

APPLICATION OF MULTIPLE INTELLIGENCES IN DEVELOPING CREATIVITY OF LAZUARDI HIGH SCHOOL STUDENTS IN DEPOK

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Abstract. In the 21st era, we are facing the industrial revolution 4.0 which is based on information technology. To face these challenges, individuals need to master certain skills. Schools are considered as a place to develop intelligence and produce quality future generations. However, there is still discrimination in assessing student intelligence, which is often only measured in cognitive terms. The introduction of the concept of multiple intelligences can be a solution to overcome discrimination in the world of education. This research aims to evaluate the application of multiple intelligences by Lazuardi High School in Depok and its impact on the development of student creativity. The research method used is qualitative with direct observation in the school and interviews towards teacher and students of Lazuardi High School, Depok. The research results show that the application of multiple intelligences through teacher approaches and extracurricular activities can successfully

develop student creativity. When students can express the intelligence they have, this reflects the creativity they show.

INTRODUCTION

Human resources are one of the benchmarks for the development of a country's welfare, because human resources will affect economic income, progress in the fields of science and technology, health services, and others in a country (Juliawan, 2020). Therefore, if a country has a low quality of human resources, then the country is in a period of development. The resources that exist in humans are reason, feelings, desires, abilities, skills, knowledge, drive, power and work (Novita, 2017) and all of these resources must be actualized. Creativity is one aspect that greatly affects human resources (HR) because creativity combines all human resources to produce a quality work or what is often called innovation (Purnadewi & Widana, 2023). For example, in ancient times if people wanted to communicate long distance, they had to send letters and it took a long time. The more technology develops, wartel appears, and now smartphones are present (Achroni, 2018).

Meanwhile, in the current era, namely the 21st century which is the era of industrial revolution 4.0, more advanced technological developments are needed, causing the progress of the times to become more sophisticated (Suyadi & Selvi, 2019). According to the "World Economic Forum (WEF), the industrial revolution 4.0 is a revolution based on the Cyber Physical System which is a combination of three dominants, namely digital, physical, and biological. It is characterized by the emergence of artificial intelligence functions, mobile supercomputing, smart robots, autonomous cars, improved neuro technology, the era of big data that requires cyber security, as well as the development of biotechnology and genetic editing. In other words, this creates an industrialized world that combines automated technology with cyber technology. Therefore, in the context of education, lecturers and teachers have the responsibility to manage the quality of human resources with the preparation of future generations (Narta, 2022). Humans must have one of the skills to be able to overcome the challenges of the 21st century. The National Education Association has identified 21st century skills as "The 4Cs" skills which include critical thinking, creativity, communication, and collaboration. However, in the 2019 Global Innovation Index (GII) count, Indonesia ranked 85th out of 129 countries (Dyers, 2011).

Humans must have an ability in one field, and it will develop creativity (Widana & Widyastiti, 2023). Then the ability will produce an innovation. However, in today's reality, the majority of people around us have not been able to actualize the abilities they have in one of the fields. One proof is that in 2017, 63% of Indonesians worked not in accordance with their majors. Another problem is also the status of education that is not in accordance with the competencies he has. Even the people who graduated from S1, could not do anything (Hasan, 2023). The ability comes from the intelligence found in each person. And the intelligence that each person has is different. The kinds of intelligence that humans have according to American psychologist Howard Gardener include logical-mathematical intelligence, linguistic-verbal intelligence, visual-spatial intelligence, musical intelligence, kinesthetic intelligence, intrapersonal intelligence, interpersonal intelligence, naturalist intelligence, existentialist intelligence (Ngeermanto, 2001). It is necessary to train the human's potential to actualize it, because not all humans born in the world immediately show their intelligence in one field. Humans also need a place to develop it. One of the places that can bring out the potential in oneself is school, because school is a place for student expression, as well as place to develop student intelligence. A school can be said to be successful if its students are successful, because students are the benchmark for school success. Therefore, we can know the importance of human resources to advance the country of Indonesia, and that role is taken from the school as an educational forum that can give birth to quality successors and have superior seeds (Suriadi, 2023).

However, in reality, there is still discrimination in the world of education against different children's intelligence. For example, if a child has intelligence in the field of language, especially foreign languages, and is good at math, then the child is said to be intelligent. Meanwhile, those who are good at painting, volleyball, dancing and others are only considered ordinary and not intelligent (Kusnianti, 2016). The paradigm of multiple intelligences in the world of education can resolve some problems in educational practice. For example, the category of smart students is only measured by their cognitive abilities, and with the existence of multiple intelligences will produce a new paradigm, namely that there are no stupid students, all of them have different intelligences (Mushollin, 2009).

