Development of 21st Century Skills through Project-Based Learning at Al-Azhar 15 Islamic Junior High School Cilacap

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ABSTRACT

Education seeks to improve 21st century skills. In facing the challenges of an increasingly complex modern era 21st century skills, such as critical thinking, creativity, collaboration, communication, and digital literacy, are important. The method of this paper uses documentation analysis and literature study on project-based learning and 21st century skills. Data will be collected from various sources such as educational policies, writing reports, and related scientific publications. The results of this paper are expected to provide a better understanding of the development of 21st century skills through project-based learning. the conclusion of this paper, it is expected to find ways that can be used to develop 21st century skills in education. The implications of this writing are expected to provide valuable input for educators to be able to develop 21st century skills through projects created and educators can design and implement curriculum that supports the development of 21st century skills well.

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1. INTRODUCTION

Nowadays, the increase in knowledge is very significant due to the acceleration of information obtained from technology that continues to develop. This has a huge impact on the world of education, so that in the 21st century education must be able to ensure that students have the abilities needed in current and future life. Technological advances in the 21st century can already be felt, especially in the field of education. The opportunities and challenges in the 21st century are needed to survive amidst the many knowledge competitions in the current era, 21st century learning is actually the result of the development of society from time to time.

We know that society developed from a traditional society to an agrarian society, then to an industrial society, and now it is changing towards an informative society. The informative society is marked by the development of digitalization. From 1960 until now, the use of mobile phones, computers and the internet has grown rapidly. Education in the 21st era is obliged to prepare young people who are able to welcome the progress of the times in the form of the rapid development of technology both information technology and communication technology in every line of human life. Learning in the 21st era is an application of learning from year to year. The education and learning process is very important to ensure that students have 21st century skills, especially learning and innovation skills (Kuntari Eri & Widyaiswara, 2013).

Project-based learning can also be done online or what is also called blended learning comes as a solution to overcome the problems that often occur in learning due to monotonous learning and at the same time as a new breakthrough for the future so that education becomes better and improves. In reality, not all students are able to

use technology well and take the initiative to find their own material so that blended learning does not always run as expected.

Social studies learning is expected to answer the challenges of the 21st century, so 21st century skills are needed in social studies learning. One solution in order to answer the challenges of the 21st century is to use a technology-based learning model or also known as blended learning. This 21st century inevitably teachers must adapt to the digital age. Teachers must prepare their students to adjust to the fast-paced digital era. One way is to use knowledge about teaching materials, learning and technology in the hope that it can facilitate the experience of learners in order to increase creativity and discovery bary about the implementation of offline learning with online. In addition (Sardiman, 2010) explained that social studies learning is considered less interesting by the community because it does not provide benefits in everyday life.

Social studies lessons called can not be to build houses, bridges and so forth. This is reinforced by the growing view of the flow of positivism and materialism in society. Things that are not measurable still tend to be considered unimportant so do not develop. From this explanation, an innovation is needed in social studies learning that follows the development of the times and is more fun.Social studies (Bank, 2012) is part of the curriculum found in elementary and junior high schools and has an important mandate to assist students in improving attitudes, values and skills that are considered necessary in social life. Meanwhile (Wiriatmadja, 2015) when participants graduate from school must have the ability to exercise judgment and be responsible for matters of morality, ethics and social justice, have the capacity in their lives to solve problems, make rational decisions and inform their own lives and take responsibility for their own actions.

From these two statements, students must be able to solve problems in their own lives and be responsible for themselves, so that in the 21st century students must be able to keep up with the rapid changes that occur, especially science and technology. In a journal written (Sadia, 2013) explains the development of science, technology and art (IPTEKS) must be used as a reference in the implementation of education in Indonesia and curriculum development, because through education there will be a good inheritance and development of IPTEKS. Available technology can be used to assist teachers in carrying out their role as mediators and facilitators.

2. RESEARCH METHOD

This writing uses the library research method, which focuses on analyzing literature and secondary sources relevant to the topic of writing. In this case, the author will collect and review various sources of information such as books, scientific journals, research reports, and other related documents related to 21st century skills through a literature review (Fauziddin, 2017). However, library research is certainly not just a matter of reading and recording literature or books as many people often understand. What is called library research can also be called library study, which is a series of activities related to library data collection methods, recording, reading, writing and processing writing materials (Mestika Zed, 2004). In this case, the author uses many references from various writings and then analyzes them himself.

