality all contribute to this accomplishment. Kauman Language Center, Arabic (Muhadatsah and TOAFL), Tahfidz Al-Qur'an, and Exact (Mathematics, Physics, Chemistry, Biology), Writing Scientific Writing, Research, and Supported by Language Laboratory, Computer, and Library facilities are some of these programs and facilities.

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Islamic boarding school Kauman proceeded to conduct the learning process online or through the use of the Distance Learning (PJJ) technique during the COVID-19 period. It is impossible to separate the usage of technology from the educational process for kids. In the COVID-19 age, learning takes place virtually through the use of email, quizzes, Google Meet, classrooms, Zoom sessions, and Whatsapp groups. Islamic boarding school continues to regularly host lecturers, celebrities, scholars, and practitioners in virtual seminars even after the outbreak.

Since the COVID-19 pandemic has forced all educators to become proficient in using technology, the faculty of Muhammadiyah Islamic Boarding School Kauman Padang panjang has received training in managing the distance learning process. In order to continue interacting electronically with their students, educators are becoming accustomed to conducting online instruction using platforms like Zoom, Google Meet, and Classroom. Students are used to using technology well in their daily lives. Students at Islamic boarding school are permitted to use laptops in class as long as the teacher is present. Santri comes to class at 7.30 and leaves at 15.30. Students are required to take character development from 06:45 to 07:30 wib every morning before starting class. Tahfiz performances, talks in three languages (English, Indonesian, and Arabic), mufadat deposits, and muhadaroh are examples of this character development.

When it opened in 1935, this Islamic boarding school was known as the Tabligh School, or Kulliyatul Mubalighin Muhammadiyah. As the term "mubalighin or tabligh" suggests, the goal of this Islamic boarding school is to prepare its students for careers as preachers. As a result, each youngster has been conditioned and trained to approach under the builder teacher's supervision. Every morning, character development takes place in the schoolyard. The Muhammadiyah Student Association (IPM) is in charge of overseeing this character-building exercise.

There is a wide range of learning approaches, including problem-based learning and research-based learning. During the pandemic, the school does not restrict its students' inventiveness. Through the use of Google Meet, Zoom Meeting, or WhatsApp, the instructor guides the class in creating product-based creativity. Additionally, students are required to perform research in three areas: problem analysis research, which is overseen by instructors, trash or science research, which is supervised by teachers, and social research, which is overseen by social teachers.

In the middle of the rivalry for Islamic boarding schools in Padang Panjang, the Veranda of Mecca, this institution is quite competitive. Dr. Derliana, M.A. is the Islamic boarding school's principal from 2015 to 2019. He was given the Republic of Indonesia's 2016 National Achievement Principal Award by the Ministry of Religion. Recently, the Bank Indonesia representative office in West Sumatra organized the 2022 Minangkabau Islamic Economic Festival, where the Islamic Boarding School of Kauman Muhammadiyah also took first place in the top boarding school competition.

This Islamic boarding school is highly involved in a variety of competitive events, including art contests, talent hunts, and Olympic competitions, including both science and foreign language competitions. This Islamic boarding school places a strong emphasis on the development of Arabic and English language proficiency among its graduates, who are expected to be fluent in both languages. Additionally, the Muhammadiyah features an IT-equipped language laboratory. Ustadz Emir Agus, Lc, a Middle East Alumni Guidance teacher, trains students in the language lab as seen by the way they prepare to compete in the simulation of preparation for the Arabic language olympiad. Students can use computers and internet networks in the language lab to answer simulated exercises and develop specific abilities.

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Language and computer labor are commonplace in the kids' daily lives. According to Dr. Derliana, the mudir at Islamic boarding school, the foundation is presently designing the International Study Center (ISC) to provide alumni with more study options in America, Australia, Europe, Asia, and Africa. Islamic boarding school offers over 20 extracurricular activities that students can select from based on their interests in order to deepen their understanding of who they are as individuals and to enhance the caliber of students and graduates. For those interested in technology, there is robotics, which can be supervised by an IT professional coach.

