Jurnal Pendidikan Islam 7 (2) (2021) 243-256
DOI: 10.15575/jpi.v7i2.15220
http://journal.uinsgd.ac.id/index.php/jpi

p-ISSN: 2355-4339
e-ISSN: 2460-8149

IMPLEMENTATION OF THEMATIC-INTEGRATIVE LEARNING TO ENHANCE STUDENTS' SKILL IN THE 4.0 ERA

Qiqi Yuliati Zaqiah
Department of Islamic Education, UIN Sunan Gunung Djati Bandung
Jl. A.H. Nasution 105, Cibiru Bandung, Indonesia, 40614
Email: qiqiyuliatizaqiah@uinsgd.ac.id

Yeti Heryati
Department of Islamic Education, UIN Sunan Gunung Djati Bandung
Jl. A.H. Nasution 105, Cibiru Bandung, Indonesia, 40614
Email: yetiheryati@uinsgd.ac.id

Ibrahem Narongraksakhet
Prince of Songkola University
15 **ถนน กาญจนวณิชย์** Kho Hong, Hat Yai District, Songkhla 90110, Thailand
Email: ibrahem.n@psu.ac.th

Received: 12, 2021. Accepted: 12, 2021. Published: 12, 2021

ABSTRACT
This research describes the design of the thematic-integrative learning model, its implementation in the learning process, the model's influence on enhancing students' 4Cs skill (communication, cooperation, critical thinking, creativity), and analysis of the supporting and hindering factors that may affect its implementation. The research used a qualitative approach with a descriptive analytics method. This study collected its data through an interview, observation and documentation. The result reveals that thematic-integrative learning can increase students' ability in the era of 4.0. The outcome is demonstrated by students' competency in formulating a project and its report. Thus, it is shown that students' capability in using technology, collaboration, written and spoken communication, self-management, critical and creative thinking, and problem-solving can be sharpened. The supporting factors found in this research are a competent teacher, learning curriculum, active students, school facilities and expenses. On the other hand, factors that may hinder implementation are disparity of the teachers' proficiency, curriculum integration (which can be inaccurate), students' unique character and capabilities, suboptimal facilities, and extensive costs for projects and performances.

Keywords: Revolution of 4.0, Student Ability, Thematic-Integrative Learning

ABSTRAK
Penelitian ini mendeskripsikan desain model pembelajaran tematik integratif, implementasi pembelajaran dan pengaruhnya dalam meningkatkan skill 4Cs (Communication, Cooperative, Critical thinking, Creativity). Penelitian ini menggunakan pendekatan kualitatif dengan metode penelitian deskriptif analitik. Pengumpulan data menggunakan teknik wawancara, observasi, dan dokumentasi. Hasil penelitian menunjukkan bahwa pembelajaran tematik integratif dapat meningkatkan skill peserta didik di era revolusi industri 4.0. Hal ini diketahui dari kemampuan peserta didik dalam pembuatan dan laporan projek. Terdapat peningkatan skill peserta didik dalam bidang teknologi, kolaborasi, komunikasi lisan dan tulisan, self manajemen, berpikir kritis dan kreatif, serta kemampuan problem solving. Faktor pendukung diantaranya guru yang kompeten, kurikulum pembelajaran, siswa yang berperan aktif dan fasilitas. Faktor penghambat diantaranya kemampuan guru yang masih beragam, integrasi kurikulum yang sering kurang tepat, potensi siswa yang berbeda dan karakter yang unik, serta fasilitas yang belum maksimal, serta kebutuhan biaya yang lumayan besar untuk proyek dan penampilan.

Kata Kunci: Pembelajaran Tematik Integratif, Revolusi 4.0, Kemampuan Siswa

INTRODUCTION

Humans stand in an era of technology revolution, which will influence or change perspectives, the world of employment and human relationships. The impacts of the four industrial revolutions become apparent for various sectors as many humans are connected through a cellular connection with an operating system and unlimited access. This revolution will continue to improve along with the enhancement of technology, especially artificial intelligence, such as robots, drones, self-driving cars, nano-technology, biotechnology, and many others (Makridakis, 2017).

The conditions mentioned above increase the need for skilled people from different sectors. Many past occupations have been disrupted because of the revolution. However, many new types of jobs have arisen and challenge people who reside in this period. The surviving generations are the ones with the abilities that are needed in this century. Those skills are the known as the 4Cs (collaboration, creative, critical thinking, and communication skills) (Supena et al. 2021).

Critical thinking and creativity, which become part of high order thinking skills in humans, are skills that can support an individual in obtaining advantages from learning experiences and then use them to solve problems (Wechsler et al., 2018). This implies the skills will lead the individual to control their basic competence, such as understanding, predicting, summarizing, and training themselves to become a critical user of all the information they receive in any context (Butler et al., 2017). However, students' critical thinking and creativity as a result of learning at school have not presented a satisfactory result. Indonesian Mathematics and Science Teaching Education Project-Japan International Cooperation Agency (IMSTEP-JICA) discovered that various activities at school are too difficult for students to learn and the teacher to teach. Some of the difficulties are problem solving activities that require mathematical reasoning, finding, generalizing, conjecturing, and finding the relationships between the given data and facts. The activities that are considered challenging are activities that demand students' critical thinking and creativity that are basic needs in today's revolutionary era.