Therefore, the researchers chose a research site at Lazuardi High School because the school applies a Multiple Intelligence system that is rarely applied in other schools. In addition, Lazuardi High School also upholds spiritual values, addresses diversity openly and critically, and is future-oriented for its students. So that through some of the reasons above, researchers are motivated to examine the application of multiple intelligences in developing creativity of Lazuardi High School Students in Depok.

METHOD

The methods used in this research are qualitative and literature methods. The literature method examines through writing from books about Multiple Intelligence. This literature study is defined as a series of activities in collecting library data, reading books related to the material to be written (Bebasari & Suhaili, 2022). Qualitative methods is used in conducting research to produce descriptive data, in the form of words as the result of interviews, values, notes, and understanding. This is in accordance with the definition of qualitative methods is how a researcher understands something that is studied by explaining the results of research comprehensively presented in words, reporting a detailed view of what is obtained from the data obtained, and carried out in a scientific manner. In this qualitative method, researchers analyze what researchers observe. After that, researchers describe the results through data observation, namely by conducting interviews, and observations (Tanzah, 2011). The observation was done in the teaching activities in class. To support the observation result, the interview was done towards the teachers and students of Lazuardi High School, Depok.

RESULTS AND DISCUSSION

According to Howard Gardner in his book *Multiple Intelligences*, which researchers quote from Munif Chatib's book, states that a person's intelligence is not represented by numbers or standardized test results but through habits, namely behaviors that tend to be repeated (Chatib, 2012b). Intelligence is owned by anyone, which is seen through how they tend to do things. A person's habit is what becomes his intelligence. Because a person's habits are diverse, his intelligence is certainly diverse. And there are 2 limits to habits related to intelligence, first, a person's habit of creating new products that have cultural value (creativity). Second, a person's habit of solving his own problems (Chatib, 2012b). Where the ability - from the basic word capable-comes from two things, namely: (1) Habits caused by physical behavior. These habits are the result of body movements, such as playing musical instruments, forming patterns, determining color gradations, avoiding opponents while dribbling, and so on. (2) Habits that are caused by non-physical factors. These habits are the result of patterned thinking such as the ability to process words, understand number calculations in mathematics, reflect on the environment and so on (Chatib, 2012a). Therefore, children's intelligence is not only assessed by achievement or rank in class. However, by the child being able to complete their responsibilities regarding small things, it can be said that the child is intelligent.

Types of Multiple Intelligences

Our average paradigm is that being good at math is representative of all intelligence. There is no such thing that "A" who is good at math is more intelligent than "B" who is good at painting. Everyone has their own intelligence in their own field. And the theory of multiple intelligences is proof that differences between individuals are very important. Because it will affect the way of learning styles, talents and interests of students (Jasmine, 2016). So multiple intelligences are not a field of study or a curriculum, but a student's introduction to a teacher's teaching strategy (Chatib, 2012a). In 1983, Howard Gardner said that there are seven

intelligences, but he also hinted that there might be more. So multiple intelligences can be organized and added to (Jasmine, 2016). That change can happen because of different cultures in each place. The seven intelligences Gardner refers to are linguistic, mathematical-logical, spatial-visual, musical, kinesthetic, interpersonal and intrapersonal (Dyers, 2011).

After 1983, many experts added several intelligences that were not based on numbers anymore, Daniel Goleman discovered Emotional Quotient or EQ (emotional intelligence) in 1985 and Paul Stolz introduced Adversity Quotient, which is a person's intelligence in facing difficulties. And in 2000, husband and wife Ian Marshall and Danah Zohar added a new theory of intelligence, namely, Spiritual Quotient (spiritual intelligence) which is considered the highest intelligence (Chatib, 2012a). And about 7 years after Howard Gardner coined the 7 human intelligences, he added one more intelligence so that there are 8 intelligences including, linguistic, mathematical-logical, spatial-visual, musical, kinesthesia, interpersonal, intrapersonal, naturalist (Chatib, 2012b). In 1999, Howard Gardner again made a work entitled *Intelligences Reframed* which states that the human brain has 9 intelligences, among others: 8 intelligences above plus existentialist intelligence (Chatib, 2012a).

Creativity

Some people think that creativity is something that creates cool innovations. And there are even those who think that creativity is an effort in doing new activities. But basically, creativity is something that involves thinking and the way humans think. Creative thinking is what produces an innovative work. (Al-Uqshari, 2005). Creativity has a very important role in education and human life. Creativity can be defined as the ability to generate new ideas, strategies, understanding or models, which are then realized through work, and used in everyday life. Individuals or groups who have creativity will always be a valuable asset in any environment they are in. This is due to their ability to create and make meaningful contributions to the environment, so as to encourage sustainable change (Hasanah et al., 2020).