3. RESULTS AND DISCUSSIONS

New learning spaces that can be created by technological sophistication must be designed based on pedagogical needs (Talebian et al., 2014). The field of education has been able to utilize technology so as to change the teaching and learning process (Ishaq et al., 2020). In addition, technology has been able to create a variety of opportunities for individuals to learn and access learning resources outside of school (Motamedi, 2019). The advantage of using technology is that it can provide a dynamic teaching and learning environment (Shatri, 2020). In line with the potential use of technology in the learning process, teachers are required to be able to use technology in teaching and replace their traditional methods with more modern tools and facilities.

Education has an important role in shaping individuals who are ready to face the demands of the times and face the growing global challenges. 21st Century education emphasizes the importance of skill development, which includes social, cognitive and emotional skills needed for success in society. The curriculum is the framework used in planning, teaching and assessment in the education system. In the 21st Century era, the curriculum must address the needs of different learners, encourage creativity, critical thinking, collaboration skills, problem solving, digital literacy and adaptability to rapid change. According to Wagner (2010) and Harvard University's Change Leadership Group, there are seven skills that are essential for learners to survive in life, work and society in the 21st century. These skills include: 1) Critical Thinking and Problem Solving, 2) Collaboration and Leadership, 3) Agility and Adaptability 4) Initiative and Entrepreneurship, 5) Ability to Communicate Effectively orally and in Writing, 6) Ability to Access and Analyze Information. 7) Curiosity and Imagination.

The project carried out at Al Azhar 15 Cilacap Islamic Junior High School is to make Eco Enzymes which have many benefits. Critical thinking and problem solving skills through more and more waste information, if not processed will cause new problems. in carrying out this project, students will collaborate with one another so that they will train their leadership skills. Facing friends who have different characters and backgrounds will

sharpen adaptability. Initiative and creative ideas bring out the entrepreneurial spirit to package ecoenzymes with good packaging and worth selling, when learners sell packaged eco enzymes, they will practice how to communicate effectively both orally and in writing with buyers. The ability of students to find information about the benefits of eco enzymes through the internet or others. The role of the teacher must be more creative so that it can provoke learners to have curiosity and good imagination. learners also make projects to make fabrics with the ecoprint method so as to train the artistic spirit and creativity of learners, communication is done intensely so that there is no miscommunication that has an impact on the results. Collaborative makes the work better and faster to complete. Learners are trained to solve problems to get solutions in order to produce good, non-imitated and safe fabrics because everything is taken from natural materials.

Teaching and learning activities carried out in schools must not be monotonous and have many variations and must use technology to get a skill that students should get through the teaching and learning process in class at all levels of education. The explanation of the 4Cs (Majir, 2019) is as follows.

First, Communication means that educators are always required to be able to develop a condition where students are given the opportunity to question and communicate about matters related to the development of potential in themselves. This is a necessary thing because educators are tasked with providing services to students regarding their various questions and needs. Learners and educators must respect and respect each other's opinions so that communication is effective and efficient, so use the right communication methods, both in writing and orally.

Second, Collaborative communication is an ability to be responsible, cooperate, and adapt in various roles, work together, respect different views, work and empathize productively with others. An educator must relate knowledge to the real life of students and be able to be an example for students in carrying out their responsibilities both at school and in society.

Third Critical thinking and problem solving, is the ability to understand a problem, relate information to other information, so that it becomes a variety of perspectives, and find a solution to the problem. An educator is required to provide challenging material so that students' problems can be solved through understanding, reasoning, making a choice, analyzing, compiling and solving a problem. Learning that takes place becomes more meaningful and increases the ability to think critically and the ability to solve problems.

Fourth, Creativity and Innovation is an ability to develop, implement, and convey opinions to others; be open and responsive to new and different perspectives. Educators must be able to combine theory and practice with media that can create new innovations that have benefits in knowledge development. The learning model should be learner-centered so that they are able to develop their skills

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Learners now really like and quickly understand technology, but in contrast to the teacher, until now there are still teachers who cannot use and do not want to try technology. This results in a gap between learners and educators who do not use technology in their classrooms. A good approach is to integrate technology with education and reduce the gap. By knowing learners' interests and utilizing their interests, educator-learner relationships can improve (Sari, 2014). It is hoped that this learner interest will be able to increase the ability of 21st century skills, especially collaborative and critical thinking so that it can increase new ideas.