The new standards require students to have the competencies needed in the era of industrial revolution 4.0. Schools are challenged to identify new methods for students to be successful in work and life through the mastery of critical thinking, adaptable problem solving, collaboration and innovation skills (Kipper et al., 2021). This is supported by several researchers, such as Trilling and Fadel (2009) and Ledward and Hirata's (2011) partnership for 21st-century learning; National Science Foundation, educational testing services, the North Central Regional Educational Laboratory, Metiri Group and Pacific Policy Research Center. They claim that having 21st-century skills in the industrial revolution era is essential to achieve the desired transformation.

Since the emergence of the global movement in proclaiming the importance of a new teaching model in 4.0, there has been a growing opinion that formal education should be changed. This development is essential in shaping the new learning process required in undertaking global and complex challenges. Moreover, recognizing students' competency that needs to be developed is vital in this era. The traditional approach that accentuates memorizing or the easy and simple method will not promote students' critical thinking or autonomy. Instead, every individual should connect to a meaningful learning base inquiry that holds the value of truth and relevance to enhance the critical thinking they need (Barron & Darling-Hammond, 2008). Every student learns differently. Thus, teachers are challenged to discover ways to help their learners learn effectively. Many researchers present those various pedagogies to have more consistent results in supporting the students than the other.

Integrative learning is a breakthrough established by the educational expert. Integrative learning is one of the alternatives of the learning model designed to prepare students to gain the skills they need in this era. This learning model is also an answer to teachers' confusion in responding to this era's demands. In addition, it becomes the perfect solution as it collaborates the learning model so students will obtain the skills required in this era (Selznick, et al. 2021).

The implementation of an appropriate learning model is known to affect students' ability. One example is the implementation of discovery learning models that can increase student motivation and learning outcomes (Sulfemi, 2019). In addition, it can be exemplified again in the implementation of a learning model with the type of cooperative model auditory, intellectually and repetition (AIR), which can improve students' problem solving skills (Siswanto et al., 2018). Other learning models, such as the integrative learning model, show they can improve student learning outcomes (Mujianto, 2019) and increase learning outcomes and meaningfulness (Khoeriyah & Mawardi, 2018; Scott, 2015). Implementation of an integrative learning model will vary depending on where it is initiated. Tunas Unggul Junior High School has a learning system that uses a variety of learning models. However, it is necessary to find out the effectiveness of the implementation of a learning model. One of the learning models used is the integrative learning model. The application of this model has never been analyzed for its effect on students' ability. Therefore, this study describes how the implementation of the integrative learning model can enhance students' skill in the industrial revolution era 4.0: a study on junior high school students in Bandung.

METHOD

This is qualitative research that describes various activities related to learning that hones students' skills in the 4.0 industrial era. This activity became the basis for designing a model that could be used as a reference for schools. To carry out this research, the researcher applied a descriptive-analytic method.

The research was conducted at Tunas Unggul Junior High School, located in Pasir Impun No. 94, Bandung, West Java. Data were collected through observation, interviews and document studies. Observations were made of grade 8th, who were carrying out integrative thematic learning. Respondents used for the interviews were the heads of school, vice principal for curriculum, teachers and students. The purpose of the interviews was to see the stages of the integrative learning model, starting from the curriculum evaluation, identification and combining the core and basic competence in several studies, making teaching materials, learning methods and learning evaluation. Document studies are used to evaluate thematic and skills learning of students in the 4.0 industrial era, namely the 4Cs skills. Data analysis was carried out through data reduction, data display and data verification. Data validity was tested through internal validity, external validity, reliability and objectivity (Abdala et al., 2018).

RESULTS AND DISCUSSION

Program at Tunas Unggul Junior High School

This study found that Tunas Unggul Junior High School has several excellence programs. The first is the *rûḥiyah* program, which is fundamental for all units at Tunas Unggul School, starting from playgroup to senior high school. In junior high school, the *rûḥiyah* program includes a daily routine prayer: the mandatory prayer, *ḍuḥâ* prayer and Quran memorization from juz 29-30. The next *rûḥiyah* program is the Friday mentoring program, monthly Qurani program and annual program to celebrate Islamic holidays. The second program is the exclusive curriculum, which is called the middle school program (MSP). The school curriculum assimilates the national curriculum for content and adapts the international

curriculum for implementation. In addition, the *rûḥiyah* program assists to develop a student's pious and good character ready to face the future. The MSP includes thematic integrative learning, which is known as interactive units (IUs).

The third program that excels in this school is literacy. This program is designed with the purpose to strengthen students' literacy skills. Until this year, the literacy program has focused on active listening, speaking, reading, basic scientific, and literary writing skills. The literacy program is divided into several other programs, such as reading program, Sundanese Wednesday and English development program.

The fourth program instils good character. This program is completed through five steps: integration to the learning process, exemplary of all school members, familiarization of good habits inside and outside class, enforcement of mutually agreed rules, and motivation in the form of rewards for teachers and students.

The implementation program at Tunas Unggul Junior High School is designed to support students' abilities in the era of the 4.0 industrial revolution. The same program is also carried out by international standard schools such as SMAN 1 Pamekasan (Susanto, 2011), UPI Laboratory Junior High School (Abdullah, 2016) and MA Amanatul Ummah, Pacet (Chotimah & Nisa, 2019). Therefore, in the future this school can obtain international qualifications so quality education programs can be achieved.