**2) Tawalib Gunung Boarding House**

Another Islamic boarding school in Padang panjang is called Tawalib Gunung Islamic Boarding School. Tawalib Islamic Boarding School had the opportunity to hold meetings in the pesantren, where they taught math lessons and helped students understand that learning math is simple and enjoyable by incorporating games and engaging activities. Whatsapp and other internet media are used by the majority of Tawalib Gunung teachers in their lessons throughout the pandemic. The instructor also had time to use Zoom in addition to WhatsApp.

In addition, teachers use Infocus for teaching language and math lessons. Powerpoints are also utilized by teachers during the teaching process. The majority of students find the lessons enjoyable, as evidenced by their participation in the mathematics Olympiad at the district level in Padang Panjang and their championship win. This is consistent with the remarks made by Mrs. Ani, the math teacher: "During the pandemic, students at the Mount Tawalib Islamic Boarding School used online media, including WhatsApp and occasionally Zoom. But whatassp is used for the most of the learning. There are students who have competed in and won the mathematics olympiad in mathematical education."

In addition, the students at the Islamic boarding school have triumphed in

the city-level Olympiad in the field of chemistry. The fact that Tawalib Mountain Islamic Boarding School can compete in the precise learning championship against students at the state level indicates that it has advanced in modernity. Students watch instructional videos on YouTube and practice through the chemical lab as their technique of learning chemistry. Students there are still receiving direct instruction despite living amid a pandemic. Only during the month of Pesantren's fast do they engage in online education—as long as they have WhatsApp. So did one of the Tawalib Gunung Islamic Boarding School's teachers, Mrs. Maira. Teachers use Zoom periodically in addition to WhatsApp to facilitate learning. Nonetheless, as direct learning is more effective, students continue to engage in it here.

**Discussion**

The Islamic Boarding School Kauman Muhammadiyah Padang Panjang is notable for representing the fusion of modern curricula with traditional Islamic education. Its history, which dates back to the Dutch colonial era, demonstrates its adaptability and resilience to the demands of modern education. The school's use of technology in the classroom is one noteworthy feature; this was particularly clear during the COVID-19 epidemic. The school's rapid adoption of remote learning through the use of various online platforms such as Zoom and Google Meet, in addition to integrating technology into everyday classroom activities, shows that it is committed to staying up to date with the rapidly changing environment of education.

The curriculum represents a comprehensive approach to education by combining Muhammadiyah's core curriculum, education office requirements, Islamic boarding school regulations, and the Ministry of Religion's curriculum. This synthesis emphasizes a well-rounded education by covering a wide range of courses, including science, robotics, Arabic, English, Japanese, and Mandarin, as well as religious studies.



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The focus on character development through morning sessions featuring Tahfiz performances, multilingual talks, and other activities is another noteworthy aspect. Because of its historical origins as a Tabligh school, the school has always aimed to produce preachers. This goal is carried out by the Muhammadiyah Student Association, which oversees character-building events.

In addition, the school's track record of graduating students with scholarships and accepted into colleges across the globe highlights its dedication to academic quality. The language lab and participation in language-related competitions demonstrate the emphasis on Arabic and English proficiency, which is in line with the worldwide character of education and gets students ready for study abroad opportunities. With more than 20 alternatives for extracurricular activities that suit a wide range of interests, the school's commitment to fostering each student's unique gifts and passions and empowering them to realize their full potential outside of the classroom is evident. Overall, the Kauman Muhammadiyah Padang Panjang Islamic Boarding School is a model for integrating contemporary teachings with traditional Islamic teachings, equipping students with the principles and broad skill set necessary for success in an increasingly globalized society.

Moreover The results of the study on the Tawalib Gunung Islamic Boarding School in Padangpanjang shed light on an intriguing method of teaching, especially when considering how to adjust to the COVID-19 pandemic's obstacles. The way the school used different online platforms—mostly WhatsApp and sometimes Zoom—for instruction during the pandemic shows that it was a creative and adaptable reaction to make sure that learning never stopped. This adaption is consistent with a worldwide trend in which educational institutions have employed technology to lessen the impact of the pandemic. The focus on enhancing the fun and engagement of mathematics education through the use of games and

interactive activities is particularly in line with contemporary pedagogical strategies. In addition to maintaining students' attention, this approach seems to be working, as seen by the district and city-level success and participation of students in math and chemistry Olympiads. This achievement shows how well the teachers' instructional strategies worked.