In (Syahputra, 2018) it is explained that in 21st century learning there are 4 main principles that are explained and developed as follows: 1. Instruction should be student-centered. The development of student-centered learning should use a learning approach Students as learning subjects whose interests and talents are actively developed. teachers do not require students to listen to and memorize the subject matter provided, but seek to plan their knowledge and skills, according to their capacity and level of thinking development, Contribute to solving real problems in society. 2. Education should be collaborative. In this case, students must be taught to be able to collaborate with one another. Collaborate with many people who have different cultural backgrounds and values. In finding information and constructing meaning, learners need to be motivated by their classmates to collaborate. In working on a project, learners need to learn how to appreciate everyone's strengths and talents and how to take on roles and adapt appropriately to them. 3. Learning should have context. It is explained that learning will not mean much if it does not have an impact on learners' lives outside school. Therefore, the subject matter needs to be related to the reality of daily life. Learning methods developed by teachers provide opportunities for learners to connect with the real world. Learners are assisted by the teacher so that they can find value, meaning and confidence in what they are learning and can apply it in their daily lives. Teachers can relate to the real world to assess learner performance. 4. Schools should be integrated with society. In an effort to prepare learners to become responsible citizens, schools should facilitate them to be involved in their social environment. For example, organizing activities with the community as proof of service, where learners can perform certain activities in the social environment and learn to take on roles. Learners can be involved in various development

programs in the community, such as: education, environment, health programs, and so on. Learners should also be invited to visit orphanages to train their sense of caring, social sensitivity and empathy.

Grant, 2002) suggests 7 (seven) elements underlying PjBL which shown in **Figure 1**, namely: (1) Introduction.Project-based learning uses an introduction "to set the stage", establishing the steps of the project. The introduction provides an overview of the steps to be taken, and this preliminary stage can be used to motivate students; (2) Task.Assignments with guided questions explain what is to be done and relate the context to what is to be learned.The assignment should address students' interests, be challenging and doable; (3) Resources, which provide data or information for students to use in the project; (4) Investigation or research process, which includes steps to complete the task or answer the guided questions.The process includes activities that require higher-order thinking skills, such as analyzing, synthesizing and evaluating information; (5) Guidance and scaffolding.When learners need help, teacher guidance and scaffolding (or prerequisite knowledge and/or skills) are needed.This includes teacher-learner interaction, worksheets, peer consultation, guided questions, project report formats, and so on; (6) Cooperative or collaborative learning.Learning is carried out by groups or teams on a project basis.This teamwork can be in the form of peer consultation or review, discussion or brainstorming between groups; (7) Reflection.Successful implementation of project-based learning provides opportunities for learners to reflect and debrief.

Figure 1

4.   CONCLUSIONS

A 21st century education development process is the empowerment of all learners' potential in order to form a better character than before. In Indonesia there are various kinds of 21st century learning innovations that can be applied in learning. One of these applications is very suitable for facing Indonesia's challenges in the 21st Century and preparing the learning environment for the achievement of 21st century competencies. In addition, the changes that occur in the world community towards digitalization force the learning process in schools to follow the current technological developments. In the 21st century teachers and participants are required to be literate in digital technology. In this case, students can be directed to explore various learning resources through the internet and other learning media and teachers are not the only source of learning. The learning model will change significantly to digital technology. The development of 21st Century Skills through project-based learning carried out by learners and ICT literacy in schools throughout Indonesia must be further improved equally so as to achieve the expected goals.

REFERENCES

ANTHOR: Education and Learning Journal Volume 2 Nomor 5, 2023

Afifah, S. N., Komalasari, K., Disman, D., & Malihah, E. (2022). *Pembelajaran IPS Berbasis Blended Learning sebagai Upaya Memenuhi Tantangan Abad 21. Jurnal Basicedu, 6*(3), 4289-4298.

Bank, J. A., 2012. *Strategi Ilmu Sosial Pendidikan dan Pengambilan Keputusan.* Bandung: Mutiara Press.

Direktorat Jenderal Pembelajaran dan Kemahasiswaan. (2022). *Pedoman Pengembangan Kurikulum Merdeka*. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Fauziddin, M. (2017). *Upaya Peningkatan Kemampuan Bahasa Anak Usia 4-5 Tahun Melalui Kegiatan Menceritakan Kembali Isi Cerita Di Kelompok Bermain Aisyiyah Gobah Kecamatan Tambang.* Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini, 1(1), 42.

Fajri, I., Yusuf, R., & Yusoff, M. Z. M. (2021). Model pembelajaran project citizen sebagai inovasi pembelajaran dalam meningkatkan keterampilan abad 21. *Jurnal Hurriah: Jurnal Evaluasi Pendidikan Dan Penelitian*, *2*(3), 105-118

Grant, M. M. (2002). Getting a grip on project-based learning: Theory, cases and recommendations. *Meridian*, *5*(1)

Ishaq, K., Azan, N., Zin, M., Rosdi, F., Abid, A., & Ijaz, M. (2020). The Impact Of ICT On Students' Academic Performance In Public Private Sector Universities Of Pakistan. *International Journal Of Innovative Technology And Exploring Engineering*, *9*(3), 1117–1121.