Design of Thematic-Integrative Learning at Tunas Unggul Junior High School to Develop Students' Skills in the Industrial Revolution Era 4.0

An integrative thematic learning model designed to improve student skills in this industrial revolution era begins with the design planning and design preparation. The results show the design planning at Tunas Unggul Junior High School is carried out through collaboration of all subjects. Moreover, the preparation of learning designs is carried out by preparing curriculum structures, namely mapping of basic competencies, annual programs, semester programs, syllabus, lesson plans, and IUs.

Tunas Unggul Junior High School has taken several steps in planning a learning design: (1) determining the central theme and more specific sub-themes, (2) scrutinizing the curriculum, (3) holding teacher discussions within their grades, and (4) electing the primary learning material. This design planning is universal and implemented for the learning process in schools (Rose, 2000).

The learning design is constructed so teachers who design the IU for each grade have a clear and structured guide. Thus, it portrays the importance of intensive collaboration, communication and coordination between teachers across subjects. Furthermore, it will significantly provide access to reach the goal of holistic learning. Moreover, regarding the steps in assembling the design, Koper & Tattersall (2005) stated some stages need to be completed: (1) electing the curriculum structure, (2) constructing the IUs, (3) forming the module, (4) formulating the lesson plan, and (5) organizing the learning media.

Implementation of Thematic-Integrative Learning to Improve Students' Skills in the Industrial Revolution Era 4.0

The school implements an integrative thematic learning model to improve students' skills in the industrial revolution 4.0. The model is carried out through learning inside and outside the classroom. Furthermore, students are given several tasks to accomplish a particular project. The tasks cover making a useful vlog, scrapbook, and task performance.

A technology theme is endorsed by the school as its main IU theme in academic year 2018-2019. Technology is considered a contemporary issue and essential to students' and teachers' daily life. Therefore, in this academic year, the technology theme is divided into four sub-themes: the definition and history of technology, technology applications, technology

users and the impact of technology (Hager, 2013). Educational technology is crucial to develop and harness students' digital literacy to be able to compete in the world of occupation. The example of learning syntax that is in the school is shown in Table 1.

Table 1. Learning Syntax

Week	Activities
	THEME: "I'M IN THE INFINITY WORLD"
1, 2	• Posing questions and watching sample talk shows about social media • Watching an excellent example of a talk show and inviting a guest teacher
3, 4	• Mapping Bandung city • Describing the sites or visited places, putting the works of art in the frame (scrapbook) and making a vlog
5	Conducting an evaluation
6, 7	Preparing for an outing to MQTV Bandung, Lab Biologi UPI and Nuart'e Gallery
8	Posing question about the tv station
9	Preparing for a talk show and accomplishing a good job desk in a talk show
10	Performing the talk show: I'm in the Infinity World

The results show the learning activities aspect in the school are formulated with various methods that incorporate students in the process. In addition, students are required to possess various abilities and skills. Generally, all subjects lead students to cultivate different proficiencies. However, the 4C skills dominantly affect the learning process.

Students were asked to learn about technology, its users and its impacts, such as the internet and specific social media in humanities subjects. In addition, students were asked to investigate their role in the planning, preparation, and implementation stages. They also learned about several conflicts and how to handle the problems in the humanities subjects. In the process of solving the issues, they practice critical thinking.

When it comes to science subjects, students learned how to use technology for their life. They start from a simple topic such as learning about sound and light waves that turn into audio and video. They access their knowledge by using available technology devices. In other words, educational technology helps them to meet their intellectual curiosity.

In the same vein, students were asked to complete a creative thinking process and write a report text for their English subject. They were expected to describe the influence of technology on its user. It goes without saying, the subject is directly linked to the content of the humanities subject, which has been mentioned above.

Moreover, students were asked to create a talk show in the Bahasa subject. The talk show served as a final project for them to accomplish. The students had their own tasks and responsibilities. They were also required to present the task in a large discussion before their classmates. In this process, students learned how to refine and boost their collaboration and communication skills.

Unlike other subjects, the Sundanese subject requires students to focus on strengthening their communication and public speaking skills using the ethnic language. Thus, the aim of the subject is to nurture and hone students' speaking and communication skills.

Sharpening students' creativity skill in designing and decorating property for the talk show was the mission for students to accomplish in the learning art subject. The talk show was designed in the same way as a live studio performance. In addition, a place was given where students could display their products from the previous theme. The display was tailored to meet the exhibition level.

The Islamic religious subject requires all students to learn good morals and behaviors when working as a team in an activity. The behaviors include patience, empathy, mutual help and tolerance, and they are important character traits to nurture in students. In this process, all

students are educated to become good individuals with noble character. The maths subject is in the position to enable students to practice the talk show material concerning maths variables and their connection to technology. In contrast to other subjects, the sport subject was not included in the talk show.

The school applies 4Cs skills competencies for learning activities. The skills enable students to have ample opportunity to implement learning processes that are needed in the 21st century. They include communication, collaboration, creativity and critical thinking skills as the main skills of learning and innovation. They are integrated with four language skills: reading, writing, listening, and speaking (Erdoğan, 2019).

