Vol 7 No 3, September 2023
ABDI DOSEN
Jurnal Pengabdian Pada Masyarakat
pISSN: 2614-6509
eISSN: 2620-5156

INTERNET *OF THINGS ERA*: IMPLEMENTATION OF PAI LEARNING BASED ON IMTAK AND SCIENCE AND TECHNOLOGY INTEGRATION IN SCHOOLS

Ahmad Ja'far Shidiq [1], Endin Mujahidin [2]
Universitas Ibn Khaldun, Bogor, Indonesia
[1] jafarshidiq33@gmail.com

Abstract

The basic education level is the initial foundation for forming Imtak and developing science and technology. If the formation of Imtak and the development of science and technology fail to be carried out at the stage of basic education age, it will certainly give birth to students who are not academically qualified, characteristic, and spiritualistic. This study aims to describe the implementation of PAI learning based on the integration of Imtak and Science and Technology at Mts Hidayatussalikin Pangkalpinang. The method used is a qualitative method with a case study type. Research data collection techniques are obtained through interviews, observations, and documentation studies. The results of this study revealed three findings, namely: (1) the conceptual level carried out by school elements in learning based on the integration of Imtak and Science and Technology, (2) the operational level in the formation of Imtak and the development of science and technology students, and 3) the architectural level that supports learning in schools. Based on the results of this research, it is expected to provide alternative and innovative solutions for teachers in learning based on the integration of Imtak and Science and Technology in schools.

Keywords: Internet of Things, Integration, Imtak, Science and Technology

INTRODUCTION

The industrial revolution 4.0 is marked by the development of the *Internet of Things* followed by new technologies in data, science, artificial intelligence, robotics, *cloud*, three-dimensional printing, and nanotechnology. The industrial revolution is also known as the digital age. This is due to the high volume of digitalization in various areas of life including the field of education (Hermann et al., 2016; Lee et al., 2013; Catfish, 2019).

This condition implies that advances in science and technology (Science and Technology) have a very significant influence and can facilitate human activities. One indicator of science and technology progress that is very visible in the school environment is how often the school community uses the internet in daily life.

So far, education *stakeholders* have widely applied the use of internet-based information and communication technology media as learning media, a means of developing teaching staff, and searching for various information relevant to subjects (Gialamas et al, 2013).

Submitted: August-2023 Received: August-2023 Available online: September-2023

At a glance, the explanation above concludes that the utility of internet-based information and communication technology is an abstruse thing to be separated from human life today. However, the use of the internet is now widely consumed by teenagers of Mengah Atas School (SMA) including students who attend elementary school (SD). This is evidenced by authentic data from the Indonesian Internet Service Providers Association (APJII), that internet users based on their education level such as SMA / MA / Package C 70.54%, SMP / MTs / Package B 48.53%, SD / MI / Package A 25.10%, and those who do not go to school 5.45% (kompas, 2018).

Thus, the progress of science and technology gives birth to positive values and can raise the standard of human life. Walakin, on the other hand, Sanusi (2018) emphasized that the progress of science and technology if not framed with religious values, will give birth to destruction for humans. This is confirmed by the results of Mislikhah's research (2014) that many students who use the internet such as *Facebook*, Line, *Instagram*, WhatsApp, *Twitter*, and others are often misused to damage student character. Though one concrete form of success in education is that students have a polite and polite personality. Polite and polite personality standards can be determined by speech actions in daily interactions and communication.

Based on the results of Handayani and Sanusi's research (2020) that currently students at Madrasay Tsanawiyah School (MTs) have begun to erode their politeness value. They freely speak without realizing and considering who they are speaking to, so the language they emit tends not to have the *politeness principle*. For example, students in communicating with teachers through social media or directly tend to use disrespectful language and do not show a humble attitude. In addition, incidents of *bullying* committed between fellow students at school indicate that the identity of students who uphold the value of politeness has been lost. Then, violent and sadistic impressions on television or social media using saru and vulgar language are increasingly rampant, and sexual-liberalist spectacles are increasingly cultured (Zakarija, 2010). The excesses of the language are used by students and manifest into a popular language in daily communication, especially in schools.

This indicates that technological developments greatly affect students' language growth and development. This condition is exacerbated by other moral decadence behaviors carried out by students, such as brawls, *free sex*, drug abuse, and other deviant behaviors.