Imam Musbikin revealed that creativity involves the initiation of ideas, observation of new or unexpected relationships; the ability to formulate concepts that are not only focused on memorization; creating new solutions to existing problems; and finding new questions that require answers (Iswantara, 2017). Moreover, creativity is a person's ability to create something new that does not yet exist, or modify existing ones to become new, either in the form of real creative works or ideas made for a specific and useful purpose (Achroni, 2018). It is also a mental process that produces a new or unique solution, idea, concept, art, theory, or product (Chen, 2010). In other words, creativity is new ideas that are desirable and still original (Bagir, 2019). Therefore, creativity is a mental process that produces new ideas that are still original and combined based on existing data, information, or elements. And produce new creative works. Even creativity is also a way to solve a problem.

A person's creativity can emerge if the person is in a state of flow, which is a state of people who really feel relaxed and enjoy what they are doing at the moment (Bagir, 2019). Therefore, if we are in a relaxed state and appreciate the time that is in the present, then ideas or ideas of creativity in us will emerge. So creativity applies to people who are relaxed and not in a hurry.

Developing Student Creativity

It is strongly emphasized that an educator needs to have creativity and innovation as fundamental traits. This means educators must have the ability to inspire learners' passion for learning and provide more valuable learning experiences for them (Munasti & Suyadi, 2021). Creativity is very important to be developed in students, because without creativity, learners will only understand narrow cognitive. The creative aspects of the brain will help to explain abstract concepts, so that learners easily understand (Beetlestone, 1998). As for some reasons, the importance of developing creativity as follows: (1) by being creative, people can realize themselves and this realization is one of the human needs; (2) creativity as the ability to see possibilities to solve problems. Creativity trains students to think flexible, fluent, original, elaborate, and reformulate; (3) being creatively occupied is not only rewarding, but also brings satisfaction to the individual; and (4) with human creativity can improve the quality of life (Habibi, 2015).

According to Hurlock, development is a series of progressive changes that occur as a result of the process of maturity and experience (Habibi, 2015). Therefore, the development of creativity is a change in mental ideas that are original in nature that occurs as a result of the process of maturity and student experience. Many theories explain the development of creativity and one of them is the theory of right and left brain. The development of creativity is influenced by cognitive development because creativity is a manifestation of brain work. As stated by creativity scientists Clark (1988) and Gowan (1989) through the Brain Hemisphere Theory. They say that the brain is divided into two hemispheres, namely the right brain and the left brain. The right brain functions as a guide to diffuse thinking, while the left hemisphere functions as a convergent way of thinking (Iswantara, 2017).

Extracurricular Activities at Lazuardi High School

All students are required to participate in extracurricular activities that are held every day. This activity is carried out at 14.00-16.00 WIB. On Monday, the extracurricular activities tend to be in the academic field. On Wednesdays the extracurricular activities tend to the sports field. On Thursdays the extracurricular activities tend to be art. And on Fridays it tends to be the club. Extracurricular activities held in Lazuardi High School can be seen in the table below.

Table. 1 List of Lazuardi High School extracurricular activities

No.	Monday	Wednesday	Thursday	Friday
1.	Japanese	Arabic (for students only)	Fun Cooking	Men's and Women's Basketball
2.	German Language	Basketball	IT Club	Futsal
3.	Arabic Language	Futsal	Painting	Youth Red Cross
4.	Creative Writing	Taekwondo	Percussion Music	Scout
5.	Olympic Club Physics	Yoga (Girls Only)	Traditional Dance	Taekwondo Club
6.	Olympic Club Chemistry		Photography	GRSB ensemble
7.	Olympic Club			
8.	Olympic Club Math			

No.	Monday	Wednesday	Thursday	Friday
9.	Olympic Club Computers			
10.	Olympic Club Economy			
11.	Olympic Club Geography			
12.	Research Club			
13.	Tahfidz Qur'an (Dormitory)			
14.	English Club			

As an example, Ika, a social studies student in class XI, chooses the extracurricular activity of economic club studies on Monday. In the field of art, he chooses painting, and in the field of sports he chose taekwondo. Meanwhile, Rayan, Ika's classmate, in the academic field chooses the economic club study. In the field of sports, he chooses basketball and in the field of art he chooses photography. Extracurricular activities can help develop multiple intelligences in students.

Implementation of multiple intelligences at Lazuardi High School through teachers

Multiple intelligences or multiple intelligences is an approach that can accommodate the intelligence of each student and to find out each intelligence that each student has can be seen by the habits carried out by students. Intelligence is a habit that is repeated because everyone's habits vary, so intelligence varies (Chatib, 2012b). Multiple intelligences are also an introduction to students for teacher strategies in teaching (Chatib, 2012a). Therefore, multiple intelligences is an approach to accommodate diverse intelligences based on diverse habits and student recognition for teacher strategies in teaching.