The school has designed learning stages where students can imagine what they will do, where they will visit for example in city mapping and a field trip, and what they will do as a project. The learning design also allows students to create the project for their public performance in front of their parents and junior. With this learning design, students, with guidance and support from their teachers, will be motivated to provide their most significant work. After the simulation was completed, students will follow the lesson according to the lesson schedule and activities stated in the academic calendar. This learning stage is expected to support school efforts in improving students' 4Cs skills in this 4.0 era.

Based on the result of this study, some subjects do not use learning media in the learning process. Teachers use a power point presentation to deliver the theory that students learn. In some subjects, teachers assign a project to students. Therefore, teachers only accommodate students with systematic instruction to complete their work effectively.

Teachers mostly preferred to carry out field practice to learn sub-themes three and four. Therefore, all students were led to explore technology through modules three and four that the teacher had prepared. In addition to modules, the subject teachers prepared materials that were uploaded to the Edubox system. The materials could be accessed through the link sent by the teacher. This allowed the students to use learning media prepared by the teacher in the face-to-face meeting. They can become creative and active learners at the same time by embracing the principles of technology used for educational purposes.

The various media used in the learning process are expected to support the school's efforts in improving students' abilities. They facilitate the learning material given to students with their appropriate method and media. This is done to determine and ensure the students' level of success in their learning process, which are achievable. In addition, teachers are required to increase their creativity in using learning media so the learning process can run well and efficiently (Abdullah, 2016).

The textbook serves only as an additional reference in the learning process. The primary reference that students use for their learning activity is a module. The modules are created by a team of teachers with each contributing according to their subject. Afterwards, a meeting is conducted to integrate the various subject materials into the modules. They are made to flow like a story with a detective character who has a case to solve. The case leads students to a particular subject. In that subject, students will learn about a concept. In addition, other subjects such as science, direct students to understand concepts through questions. Several other subjects, like Bahasa and Sundanese, require students to compose a particular text project. The module even includes a worksheet for activities like city mapping and outings.

Modules play an important role in determining students' success in their learning process. The module can increase students' understanding on the concepts they learn (Dewi & Primayana, 2019) and improve students' generic science skills (Khabibah et al., 2017). In this study, the school uses this module to enable students to increase their success in the learning process.

The school's learning evaluation can be seen in the assessment of students' final project. Therefore, students who have a positive attitude will gain their best skills according to their respective capacities and potentials. However, as a formal learning evaluation, the school also organized a computer-based regular exam system to assess each subject separately. The evaluation process is important to administer to find out the results of the learning process that students have experienced (Harvey, 2002). Teacher evaluation in schools can be an important catalyst for organizational learning and school improvement (Davis et al., 2002).

Effect of Integrative Thematic Learning on Improving Students' Skills in the Industrial Revolution Era 4.0

In the school, the effect of integrative thematic learning on improving student skills in the industrial revolution 4.0 can be seen in their skills improvement, especially the 4Cs. In addition, the results of the learning evaluation in the form of a rubric indicate the students' 4Cs skill development.

There is a connection between the concept of integrative thematic learning carried out at the school with the development of students' skills in the industrial era 4.0, often called 4Cs or 21st century skills. The present study found all students' skills involved in this thematic integrative learning have flourished in many aspects. The purpose of thematic integrative learning is to help students understand the connection of each subject with another and that knowledge cannot be separated. Students can see the learning process flows from the beginning until the end of the lesson. The learning process has been effectively programmed and planned. This successful learning cannot be separated from the excellent teamwork of all subject teachers in the integrated theme of "I'm the infinity world." This theme was intended to elucidate the role of technology that has become more advanced and led to a world with no boundary between space and time. It can be seen from how humans can share and gain information quickly from different parts of the world. Hence, this technology improvement can promote various advantages for the students if it is designed and used properly.

The purpose of thematic integrative learning is to build students' skills so they are ready to face the changing world (Handayani, 2018). Their capacity to seize and work on technology becomes an indispensable skill. Thus, their final project has a close connection to improve their ability in using the technology. They are required to be responsible in using technology, knowing the impact of technology, being accountable for themselves. Technically speaking, they should be able to sort information, present their work, create posters and scrapbooks, create a positive vlog content and use technology in exploring the city. All of these learning objectives are closely related to students' capacity to use technology. Their ability to use the technology plays an important role in their learning process in the 4.0 era (Maryanti et al., 2020).

The learning activities are formulated to help students learn to organize themselves, which is often known as "self-management skills." In this case, they will face a pressure situation that motivates them to act quickly, precisely, actively and creatively. Furthermore, this condition can encourage students to be aware of themselves, others and the environment so they can use the skill optimally. This process develops students' character to think critically and solve problems.

In this educational process, students are shaped to be individuals who can communicate effectively and deliver their thoughts, feelings and ideas to others while prioritizing normative values. This effective communication will drive students to collaborate with various parties and this is how students' creativity is built. For instance, in a learning activity, students are trained to harness their communication and collaboration. They can exchange ideas to collaborate on a project.

In the implementation of the learning model, the school has designed the learning process, which is conducted in a flowing stage. The first stage begins with learning socialization. In these steps, students begin to learn how to organize themselves and design a plan using the timeline activities. Through this stage, students learn how to think critically as they need to develop a tight schedule for themselves and the group. The next step is learning outside the classroom. One of the examples is conducting a city mapping and outing activity. In this step, students learn several required skills. When it comes to a city mapping, the essential skills for students to demonstrate are self-development, courage, decision-making, critical thinking, problem-solving, and communication in a new environment.