In this regard, Sauri & Sopian (2019) emphasized that education is now more focused on cognitive achievements. Parents are very happy when their children achieve grades, and very few pay attention to good morals. This can lead to decadence problems and degradation of morals, ethics, and ethics.

Based on the list above, it can be concluded that the problems caused by the negative influence of internet use today have not answered what is the purpose of national education to increase faith and piety (Imtak) and noble morals to educate the nation's life (Ministry of Education, 2003). Thus, there is no doubt that research on the integration of Imtak and Science and Technology in PAI learning in the *Internet of Things era* is an important thing that must be done. On the other hand, there is still very little study on the above theme.

Therefore, researchers hope that the results of this study can provide knowledge and academic horizons to education providers, especially at the MTS level regarding the integration of Imtak and Science and Technology in PAI learning in the *Internet of Things era*.

METHOD

In this study, researchers used qualitative methods with the type of case study. The data collected in this study are matters related to the implementation of Imtak and Science and Technology-based learning in the *Internet of Things era*.

Of several private MTs in Pangkalpinang City under the auspices of the Ministry of Education and Culture, researchers chose MTs Hidayatussalikin Pangkalpinang after using a *purposive sampling technique*. In this case, the research location is adjusted to the research objectives and determined based on certain criteria.

This study used three data collection techniques, namely: observation, interviews, and documentation. The observations were made to explore the stages of implementing Imtak and Science and Technology-based learning in schools. There were several parties that researchers interviewed, namely teachers, principals, Shiva, and parents of students as research informants. The documentation of this research is in the form of documents related to the implementation of Imtak and Science and Technology-based learning activities in schools. Then, to test the credibility of the data to the same source with different techniques, in this study, researchers used triangulation techniques.

This is stated in the picture as follows:

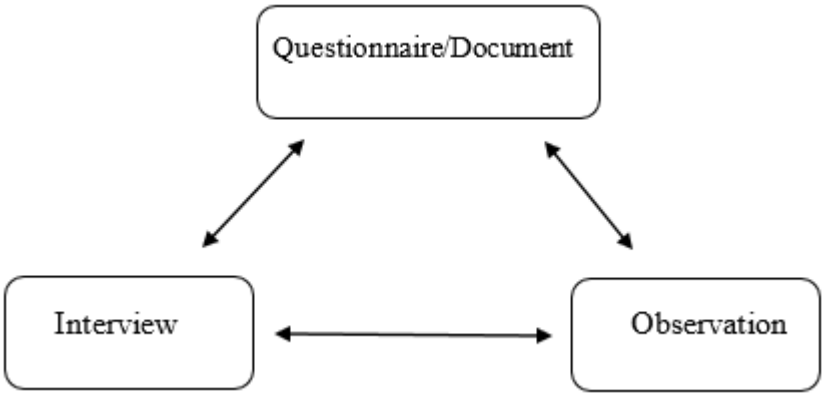

Figure 1. Triangulation of Data Collection Techniques

Furthermore, in this study, researchers will present data by the focus to be studied, namely the implementation of Imtak and Science and Technology-based learning. Researchers also conclude the results of the reduction and presentation of research data.

FINDINGS AND DISCUSSION

About Mts Hidayatussalikin Pangkalpinang

MTs Hidayatussalikin Pangkalpinang was established in 2008 under the auspices of the Ministry of Religious Affairs, which is located at Jalan Jl. Pantai Pasir Padi, Temberan Village, Bukit Intan District, Pangkalpunang City, Bangka Belitung Province with school quality, has the right creed, can worship right and istkamah, has a sincere-honest-Tawadhu and Discipline-Courage-Tanggu character, being an intelligent human being, Become a person who is tawhid, moral, creative, has a healthy and energetic body, has orderly and neat habits, has concern for others and the environment. The *full-day school* system implemented at Mts Hidayatussalikin

Pangkalpinang makes Islamic culture easier to instill in students.

The vision of MTs Hidayatussalikin Pangkalpinang is the realization of a generation with charity, prestige, independence, and environmental insight based on tawhid. While the mission of MTs Hidayatussalikin Pangkalpinang is 1) Organizing learning that integrates the national curriculum and the typical HS curriculum. 2) Instilling knowledge, skills, and attitudes in everyday life through early education and character habituation. 3) Develop the potential of students to achieve academic and non-academic achievements. 4) Provide learning experiences for students through special life skills education MTs Hidayatussalikin Pangkalpinang.