However, the intelligence possessed by a student is also not only one, even more than one. Each intelligence requires other intelligences so that the intelligence possessed can develop rapidly.⁸¹ For example, there is a student who has musical intelligence but to develop that intelligence, students also need other intelligences, such as verbal intelligence to write song lyrics. It also requires interpersonal intelligence to build cooperation between teams. And it also requires intrapersonal intelligence to have self-awareness and responsibility. Thus, although each student has one of the superior intelligences, it does not negate other intelligences. Because intelligence is interrelated with one another.

The application of multiple intelligences at Lazuardi High School is through teachers. Teachers take a variety of approaches in order to accommodate the various intelligences of students. Students' intelligence can be known through the habits that students do. For example, students who like to chat then the intelligence he has is interpersonal. If students like to listen to music, then the intelligence they have is musical. Or if the student does not feel at home in one place, then his intelligence is kinesthetic. As discussed earlier, intelligence is habits that are done repeatedly. Therefore, if the teacher does not use a variety of approaches, then students' intelligence cannot be accommodated properly. Even students will quickly become sleepy during teaching and learning activities in the classroom. The various approaches taken by the teacher is by displaying a power point when teaching. The power point shows writing to help teachers and students understand the lessons discussed

during teaching and learning activities. With the writing on the power point, linguistic intelligence can be accommodated, both oral and written.

Application of Multiple Intelligences in Developing Student Creativity

It has been explained above that the application of multiple intelligences is carried out by the teacher. And through several teacher approaches when teaching that can accommodate various kinds of student intelligence. Furthermore, from this various intelligence can develop student creativity. Smart children are seen from two habits, namely habits that produce creativity and solve problems (Chatib, 2012b). Calvin Taylor also explained 5 levels of creativity based on an analysis of 100 definitions of creativity, including; expressive, productive, innovative, creative, and scientific (Al-Hijaj, 2010). Student creativity that exists during teaching and learning activities in the classroom is the first level of creativity, namely expressive creativity. It means that students have the freedom to express their intelligence. When teaching and learning activities are running, various kinds of student responses with various teacher approaches when teaching (Sukendra et al., 2023). When Ustad Haikal started the lesson with questions, only a few students observed and responded. So from this, students who have mathematical-logical intelligence can express themselves. Then when Ustad Haikal displayed a power point, only a few more students followed the lesson. This means that linguistic intelligence can express. And when Ustad Haikal played a video, several more students responded to the lesson, even those who were silent began to speak. So, students who have musical, spatial-visual, and intrapersonal intelligence can express. In fact, there are students during teaching and learning activities who cannot stay in the classroom, he goes in and out of class and Ustad Haikal does not reprimand him. This student has kinesthetic intelligence to express.

Moreover, student creativity can be developed through extracurricular activities there. Students achieve several national or international achievements that can be based on various student intelligences. So, students have reached the 2nd level, which is productive based on the 5 levels of creativity. Like Lara and Marsya who won the Gold Award and Special Award with the project "The Utilization of Banana Leaf Sheath Waste as A Basic Material for Making Toilet Paper" at the Korea Science and Engineering Fair (KSEF) competition in the city of Daejeon, South Korea on October 17-22, 2019. In this competition, students have mathematical-logical intelligence supported by other intelligences. Another achievement is the third winner of the music competition at the K "Mu "Trans (Transportation Music Context) event in November 2018. In this competition, students have musical intelligence. And there are still many competition achievements based on the intelligence of each student. In fact, all students are required to produce a scientific work. In addition, some of the works from extracurricular activities such as paintings are works of spatial-visual intelligence.

CONCLUSION

Multiple intelligences is an approach to accommodate the diverse intelligence of students based on diverse student habits and student recognition for teacher strategies in teaching. The application of multiple intelligences at Lazuardi High School is through teachers who are then further developed through extracurricular activities. During teaching and learning activities, teachers take various approaches such as using power point, playing a movie or video, dialoguing, and making discussion groups. With these various approaches, the various kinds of intelligence that students have can be accommodated. Such as linguistic intelligence through power point and presentations. Mathematical-logical intelligence through questions. Spatial-visual intelligence through movies or videos. Musical intelligence through

instruments from movies or videos. Interpersonal intelligence through group discussions. Intrapersonal intelligence through responsibility in the discussion group. Then supported through extracurricular activities that can develop student intelligence. And as for the schedule of extracurricular activities on Mondays tends to the academic field. Every Wednesday the extracurricular activities tend to the sports field. Every Thursday the extracurricular activities tend to the arts. And on Fridays it tends to the club. The application of multiple intelligences at Lazuardi High School can develop student creativity. As creativity at the first level of expression, students can express the intelligence they have. Therefore, when students can express the intelligence they have, they can be considered creative, evidenced in the response of each student's intelligence during teaching and learning activities. Then, it is also supported in extracurricular activities that represent multiple intelligences to express student intelligence.

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