Students visited MQTV to fulfill their outing activity. They visited the tv station to see that many staff work together to support the success of the program. Hence, students will understand the essence of working as a team and they will start to respect that everyone have roles and they need to honor those roles. Moreover, learners need a skill to direct and be directed. This is in line with the 4Cs indicator, namely the communication skill that creates effective communication in various forms and contents through oral, written, and multimedia (ICT literacy). Students' communication skill should be demonstrated by expressing ideas, showing attitude of an active learner and appreciating others' opinions. The next destination for students' outing was UPI University Lab and the Nuart'e Gallery. By visiting these institutions, students were expected to discover creative ideas as they were asked to create a scrapbook that required them to show their creativity.

Learning projects require students and their group to create a positive vlog, scrapbook, and talk show with theme "I'm in the infinity world." Those projects serve as the application of knowledge given to the students in their classroom and outside classroom learning activities. In this present study, the researchers can see a clear connection between the projects and 4Cs skills. The vlog project improves students' digital technology skill and critical thinking skills. The learning process allows students to interpret collected information, compile, express, analyze and solve a problem. In the scrapbook project, students are educated to be creative in producing a work of art. Their creative skill can be shown in their openness and responsiveness to new and different perspectives. The project also helps to develop new and innovative ideas conceptually and practically (Hanington & Martin, 2019).

The closing grand project is in the form of a talk show. It requires hard work and teamwork on the part of students. They need to work hard and be serious because the project will be attended by their parents. In this talk show, they work in groups. The talk show embraces performance and promotes the so-called task-based project. The main theme of this show is technology. However, the main point of this project is not only the talk show but also the event organized by the students. Every student was given a role whether directly on the talk show or as a person behind the scenes. With that in mind, they learn the definitive meaning of team solidarity that makes organizations stronger. Other values they learn include empathy in understanding people's role to enable work together and to learn to respect others' work. It is expected they have their own strength to create a successful event to accomplish their grand project.

It is clear the learning process in the school has cultivated students' collaborative skill. The indicators cover working together as a group, adapting to various roles and responsibilities productively, and compromising with group members. Furthermore, in creating the talk show's script, students developed their creative skills so they would have an open and responsive attitude towards the new and different perspectives. They are expected to present creative ideas conceptually and practically, and adapt to a new situation. Additionally, to focus on their communication skill, students need to use their creative ideas in a written script collected and reported in the form of oral performance in the talk show. Through this

method, students' communication ability in a form of oral, written text or multimedia (ICT literacy) is honed. In addition, they need to convey their ideas, exhibit an attitude of an active listener and uphold other points of view (Dallimore et al., 2008).

Some problems may occur in the process of their learning to create a successful event. For example, problems can emerge in the process of writing the script and determining the actors to perform in the event. Other possible issues relate to the scenes with the crew, directors and stage managers. Hence, students' capability to solve problems and make a decision will be trained, especially as an indicator of processing and interpreting information, compiling, expressing, analyzing and solving a problem.

Some of the discussions above are related to students' skills that can be trained through thematic integrative learning. It appears the IU, as integrative thematic learning models implemented at the school, has had a considerable influence on improving students' skills in the era of the industrial revolution 4.0. In a nutshell, students in this era are required to have literacy in technology use and to perform 4C skills.

Supporting and Inhibiting Factors in the Implementation of Integrative Learning Models to Improve Students' Skills in the Industrial Revolution Era 4.0

The success of a learning activity cannot be separated from the supporting and inhibiting factors. Supporting elements exist as a force that provide energy so the team believes the objectives of the learning activities will be achieved. Meanwhile, inhibiting factors should be seen as challenges that are used as a medium for developing creativity and innovation. The best solution should be sought and implemented to make learning activities more successful.

This study conducted interviews with several parties, including the school principal, vice principal for curriculum, teachers and students. It found the supporting factors are proficient teachers, curriculum, active students, facilities and expenses. They contributed to implement the learning model in the school.

1) Proficient teachers

A capable teacher who becomes a proper facilitator can enhance students' skill. In the learning process, teachers should not only convey factual knowledge through lectures and textbooks but also provide opportunities for students to practice proactively. They are expected to apply knowledge to new contexts, communicate in a complex way, solve problems and develop creativity according to the characteristics of the students. This is in accordance with the results of interviews conducted by the researchers with the principal:

> "After I saw and observed carefully the application of the integrative thematic learning model at SMP Tunas Unggul, I found that the teachers in this school act as good facilitators who demand students to be more proactive in learning."

2) Curriculum

A curriculum based on holistic education can become a supporting factor as all students are led to learn according to their own potential. The results of this study are supported by the statement of the vice principal for curriculum:

> "The collaboration of the government curriculum in content with the adaptation of the methodology and assessment system from the international curriculum applied by the Tunas Unggul Junior High School has provided opportunities for teachers and students to develop more optimally. Learning becomes richer and colorful and it gives a sense, experience and new skills."