The purpose of MTs Hidayatussalikin Pangkalpinang is to prepare itself as a school that harmonizes the needs of the interests of the world and the hereafter and develops good emotional sensitivity and intelligence (EQ and IQ) and mastery of vertical spirit or *Spiritual Quotient* (SQ) for students in a balanced and quality learning process so that it is expected to be able to produce quality output academically, characteristic, spiritualistic and able to lead its alumni to future progress that rests on these three concepts. So that it can produce graduates who are not only equipped with worldly competence but also accompanied by moral maturity.

So far, MTs Hidayatussalikin Pangkalpinang uses many information and technology tools in every learning activity and others, MTs Hidayatussalikin Pangkalpinang is equipped with various facilities and infrastructure that support it. Facilities and infrastructure contained in MTs Hidayatussalikin Pangkalpinang based on ICT in academic and administrative areas include server rooms, personal computers (PCs) for teachers and employees, LCD projectors in each classroom, wifi-Reuters, audio, CCTV, and printers. In addition, human resources, namely educators and education staff, are also given the ability to be able to have basic mastery competencies of ICT devices.

Implementation of Imtak and Science and Technology Integration-Based Learning at MTs Hidayatussalikin Pangkalpinang

Indeed, the main challenge in this Internet *of Things* era is improving the quality of human resources, which can elaborate on religion, science, life skills, morals, and mastery of information technology. The ability to elaborate can be done by improving education. The ongoing era of the *Internet of Things* must be faced by all fields including education. How the world of education anticipates the flow of information brought by the *era of the internet of things*, one way is to strengthen the Imtak and Science and Technology of students so that they are ready to face the demands and challenges of the times.

The basic education level is the initial foundation for forming Imtak and developing science and technology. If the formation of Imtak and the development of science and technology fail to be carried out at the stage of basic education age, it will certainly give birth to students who are not academically qualified, characteristic, and spiritualistic.

Therefore, in the research, the research will explain research results related to the implementation of Imtak and Science and Technology-based learning in realizing quality students, namely students who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, and independent.

Regarding the integration of Imtak and Science and Technology in schools, the research adapts from the theory of Bagir et al. (2005) where the implementation of learning based on

the integration of Imtak and Science and Technology includes three levels, namely: conceptual, operational, and architectural. This is listed in the chart as follows.