Jufriadi, A., Huda, C., Aji, S. D., Pratiwi, H. Y., & Ayu, H. D. (2022). Analisis Keterampilan Abad 21 Melalui Implementasi Kurikulum Merdeka Belajar Kampus Merdeka. *Jurnal Pendidikan Dan Kebudayaan*, *7*(1), 39-53.

Kuntari Eri, M., & Widyaiswara, M. (2013). Pendidikan Abad 21 Dan Implementasinya Pada Pembelajaran Di Sekolah Menengah Kejuruan (SMK) Untuk Paket Keahlian Desain Interior. *Artikel Kurikulum 2013 SMK*.

Lubis, M. U., Siagian, F. A., Zega, Z., Nuhdin, N., & Nasution, A. F. (2023). Pengembangan Kurikulum Merdeka Sebagai Upaya Peningkatan Keterampilan Abad 21 Dalam Pendidikan. *ANTHOR: Education and Learning Journal*, *2*(5), 691-695.

Majir, A., 2019. Blended Learning dalam Pengembangan Suatu Tuntutan Guna Memperoleh Keterampilan Abad-21. *Sebatik,* Volume 23 (2), pp. 359-366

Maria Ulfa Lubis [1], Fitri Alkomariah Siagian[2] , Zaidan Zega[3], Nuhdin[4], Abdul Fattah Nasution[5] Pendidikan Agama Islam Pengembangan kurikulum merdeka sebagai upaya peningkatan keterampilan abad21 dalam pendidikan FITK, Universitas Islam Negeri Sumatera Utara

Motamedi, V. (2019). The Promises Of Presentational Technology For Teaching And Learning. *Journal Of Education And Learning (Edulearn)*, *13*(3), 416–419.

Rahayu, R., Iskandar, S., & Abidin, Y. (2022). Inovasi pembelajaran abad 21 dan penerapannya di Indonesia. *Jurnal Basicedu*, *6*(2), 2099-2104.

Sardiman, A., 2010. Revitalisasi Peran Pembelajaran IPS dalam Pembentukan Karakter Bangsa. *Jurnal Cakrawala Pendidikan,* Volume 1 (3), pp. 147-160.

Sari, F. F. K., & Atmojo, I. R. W. (2021). Analisis Kebutuhan Bahan Ajar Digital Berbasis Flipbook untuk Memberdayakan Keterampilan Abad 21 Peserta Didik pada Pembelajaran IPA Sekolah Dasar. *Jurnal Basicedu*, *5*(6), 6079-6085.

Sari, M. (2014). Ta'dib. *Ta,Dib*, *17*(2), 233–237. Https://Doi.Org/10.19109/Tjie.V24i2.4833

Shatri, Z. G. (2020). Advantages And Disadvantages Of Using Information Technology In Learning Process Of Students. *Journal Of Turkish Science Education*, *17*(3), 420–428.

Syahputra, E. (2018). Pembelajaran Abad 21 Dan Penerapannya Di Indonesia. *Sinastekmapan*, *1*(November 2018), 1276–1283.

Talebian, S., Mohammadi, H. M., & Rezvanfar, A. (2014). Information And Communication Technology (ICT) In Higher Education: Advantages, Disadvantages, Conveniences And Limitations Of Applying E- Learning To Agricultural Students In Iran. *Procedia - Social And Behavioral Sciences*, *152*(1), 300–305.

Taufiqurrahman, T., & Junaidi, J. (2021). Pembelajaran berbasis Proyek (Project-based Learning) untuk mengembangkan keterampilan abad 21. *INCARE, International Journal of Educational Resources*, *2*(2), 225-241.

Umam, H. I., & Jiddiyyah, S. H. (2021). Pengaruh Pembelajaran Berbasis Proyek Terhadap Keterampilan Berpikir Kreatif Ilmiah Sebagai Salah Satu Keterampilan Abad 21. *Jurnal Basicedu*, *5*(1), 350-356.

Wijaya, S.H. & Astuti, S., 2022. Meta Analisis Model PembelajaranProblem Based Learning dan Problem Solving terhadap Kemampuan Pemecahan Masalah Matematika. *Jurnal Basicedu,* Volume 6 (3), pp. 3737-3747.

Wiriatmadja, R., 2015. *Buku Ajar Filsafat Ilmu Relevansinya dengan Pendidikan IPS.* Bandung: Rizqi Press.