3) Active students

The successful implementation of the integrative thematic learning model can be supported by the active role of students. This is in accordance with the results of interviews conducted by researchers with teachers at Tunas Unggul Junior High School. One said:

"After we observed the learning process at school, all students were actively involved in the learning process according to their respective roles. There is not a single student who is not involved and does not work in the project given by the teacher."

4) School facilities and expenses

School facilities and expenses become a great supporting factor for the implementation of learning design. Based on the results of interviews with teachers, one stated:

"This school provides good facilities to support the implementation of a learning design so that it can facilitate student work, especially for integrated learning. Everything in this school environment can be the best facility, but this depends on creativity and how teachers and students can take advantage of the facilities in the school."

The implementation of the thematic integrative learning models in the school is supported by several elements. The supporting elements include competent teachers, a learning curriculum with holistic education principles, students who play an active role, and facilities and expenses that affect the successfulness of the learning process (Lessy & Sabi'ati, 2018). The results of this study are in line with the research conducted by Octavia (2020) in a vocational school in Pati, Indonesia. They share similar circumstances. Moreover, Sari et al. (2019) report that academic achievement can be affected by several factor, such as facilities for students' learning activities.

Based on the interviews with the school principal, vice principal for curriculum, teachers and students, this study found inhibiting factors on the implementation of the learning model. The factors included: 1) teachers' diverse abilities, 2) curriculum integration that can be inappropriate for some subjects, 3) students' potential that are different and unique, 4) school facilities that are not yet maximized, and 5) large costs for projects and performances so sometimes these become less optimal.

1) Teachers' diverse abilities

One of the obstacles in implementing learning design at SMP Tunas Uggul is the teachers' varying abilities. Their differences exist and can be one of the obstacles to whether an implementation of learning design in a school is successful. This is in accordance with the interviews conducted by researchers with the school principal. He stated:

"In determining the project to be carried out, each teacher has their own ideas. In determining the theme and the final project result there are always differences of opinion so that it becomes slow in determining which theme to use. In addition, the teaching schedule is not the same and the teaching level of each teacher is also different."

2) Curriculum integration

Curriculum integration can be inappropriate for some subjects. Parents' uneven understanding towards the typical curriculum at SMP Tunas Unggul can lead to different goals. Some parents are still oriented to the conventional system and academic learning outcomes. This can be an obstacle when there is no overt learning activity in the classroom. This study conducted interviews with the vice principal for curriculum. He stated:

"Some of the parents who send their children to school here still think that learning must be carried out in class, listening and students taking notes on the material that the teacher conveys in class. Then parents sometimes cannot attend the final theme project because of their limited time."

3) Student potential

Student potential at the school is different and unique. However, the difference in student potential can be an obstacle in implementing a learning design. This is in accordance with the results of interviews with teachers. One stated:

"Each student has different potential so that in working on a project it doesn't go well. The characteristics of the given project are not entirely in accordance with the potential of

existing students. A short implementation time required students to make a timeline as effective as possible. This has caused conflict between students. The unstable mood and emotional control of some students caused problems in project execution on the given sub-themes."

4) School facilities

School facilities are not yet maximized. Some of the facilities and infrastructure provided by the school still do not support the implementation of the learning design. In accordance with the characteristics of this learning design, it is necessary to fulfill adequate facilities. The present study conducted an interview with the school principal. He stated:

"We still have some obstacles in implementing this learning design. One of them is a less spacious building, so that the implementation of integrative thematic learning is disrupted because the audience has to watch from a distance and there is a reduction in the number of viewers for talk show activities."

5) Costs

A large cost for projects and performance causes a burden and makes the event become less optimal. The school seeks funding from several sources such as sponsors and voluntary funds. The results of this study are in accordance with the results of interviews with the school principal who stated:

"In implementing the learning design, we seek funding from several sources. Funding for activities is managed by seeking sponsorship and assistance from students' parents on a voluntary basis. However, due to the short time, only a few sponsors are obtained."

Overall, the inhibiting factors can be resolved as these activities are relatively achieved in accordance with the expectations and plans. In addition, inhibiting factors can become valuable lessons. Given the obstacles, teachers and students are required to be creative, empathetic and assist each other. They should exchange opinions regarding the solutions that must be taken to resolve an obstacle they face, so it can be easy to unravel the barriers and difficulties that occur. The results of the present study are in line with the previous study conducted by Kanji, Nursalam, Nawir and Suardi (2020). They report the inhibiting factor at SD Inpres 34 Bungung Katammu Kabupaten Bantaeng. The factors have two aspects: internal and external. For the internal aspect, inhibiting factors include teachers and principals. On the other hand, the external aspect inhibiting factor is parents. Moreover, the inhibiting actors in the implementation of integrative learning models are the diverse ability of the teachers and the curriculum integration that is often unsuitable for several subjects. Other inhibiting factors included different student potentials, their unique characters, facilities that have not been maximized and the need for a reasonably high cost for projects and performance (Hastuti & Marsigit, 2020).