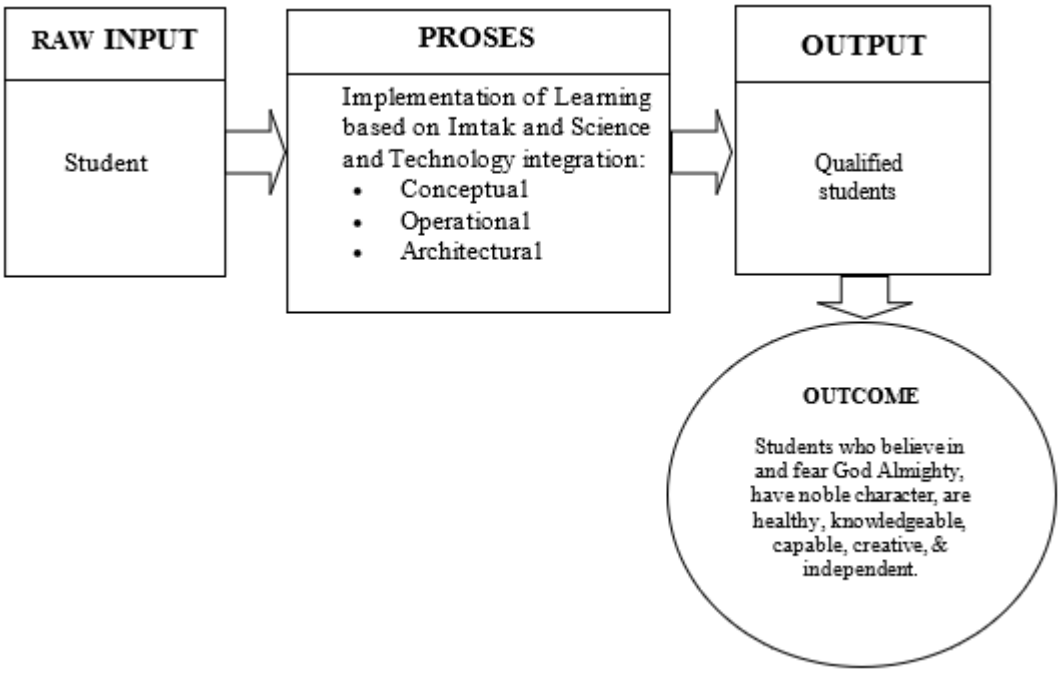

Chart 1. Implementation of Imtak and Science and Technology Integration Learning

1. Conceptual

At the conceptual level, the integration of science and technology and Imtak can be realized through the formulation of the vision, mission, goals, and programs of the school (school strategic plan). The implementation of Imtak and Science and Technology education has been stated in the vision and mission of MTs Hidayatussalikin Pangkalpinang. Imtak education has been stated in the vision of MTs Hidayatussalikin Pangkalpinang to create a generation of charismatic, presentative, independent, and environmentally sound based on tawhid. Meanwhile, science and technology education is listed in the HS mission, which is a development of the vision that has been proclaimed, namely developing the potential of students to achieve academic and non-academic achievements.

Related to that, the results of interviews with school principals that students are required to have academic skills, characteristics, and spiritualistic. Academic knowledge is related to the extent to which students master science and technology.

Furthermore, characteristics are related to the morals possessed by students. While spiritualism is related to matters related to the relationship of faith and piety of students to Allah SWT.

Based on the statement above, the aspects of Imtak, Science, Technology, and morals are important things that must be owned by students in facing the challenges and demands of the times. In addition, the principal's statement above hints that academic, characteristic, and spiritual skills are inseparable aspects, and the three influence each other.

On a practical level, MTs Hidayatussalikin Pangkalpinang has programs that can improve the impact on students, namely:

a. Qur'an recitation before learning activities

The results of the interview with the principal of MTs Hidayatussalikin Pangkalpinang, he explained that the purpose of holding this Qur'an reading activity was to familiarize and increase the fluency of students in reading the Qur'an and also to hone the talents of students who were already skilled in reading the Qur'an. Meanwhile, an interview with one of the MTs teachers Hidayatussalikin Pangkalpinang that this Qur'an reading activity was made so that students could learn to recite the Qur'an because reading the Qur'an can provide peace for students and teachers, it can also avoid dishonorable activities.

Based on the statement above, the purpose of holding Qur'an reading activities before learning activities is to familiarize and increase students' fluency in reading the Qur'an and also to hone the talents of students who are already skilled in reading the Qur'an. If you see that students can already read the Qur'an, but there are still students who need to study harder in reading the Qur'an, this can be seen that there are still students who have not applied the law of tajweed in reading the Qur'an, but even so there are some students who are already good at chanting the holy verses of the Qur'an in recitation and have talent in chanting the holy verses of the Qur'an.

b. Reading Selawat

This selawat reading aims to familiarize students to always glorify the last prophet Muhammad Saw. and by reading selawat we will be interceded by the prophet Muhammad Saw. Based on the observations, in carrying out the selawat reading students have been able to chant selawat well and other students also participated in chanting selawat.

c. Dhuha Prayer

Salat dhuha was chosen as a school program because salat dhuha is a sunnah prayer recommended by the Prophet Saw. In addition, if students from the beginning or morning have been reminded to obey Allah SWT, namely through the dhuha prayer, their learning process will also have spiritual value.

The school thinks that the habituation of dhuha prayers will have a lot of positive influence on students. This is proven by the enthusiasm of students in participating in a series of dhuha prayers. In addition, students' interest in doing positive activities increases and time discipline. And of course, they always remember Allah and involve Allah in every activity, especially during school.

The expectation from the school is if the habituation of dhuha prayer is carried out consistently, it does not rule out the possibility of children becoming accustomed so that when they do not carry it out it feels like something is lacking. This is then used by the school to carry out the habituation of dhuha prayers to produce students with character.

To maintain the enthusiasm and consistency of students in carrying out this dhuha prayer habituation activity, the school provides punishments and reprimands to students who do not carry out this habituation. Consistency in carrying out the habituation of dhuha prayers is not only imposed on students. Teachers also have a

big contribution, namely by consistently guiding, persuading, and raising the enthusiasm of students so as not to get bored so that they continue to be enthusiastic in worship.

This activity must also be supported by all parties, from teachers, students to parents because for the sake of the smooth running of the activity. In addition, the teacher also set a good example by mingling with students to prepare for dhuha prayers.