A blended learning paradigm is also demonstrated by the way the school teaches chemistry through hands-on practice in the chemical lab and YouTube tutorials. The institution has continued to offer direct instruction in spite of the pandemic, particularly when it comes to non-fasting months when online classes are offered. This indicates a dedication to upholding, if feasible, the effectiveness of first-hand, hands-on learning experiences. The instructors' reliance on WhatsApp and sporadic usage of Zoom for teaching could be a sign of these platforms' accessibility and availability for teachers and students alike. But as Mrs. Maira pointed out, the preference for direct learning suggests that the benefits of face-to-face contacts in the teaching-learning process are acknowledged.

These results emphasize the value of flexible teaching strategies and technological integration in the classroom for research goals, especially in difficult situations like the epidemic. Students' accomplishments in academic competitions serve as additional evidence of these strategies' efficacy. Further research could delve into:

1. Pedagogical Impact: Investigating the specific methodologies used in mathematics and chemistry teaching, exploring how gamification and practical lab experiences contribute to student engagement and success.
2. Technology Integration: Understanding the challenges and benefits associated with using WhatsApp and Zoom as primary tools for remote education and how these platforms complement or supplement direct learning.

3. Student Perspectives: Conducting surveys or interviews with students to gather their feedback on the effectiveness of different learning methods and their preferences for online versus direct learning.

These findings provide valuable insights into how Islamic boarding schools such as Tawalib Gunung and Kauman Muhammadiyah Boarding House adapt and innovate in response to educational challenges, shedding light on effective teaching practices and the impact of technology on student learning outcomes.

Provide logical and scientific findings of the study. Present evidences to support your analysis by citing work of earlier researchers or existing theories.

## 5. CONCLUSION

Based on the results of the findings and the facts in the field that have been found, cyberspace as a portrait of learning innovation in the Veranda of Mecca during the pandemic can be concluded in the following ways:

- a) The teaching and learning process at Islamic boarding schools in the city of Veranda of Mecca has used many electronic media as learning innovations, such as whatsapp, zoom, youtube and even robotic food delivery created by teachers and students at the boarding school.
- b) Teacher innovation by making interesting learning videos via YouTube to be shared with students during the pandemic as learning material.
- c) Utilization of laboratory space in the learning process such as the Science laboratory room for learning practices, the Language laboratory room used for the TOEFL test which is called the English Center, and even the existence of a Science center which is used for practical activities in science learning, such as wire game experiments.
- d) The challenges faced by teachers in utilizing cyberspace during the

pandemic period, one of which is signal constraints due to limited areas where teachers or students live. Inadequate internet quota and there are still teachers who have limited knowledge about the media and it is also difficult for students to understand the material when the PJJ implementation is carried out. Conclusion should be written in very clear words. It should explain how the objectives of the study are accomplished.

## 6. ACKNOWLEDGEMENT

The headmaster and instructor from the Islamic School boardinghouse have our sincere gratitude for their useful advice, steadfast support, and perceptive criticism during this research effort. Their knowledge and support greatly influenced the focus and breadth of this investigation. Additionally, the researchers would like to thank the STAIN Mandailing Natal faculty members for their support and encouragement. The researchers also extend their sincere gratitude to each and every participant who so kindly gave of their time and wisdom, without which this study would not have been feasible.