CONCLUSION

This study investigated the implementation of an integrative thematic learning model that is designed to improve student skills in this industrial revolution era. The model began with design planning and design preparation. The implementation of an integrative thematic learning model was expected to improve students' skills in the industrial revolution 4.0. The learning model was carried out through learning inside and outside the classroom. The effect of integrative thematic learning on improving student skills in the industrial revolution 4.0 can be seen from the students' improvement, especially in terms of their 4Cs skills. In addition, the results of the learning evaluation in the form of a rubric indicated students' development in terms of 4Cs skills. The implementation of the thematic integrative learning models was influenced by several factors, i.e. the supporting and inhibiting factors. Further research was

suggested to investigate the effects of an integrative thematic learning model to increase learning outcomes.

BIBLIOGRAPHY

Abdalla, M. M., Oliveira, L. G. L., Azevedo, C. E. F., & Gonzalez, R. K. (2018). Quality in Qualitative Organizational Research: Types of Triangulation as a Methodological Alternative. *Administração: 254nsino e pesquisa*, *19*(1), 66-98. https://doi.org/10.13058/raep.2018.v19n1.578

Abdullah, R. (2017). Pembelajaran dalam Perspektif Kreativitas Guru dalam Pemanfaatan Media Pembelajaran. *Lantanida Journal, 4(1),* 35-49. doi.org/10.22373/lj.v4i1.1866

Abdullah, M. (2016). Pengembangan Indikator Kinerja Kunci Tambahan (IKKT) dalam Pendidikan Agama Islam pada Sekolah Menuju Rintisan Sekolah Bertaraf Internasional (RSBI) di SMP Laboratorium UPI. *Jurnal Penelitian Pendidikan*, *16*(1): 94-101. https://doi.org/10.17509/jpp.v16i1.2492

Barron, B., & Darling-Hammond, L. (2008). *Teaching for Meaningful Learning: A Review Of Research on Inquiry-Based and Cooperative Learning. Book Excerpt*. George Lucas Educational Foundation.

Butler, H. A., Pentoney, C., & Bong, M. P. (2017). Predicting Real-World Outcomes: Critical Thinking Ability is a Better Predictor of Life Decisions than Intelligence. *Thinking Skills and Creativity*, *25*, 38-46. https://doi.org/10.1016/j.tsc.2017.06.005

Chotimah, C., & Nisa, K. (2019). Penerapan Kurikulum Bertaraf Internasional Di MA Amanatul Ummah Pacet. *DINAMIKA: Jurnal Kajian Pendidikan dan Keislaman*, *4*(2), 79-96. https://doi.org/10.32764/dinamika.v4i2.786

Dallimore, E. J., Hertenstein, J. H., & Platt, M. B. (2008). Using Discussion Pedagogy to Enhance Oral and Written Communication Skills. *College Teaching*, *56*(3), 163-172. https://doi.org/10.3200/
CTCH.56.3.163-172

Davis, D. R., Ellett, C. D., & Annunziata, J. (2002). Teacher Evaluation, Leadership and Learning Organizations. *Journal of Personnel Evaluation in Education*, *16*(4), 287-301. https://doi.org/10.1023/A:1021791907098

Dewi, P. Y., & Primayana, K. H. (2019). Effect of Learning Module With Setting Contextual Teaching and Learning to Increase The Understanding of Concepts. *International Journal of Education and Learning*, *1*(1), 19-26. https://doi.org/10.31763/ijele.v1i1.26

Erdoğan, V. (2019). Integrating 4C Skills of 21st Century into 4 Language Skills in EFL Classes. *Journal of Education and Research*, *7*(11), 113-124. https://www.ijern.com/journal/2019/November-2019/09.pdf

Hager, P. (2013). Front-Loading, Workplace Learning and Skill Development. *Educational Philosophy and Theory*, *36*(5), 523-534. https://doi.org/10.1111/j.1469-5812.2004.088_1.x

Handayani, M. (2018). Developing Thematic-Integrative Learning Module with Problem-Based Learning Model for Elementary School Students. *Jurnal Prima Edukasia*, *6*(2), 166-176.https://doi.org/10.21831/jpe.v6i2.14288

Hanington, B., & Martin, B. (2019). *Universal Methods of Design Expanded and Revised: 125 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions*. Rockport Publishers.

Harvey, L. (2002). Evaluation for What?. *Teaching in Higher Education*, *7*(3), 245-263. https://doi.org/10.1080/13562510220144761

Hastuti, H. D., & Marsigit, M. (2020). Character Education Application in Thematic-Integrative Learning of Curriculum 2013. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, *10*(1): 35-46. http://dx.doi.org/10.30998/formatif.v10i1.4735

Kanji, H., Nursalam, N., Nawir, M., & Suardi, S. (2020). Supporting and Inhibiting Factors of Character Education in Learning Social Studies at Primary Schools. *Journal of Etika Demokrasi*, *5*(1), 1-14. https://doi.org/10.26618/jed.v5i1.2966

Khabibah, E. N., Masykuri, M., & Maridi, M. (2017). The Effectiveness of Module Based on Discovery Learning to Increase Generic Science Skills. *Journal of Education and Learning*, *11*(2), 146-153. https://doi.org/10.11591/edulearn.v11i2.6076

Koper, R., & Tattersall, C. (Eds.). (2005). *Learning Design: A Handbook on Modelling And Delivering Networked Education And Training*. Springer Science & Business Media.