This dhuha prayer activity is not only a sunnah activity as the applicable law should be but has become an activity that must be followed by every student of MTs Hidayatussalikin Pangkalpinang. So that various efforts are made by teachers in particular and school residents in general for the sustainability of this dhuha prayer activity. Then, about programs that can improve student science and technology, namely:

d. Digital literacy

According to the results of an interview with the principal, strengthening Imtak in elementary schools, especially MTs Hidayatussalikin Pangkalpinang is important to be carried out because it sees the purpose of MTs Hidayatussalikin Pangkalpinang, which is to educate generations with charity, restorative, creative, independent, environmentally sound based on tawhid. However, not only Imtak is prioritized in MTs Hidayatussalikin Pangkalpinang, but the ability to use digital media (Science and Technology) well is also forged in learning at MTs Hidayatussalikin Pangkalpinang. This makes school devices must be active in thinking and acting on collaboration in strengthening digital literacy-based student character education.

Digital literacy in elementary schools is the ability to use digital media properly, correctly, and responsibly to obtain learning information, find solutions to problems, complete learning tasks, and communicate various learning activities with other learning people. Therefore, mastery of digital literacy will make students adjust to the increasingly rapid advances in information technology. Especially during a pandemic like this, all educational devices are required to be active in digital literacy activities.

In this regard, based on an interview with MTs Hidayatussalikin Pangkalpinang's teacher, he emphasized that the understanding and mastery of digital literacy at MTs Hidayatussalikin Pangkalpinang aims to train and familiarize students to think critically, creatively and innovatively, actively communicate and collaborate in learning.

However, any effort in making students by the goals mentioned above, will not be achieved properly without the maximum role of the teacher. The results of research by Sanusi et al (2020) also emphasize the determining factors for the success of learning in schools.

Therefore, in this case, teachers are required to have the ability to manage digital literacy-based learning which is realized in lesson planning, learning implementation, and learning evaluation.

e. Use *Learning Management System* (LMS) based *Online* in learning

Online *learning* amid the COVID-19 virus outbreak pandemic responds to effective online learning activities, quality, and has an impact on student output.

Remembering the use of online learning by educators and students presents challenges for how schools look for online learning methods that can facilitate online learning and how online learning system management can organize the management process in an integrated manner.

After the COVID-19 pandemic, two dynamics will run together, namely first, the need for education which will greatly increase with the use of online learning as was done during the COVID pandemic-

19. Secondly, some of the advantages obtained by *online learning* will be a bargaining chip for educators and learners so that it becomes the choice of the learning process.

These two reasons are the needs that MTs Hidayatussalikin Pangkalpinang is interested in so that distance learning is not limited to certain circles. The LMS-based learning process in Distance Learning. Some of the features provided by LMS include (1) online and real-time-based learning, (2) multi-level users such as admins, teachers, students, and guardians, (3) presentation of material in the form of tech, images, PDF, video, audio, and others, (4) discussion forums or chat rooms, (*5) questions and recapitulation (6) assignments in the form of collecting or uploading assignments, and (7) video* teleconference.

The LMS used by MTs Hidayatussalikin is listed in the Image below

Figure 1. LMS MTs Hidayatussalikin (https://sddt.belajarbareng.id/)

Based on the explanation above, it can be concluded that in addition to emphasizing the Imtak aspect, MTs Hidayatussalikin Pangkalpinang also calls for mastery of science and technology to all teachers and students by utilizing LMS in learning activities so that it is effective and quality.

2. Operational

At the operational level, curriculum design, implementation & evaluation of learning, and extracurriculars must be formulated in such a way that the fundamental values of religion and science are coherently integrated. About the curriculum, learning functions as an implementation that has been poured and interpreted together and implemented. The learning process has a goal so that students can achieve competence as expected. To achieve this goal, the learning process needs to be designed systematically and well-structured.

In this case, a teacher must make good planning for his learning, so that students can master or achieve the targets that have been set by involving strategies to accompany each process. The concept of integrating science and technology and Imtak in learning is a derivative concept of the desire to integrate Islamic education as a whole.

Based on the results of an interview with the vice principal for curriculum, he said that the curriculum used was a combination of the national curriculum with the HS Special Curriculum. MTs Hidayatussalikin Pangkalpinang take big themes to be integrated between Kurkhas HS and the National Curriculum. For example, in August, the big theme is Discipline. So every teaching and learning activity carried out, everything is associated with the formation or introduction of the disciplinary character. The themes are taken to strengthen student character.