## 7. REFERENCES

- Arif, M. (2016). Perkembangan Pesantren di Era Teknologi. *Journal Pendidikan Islam*, 28(2), 307. <https://doi.org/10.15575/jpi.v28i2.550>
- Arif, Mohammad. (2016). Perkembangan Pesantren di Era Teknologi. *Jurnal Pendidikan Islam*, 28(2), 307. <https://doi.org/10.15575/jpi.v28i2.550>
- Fitriyani, W. (2019). *Pembelajaran Inovasi emasuki Era Pendidikan 4.0. Pengembang Teknologi Pembelajaran Ahli Muda*, 73, 1–12.
- Hasan, M. (2015). Inovasi Dan Modernisasi Pendidikan Pondok Pesantren. *KARSA: Jurnal Sosial Dan Budaya Keislaman*, 23(2), 295–305. <https://doi.org/10.19105/karsa.v23i2.7>

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- Hermansyah, Jaya, A., Pratiwi, E., & Fitri, A. (2021). Teacher's Strategies In Teaching Speaking During Covid-19 Pandemic. *Journal of English Education and Teaching (JEET)*, 5(3), 349–367.  
<https://doi.org/10.56983/ijp.v2i1.483>
- Huberman. (1973). *Solving Educational Problems*. Preager Publisher.
- Islam, D. J. P. (2021). *ata Lembaga Pondok Pesantren Tahun 2021 di Kota Padang Panjang Provinsi Sumatera Barat*.
- Jannah, F. (2015). *Inovasi Pendidikan dalam Rangka Peningkatan Kualitas Pembelajaran melalui Penelitian Tindakan Kelas*. 1(1), 27–32.
- Kahfi, S., & Kasanova, R. (2020). Manajemen Pondok Pesantren di Masa Pandemi Covid-19. *Pendekar : Jurnal Pendidikan Berkarakte*, 3(1), 26–30.
- Kusnandi. (2017a). Model Inovasi Pendidikan dengan Strategi Implementasi Konsep —Dare To Be Different. *Journal Wahana Pendidikan*, 4(1), 132–134.
- Kusnandi. (2017b). Model Inovasi Pendidikan dengan Strategi Implementasi Konsep —Dare To Be Different. *Journal Wahana Pendidikan*, 4(1), 132–144.
- Manan, M. A. (2019). Daya Tahan dan Eksistensi Pesantren di Era 4.0. *Jurnal Pendidikan Islam Indonesia*, 3(2), 301–313.  
<https://doi.org/10.35316/jpii.v3i2.135>
- Mukhibat, M., & Ghafar, M. (2019). Virtual pesantren: New trend of Islamic Education Model in Indonesia. *International Journal of Innovation, Creativity and Change*, 5(2), 105–117.
- Nahwa, M. (2017). Implementasi Manajemen Inovasi Kepala Madrasah Diniyah Formal di Pondok Pesantren Al Fithrah Kedinding Surabaya [UIN Sunan Ampel]. *Digilib Uinsby*.
- Napitupulu, D. S. (2018). Inovasi Sistem Pendidikan Pondok Pesantren (Studi Pada Pondok Pesantren Ar-Raudhatul Hasanah). *Al-Fatih: Jurnal Pendidikan Dan Keislaman*, 1 (2), 267–283.  
<http://jurnal.stit-alfatihadiyahlabura.ac.id/index.php/alfatih/article/view/14>
- Piliang, Y. A. (2012). Masyarakat Informasi Dan Digital. *Ejournal.Radenintan.Ac.Id*, 27(11), 143–156.
- Rajab, R., Zulmuqim, Z., & Hidayatullah, R. (2020). Pengembangan Model Pembelajaran Berbasis Teknologi Informasi Pada Pesantren Di Sumatera Barat. *Ta'allum: Jurnal Pendidikan Islam*, 8(2), 246–. <https://doi.org/10.21274/taalum.2020.8.2.246-266>
- Rinawati. (2021). Manajemen Pendidikan Pondok Pesantren Al Falah Banjarbaru di Masa Pandemi Covid-19. *Berajah Journal*, 1(2), 64–7. <https://doi.org/10.47353/bj.v1i2.7>
- Sobiesk, E., Blair, J., Conti, G., Lanham, M., & Taylor, H. (2015). *Cyber Education: A Multi-Level, Multi-Discipline Approach*. August 2018, 43–47. <https://doi.org/10.1145/2808006.2808038>
- Yanto, M., & Fathurrochman, I. (2019). Manajemen kebijakan kepala madrasah dalam meningkatkan mutu pendidikan. *Jurnal Konseling Dan Pendidikan*, 7(3), 123. <https://doi.org/10.29210/138700>