Khoeriyah, N. M., & Mawardi, M. (2018). Penerapan Desain Pembelajaran Tematik Integratif Alternatif Berbasis Kearifan Lokal untuk Meningkatkan Hasil dan Kebermaknaan Belajar. *Mimbar Sekolah Dasar*, *5*(2), 63-74. https://doi.org/10.53400/mimbar-sd.v5i2.11444

Kipper, L. M., Iepsen, S., Dal Forno, A. J., Frozza, R., Furstenau, L., Agnes, J., & Cossul, D. (2021). Scientific Mapping to Identify Competencies Required by Industry 4.0. *Technology in Society*, *64*, 101454. https://doi.org/10.1016/j.techsoc.2020.101454

Ledward, B. C., & Hirata, D. (2011). *An Overview Of 21st Century Skills*. Summary of *21st Century Skills for Students and Teachers, by Pacific Policy Research*. Kamehameha Schools-Research and Evaluation.

Lessy, Z., & Sabi'ati, A. (2018). Thematic-Integrative Learning with The Beyond Centers and Circle Time Approach at Tunas Harapan Preschool, Salatiga, Central Java. *Asia-Pacific Journal of Research in Early Childhood Education*, *12*(1): 39-59. https://doi.org/10.17206/apjrece.2018.12.1.39

Makridakis, S. (2017). The Forthcoming Artificial Intelligence (AI) Revolution: Its Impact on Society and Firms. *Futures*, *90*, 46-60. https://doi.org/10.1016/j.futures.2017.03.006

Maryanti, N., Rohana, R., & Kristiawan, M. (2020). The Principal's Strategy in Preparing Students Ready to Face The Industrial Revolution 4.0. *International Journal of Educational Review*, *2*(1), 54-69. https://doi.org/10.33369/ijer.v2i1.10628

Mujianto, G. (2019). Peningkatan Hasil Belajar Menyusun Teks Laporan Hasil Observasi pada Peserta Didik Kelas X SMAN 7 Malang Dengan Model Pembelajaran Integratif. *JINoP (Jurnal Inovasi Pembelajaran)*, *5*(1), 39-54. Retrieved from https://ejournal.umm.ac.id/index.php/jinop

Octavia, E. T. (2020). How Do School Facilities Affect School Quality? Case Study In Vocational High School at Pati, Indonesia. In I. F. S Wahyuningrum (Ed.), *International Conference on Economics, Business and Economic Education 2019* (pp. 865-881). Indonesia: KnE Social Sciences. https://doi.org/10.18502/kss.v4i6.6648

Sari, Y.S., Selisne, M., & Ramli. (2019). Role of Students Worksheet In STEM Approach To Achieve Competence Of Physics Learning. *Journal of Physics: Conference Series*, 1185 (1), https://doi.org/10.1088/1742-6596/1185/1/012096

Rose, D. (2000). Universal Design for Learning. *Journal of Special Education Technology*, *15*(3), 45-49. https://doi.org/10.1177/016264340001500307

Scott, C. L. (2015). The Futures of Learning 1: Why Must Learning Content And Methods Change in the 21st Century?. *Education, Research And Foresight: Working Papers*. Retrieved from https://unesdoc.unesco.org/ark:/48223/ pf0000234807

Selznick, B. S., Dahl, L. S., Youngerman, E., & Mayhew, M. J. (2021). Equitably Linking Integrative Learning and Students' Innovation Capacities. *Innovative Higher Education*, *47*, 1-21. https://doi.org/10.1007/s10755-021-09570-w

Siswanto, R. D., Dadan, D., Akbar, P., & Bernard, M. (2018). Penerapan Model Pembelajaran Kooperatif Tipe Auditorial, Intellectually, Repetition (AIR) Untuk Meningkatkan Pemecahan Masalah Siswa SMK Kelas XI. *Journal on Education*, *1*(1), 66-74. https://doi.org/10.31004/joe.v1i1.12

Sulfemi, W. B. (2019). Penerapan Model Pembelajaran Discovery Learning Meningkatkan Motivasi dan Hasil Belajar Pendidikan Kewarganegaraan. *Jurnal Rontal Keilmuan Pancasila dan Kewarganegaraan*, *5*(1), 17-30. https://doi.org/10.29100/jr.v5i1.1021

Supena, I., Darmuki, A., & Hariyadi, A. (2021). The Influence of 4C (Constructive, Critical, Creativity, Collaborative) Learning Model on Students' Learning Outcomes. *International Journal of Instruction*, *14*(3), 873-892. https://doi.org/10.29333/iji.2021.14351a

Susanto, E. (2011). Pelaksanaan Pendidikan Agama Islam Multikultural di Rintisan Sekolah Bertaraf Internasional SMAN 1 Pamekasan. *NUANSA: Jurnal Penelitian Ilmu Sosial dan Keagamaan Islam*, *8*(2): 169-182. https://doi.org/10.19105/nuansa.v8i2.11

Trilling, B., & Fadel, C. (2009). *21st Century Skills: Learning for Life in Our Times*. Josey-Bass/Wiley. Retrieved from https://psycnet.apa.org/record/2009-18745-000

Wechsler, S. M., Saiz, C., Rivas, S. F., Vendramini, C. M. M., Almeida, L. S., Mundim, M. C., & Franco, A. (2018). Creative and Critical Thinking: Independent or Overlapping Components? *Thinking Skills and Creativity*, *27*, 114-122. https://doi.org/10.1016/j.tsc.2017.12.003