The planning carried out by teachers before starting learning is to make a syllabus and Learning Implementation Plan (RPP) based on digital literacy. The teacher compiles the syllabus first before compiling the lesson plan. The RPP prepared by the teacher refers to the syllabus that has been prepared in advance so that the RPP does not conflict with the existing syllabus. In the preparation of the RPP, teachers have included content in the formation of Imtak and the development of science and technology. The textbooks used are already in the form of pdf files, so they are very supportive of the implementation of digital literacy.

After the teacher compiles the lesson plan and syllabus, then the teacher prepares teaching materials in the form of *digital materials*. *Digital materials* are teaching materials prepared by teachers through applications or *power points* which can be filled with text, images, sound, and video. Digital materials can be interpreted as teaching materials that are displayed using digital instruments in presenting the material (Kuncahyono &; Kumalasani, 2020). The teaching materials prepared by the teacher are made as attractive as possible so that they can foster enthusiasm for learning students.

In the implementation of learning, especially in PAI learning. Teachers start with a 15-minute digital literacy movement, and this is done every day. Students read a theme that has been determined by the teacher, through the link provided, or watch a video show. After that, the teacher instructs the students to conclude what is read or watched. Then the teacher performs an apperception and tells the material to be learned.

In the core activity, the teacher introduces the material using digital applications, *PowerPoint* media, and learning videos and the students follow it together then one continues with the students writing the surah that he just read and learned. After that, the teacher also read the exemplary story of the Prophet Muhammad (peace be upon him) which story has character value for students.

In the closing activity of learning, the teacher together with the students reflected on learning. This is done by 1) summarizing and evaluating the entire learning process to find

benefits from learning outcomes. 2) Provide feedback on the learning process. 3) provide an evaluation of learning, and 4) provide information for the material in the next learning activity.

In the evaluation stage, there is a process evaluation that includes formative and *output evaluation* that includes summative (Mariah &; Syarifuddin, 2019). Formative assessment commonly called assessment for learning is the process of collecting data/information/evidence about the extent (how well) students progress in mastering competencies, interpreting the data/information, and deciding the most effective learning activities for students to master the material/competencies optimally. Formative assessment is part of the learning steps, carried out during teaching and learning activities which are part of the daily practices of educators and students in the teaching and learning process in the classroom (Ministry of Education and Culture, 2019).

Figure 3. Form of Daily Activity Report MTs Hidayatussalikin

In learning activities, especially during a pandemic, the role of parents is also indispensable. All materials and assignments that have been given by the teacher must be ensured to be digested by students or not. Starting from the task of getting used to praying dhuha, memorizing the Qur'an, recitation of the Qur'an, and others must be ensured to have been done well. In knowing this, MTs Hidayatussalikin Pangkalpinang has routine activities for parents to be able to report every activity carried out by children in learning for one day. This is needed as one of the supporting instruments in evaluating student learning. Each student activity report documentation will be incorporated into a predetermined class or group daily activity report sheet.

Then the implementation of summative assessment. As is known that summative assessment is an assessment activity that produces grades or numbers which are then used as decisions on student performance (Irons, 2008). In knowing student learning achievement, this assessment is carried out using google *classroom* or *Google Forms*. During a pandemic like today, the role of parents is very important for student character education, so HS elementary

schools provide *Mutaba'ah Yaumiyyah* applications that must be filled out every day by students. In it, some activities must be carried out by students and will be reported to their homeroom teacher at maghrib time. The activities carried out include praying five times a day, reading the Qur'an, praying dhuha, infak, shaum, dhikr, reading books, and others. *Mutaba'ah yaumiyyah* is also very helpful in the formation of students' disciplinary character. The purpose of this evaluation is to strengthen the character of students, especially those related to Imtak, find out the understanding of students and the mastery of the competencies they have, determine the method to be used, and evaluate in the next learning.

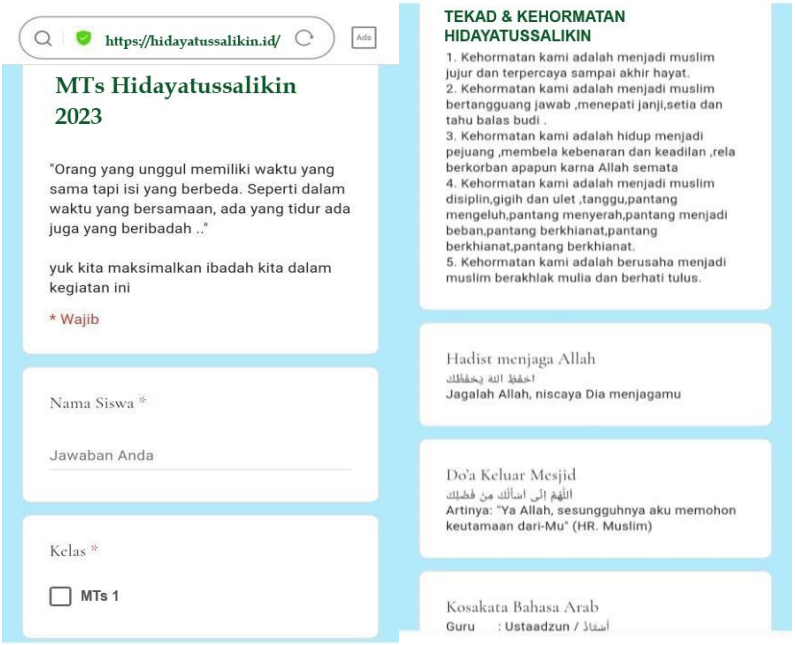

Figure 4. Implementation of Digital Literacy through Mutaba'ah Yaumiyah

Furthermore, the development of the potential of students at MTs Hidayatussalikin Pangkalpinang as referred to in the national education objectives can also be realized through extracurricular activities.

Extracurricular activities are curricular programs whose time allocation is not stipulated in the curriculum. Extracurricular activities are operational tools *(supplements and complements) of the* curriculum, which need to be prepared and outlined in the annual work plan / educational calendar of the education unit. Extracurricular activities bridge the developmental needs of different learners; Such as differences in *sense* of moral values and attitudes, abilities, and creativity. Through their participation in extracurricular activities, students can learn and develop communication skills, cooperate with others, and discover and develop their potential. Extracurricular activities also provide great social benefits.

About the above, based on the results of interviews with students that the extracurricular activities in MTs Hidayatussalikin Pangkalpinang consist of Martial arts (karate), archery, horse riding, *tahfiz* Al-Qur' a *Tahsinul Qur'an,* etc. These extracurricular activities have personal, social, and recreational development functions. This is in line with what was developed by Soeilaman (2016) that the function of personal development, namely that extracurricular activities function to support the personal development of students through

expanding interests, developing potential, and providing opportunities for character building and leadership training.

The possibility of social functioning, namely that extracurricular activities function to develop the ability and sense of social responsibility of students. Social competence is developed by providing opportunities for learners to expand their social experience, practice social skills, and internalize moral values and social values.

While the recreative function, namely that extracurricular activities are carried out in a relaxed, joyful, and fun atmosphere to support the development process of students. Extracurricular activities should be able to make school life or atmosphere more challenging and more interesting for learners.

3. Architectural

Architecturally, integration can be realized through the establishment of a physical environment based on Imtak and Science and Technology, such as complete worship facilities, adequate laboratory facilities, and libraries that provide complete religious and general science books.

The rapid development of science and technology has made changes in education. Starting from changes in school learning facilities and infrastructure that are required by standards so that student learning goals at school can be achieved efficiently. Changes also occur in student learning methods, from conventional methods to active student learning methods, changes in learning methods must also be balanced with supporting school facilities.

Based on the results of interviews with school principals and observations, in supporting the implementation of Imtak and Science and Technology-based learning, MTs Hidayatussalikin Pangkalpinang already has good and complete facilities and infrastructure, including mosques, computer lab rooms, sports halls, and others.

However, an important thing that must be considered is that the determining factor for success in learning is the teacher. A professional teacher must know what facilities are needed by a student in the learning process, ranging from adequate facilities and infrastructure such as pleasant classrooms, adequate table chairs, and sufficient learning media that can support student learning activities.

CONCLUSION

The presence of the *Internet of Things* era needs to be put to good use. The rapid growth of technology and knowledge in all fields needs to be balanced with the strength of faith and piety. Imtak and Science and Technology-based learning are needed so that the impact of using technology does not bring destruction to students.

The implementation of learning based on the integration of Imtak and Science and Technology is a very important thing to do in elementary schools because the basic education level is the initial foundation in forming Imtak and developing student science and technology. The implementation of this learning includes three levels, namely: conceptual, operational, and architectural. The conceptual level is related to the formulation of the vision, mission, goals, and programs of the school. The operational level is related to curriculum design, its implementation, and valuation of learning, as well as extracurricular. While the architectural

level is realized through facilities and infrastructure that support learning in schools.

Researchers hope that the results of this study can provide insight and solutions to various problems experienced by teachers in integrating Imtak and Science and Technology in learning in schools, especially at the Tsanawiyah Madrasah level.

REFERENCES

Bagir, Zainal Abidin, Wahyudi, J., Anshori, A. (2005). *Integrasi Ilmu dan Agama, Interpretasi dan Aksi*. Bandung: Mizan Pustaka Persada.

Depdiknas .(2003). Undang-undang RI No.20 tahun 2003.tentang sistem pendidikan nasional. Gialamas, V., Nikolopoulou, K., & Koutromanos, G, "Student's Teacher Perceptions AboutThe Impact of Internet Usage on Their Learning and Jobs". *Computers & Education*, (March 2013): 1-7.

Handanyani, H. & Sanusi, A. (2020). Analisis Dampak Internet terhadap Perkembangan Bahasa Siswa Sekolah Dasar Kelas III. Didaktik: Jurnal Ilmiah PGSD STKIP Subang, 6(1), hlm. 34-42.

Hermann, M., Pentek, T., & Otto, B. (2016). Design Principles for Industrie 4.0 Scenarios. Presented at the 49th Hawaii International Conference on Systems Science.

Irons, A. (2008). *Enhancing Learning Through Formative Assessment and Feedback*. Oxon: Routledge.

Kemendikbud. (2019). *Model Penilaian Formatif pada Pembelajaran Abad ke-21 untuk Sekolah Dasar*. Jakarta: Pusat Penilaian Pendidikan.

Kompas. (2018). Presentase Pengguna internet (interconnection networking) berdasarkan tingkat pendidikannya. Tersedia: kompas.com diakses /19/02/2018.

Kuncahyono., & Kumalasani, M. P. (2020). Implementasi Literasi Digital Guru SD Melalui Pendampingan Pembuatan Digital Material (Sway). *International Journal of Public Devotion,* 3 (1), 21-30.

Lee, J., Lapira, E., Bagheri, B., & Kao, H., (2013). Recent Advances and Trends in Predictive Manufacturing Systems in Big Data Environment. *Manufactering Letters*. 1 (1), 38–41. https://doi.org/10.1016/j.mfglet.2013.09.005

Lele, Ajey. (2019). *Industry 4.0. In: Disruptive Technologies for the Militaries and Security (Smart Innovation, Systems and Technologies)*. Singapore: Springer. https://doi.org/https://doi.org/10.1007/978-981-13-3384-2_13

Mardiah, & Syarifuddin. (2019). Model-Model Evaluasi Pendidikan. *Mitra Ash-Shibyan: Jurnal Pendidikan dan Konseling,* 2 (1), 38-50. DOI: https://doi.org/10.46963/mash.v2i1.24

Mislikhah, S. (2014). Kesantunan Berbahasa. International Journal of Islamic Studies, 1 (2). Hlm. 285-296.

Sanusi, A., Sauri, S., & Nurbayan, Y. (2020). Non-Native Arabic Language Teacher: Low Teacher's Professional Competence Low Quality Outcomes? Arabiyat: Jurnal Pendidikan Bahasa Arab dan Kebahasaaraban, 7(1), 45–60. doi: 10.15408/a.v7i1.12722.

Sanusi, Anwar. (2018). Qur'an Education for Overcoming Excess Usage of Interconnection-Networking (Internet). International Postgraduate Conference on Research in Education (IPCORE). Malaysia: 16-18 August 2018. Hlm. 138-149.

Sauri, S. & Sopian, A. (2019). Pembangunan Generasi Berkarakter Rabbany Melalui Internalisasi Nilai-Nilai Ibadah Mahdlah di Kabupaten Cianjur. Jurnal Pengabdian Multidisiplin, 1(3), hlm. 18-25.

Soelaiman. (2016). Integrasi Imtaq dan Iptek dalam Pembelajaran di Lingkungan Lembaga Pendidikan Islam SMP Plus Al-Kautsar Malang". *J-PA: Jurnal Pendidikan Agama Islam*, 2 (2), hlm. 1-30.

Zakarija, A. (2010). Theory of Planned Behaviour Masihkah Relevan. [Online], Avalaible: http://zakarija.staff.umm.ac.id/files/2010/12/Theory-of-Planned-Behavior-Masihkah-relevan1.pdf .[Accessed 7 April 2016]