



Montessori Method in Academic Flow Development

Nabila Qurrotu Aini¹, Rahma Sakina²

¹Guidance and Counseling Department, Ma'soem University, Bandung, Indonesia

²English Education Department, Ma'soem University, Bandung, Indonesia

Corresponding author e-mail address: nabila8aini@gmail.com

Abstract

This research aimed to describe the implementation of the Montessori Method in academic flow development for students. A Qualitative approach and intrinsic case study design were used in this research. The participants of this research were five students of the Arabic Language Study Program in one of university in Bandung, West Java. The participants were selected using purposive sampling technique. The findings revealed that students were able to achieve academic flow, which was marked by the achievement of all indicators in the aspect of absorption by activity. However, the indicator of thinking included in the aspect of fluency by performance was difficult to be achieved by the students. The results of this research are expected to be utilized by those who play a role in developing students' potential, which was guidance and counseling service units based in universities and academic supervisors.

Keywords: Montessori method, academic flow, academic supervisors

1. Introduction

Flow is a theory evolved by a Hungarian expert named Mihaly Csikszentmihalyi, who focuses on creativity study. Csikszentmihalyi et al. (2014) researched artists who were so immersed in working on work, then the research of flow has been developed to the fields of sport, art, and education. Flow is a subjective state when an individual is so involved in an activity that he forgets about the time, tiredness, and anything else except the activity itself.

Flow is a state of full attention that makes an individual so involved in an activity that he does not pay attention to anything which is not relevant to activities being done by himself. Moreover, the individual enjoys learning activities that he forgets about the time. The flow is a state of thinking experienced by an individual who is very involved in an object or an activity, which makes him completely immersed in the activities he does (Bakker, 2005). The involvement of an individual in activities makes him fixated on those activities and does not think about the other things except the activity he does.

Concentration is an essential condition that happened in the flow because of concentration as proof of the seriousness of the individual in doing activities. According to Borovay (2019), during flow conditions, the individual has full attention, distraction is ignored, and he has enjoyable activities. Flow is related to enjoyable activities, or it makes enjoyment so that the individuals do the activities intensely. If the individual feels happy and does not have any burden with the activities that he did, then he will be willing and unwittingly spend much time to do those activities (Bakker, 2005; Moneta, 1996).

Flow condition rarely occurs in daily life, but some activities in life can make flow occurs. Activities such as working, worshipping, playing, learning, or filling the spare time can bring up the flow. The individuals need flow in order to make activities in life run efficiently. The need for flow condition is felt in learning activities, the individuals not only need to concentrate on learning but they need to be highly involved and enjoy the learning process so that the information delivered by the teacher can be received well and the individual can carry out the other academic tasks well.

The flow condition can be explained that if the individual has a low skill and low challenge, it leads to apathetic but if the individual has a low skill and the challenge that should be passed through is high, the individual will be anxious. If the individual has high skill and the challenge is low, the individual will be bored and lazy, but if the skill of the individual is high and the challenge is also high, the individual can reach flow.

Flow conditions are related to the aspects involved in the flow process. The aspects include two aspects, which are absorption by activity and fluency of performance (Kyriazos, 2018). Although the aspects of flow are simplified into two aspects, indicators involved in those aspects are not different from nine aspects of flow.

Absorption by activity is a full concentration on activities carried out by the individuals. The full concentration results in the individuals not paying attention to anything except their activities. Absorption by activity happens as the skills are balanced with the task. The individuals who are in the condition of absorption by activity do not realize the time elapsed while learning, enjoy the learning process, and deeply immersed in their mind during learning. Fluency of performance is the fluency of individuals in carrying out the activities or tasks. The fluency in thinking characterizes fluency of performance, they have no difficulty in concentrating, think clearly during learning, think according to their will, know the steps that must be taken in learning, and be able to control doing the task.

The studies on flow are increasingly developing, both in exploring the condition of flow and the correlation of flow with the other topics, but studies on the development of flow are still rare, especially the academic flow. Moreover, the methods for developing a flow which is applied in education include Flow Activities Centre and the Montessori Method for adolescence with the Task, Authority, Recognition, Grouping, Evaluation, and Time (TARGET) strategies. The Montessori Method has been widely applied to students who are in childhood and adolescence, but the implementation of The Montessori Method has not been widely applied to higher education students who have entered adulthood. The need for academic flow can be fulfilled through the Montessori Method for Orienting and Motivating Adults (MOMA), which aims to develop adult involvement in learning and can develop the academic flow (European Committee, 2014).

The MOMA was designed by the Lifelong Learning Programme of the European Union as a learning method for adults to be more actively involved in the learning process. MOMA has been implemented in various countries, namely Italy, England, Romania, Germany, Lithuania, Portugal, and Spain. There are five principles in MOMA, namely absorbent mind, learning environment, experimentation and orientation, observation, and independence (European Committee, 2014).

Flow in the learning process is needed by students, especially students in higher education, because higher education students are required to learn independently, actively, and they need high concentration. The importance of flow in supporting academic success does not make flow can be easily experienced by all students. Many students have problems caused by not achieving flow conditions. The academic problems experienced by students due to the lack of flow include academic stress and procrastination.

Many researchers are interested in flow due to its contribution to various activities that are useful for self-development. However, many studies that have been conducted are quantitative design, whereas flow is a condition that needs to be examined for more real and detailed through a qualitative method. Therefore, this research presents the data about flow qualitatively to students. The research aims to describe the implementation of the Montessori Method in developing the academic flow of student.

2. Methodology

The approach used in this research was a qualitative approach. The qualitative approach was used to analyze the process of implementing an intervention, namely the Montessori Method, which has been through a modification process to develop students' academic flow. Furthermore, the qualitative approach is able to describe the data on the implementation of an intervention in detail.

The research method used was a case study. The research using the case study method makes the case as the object of research. The use of the case study method was based on the purpose of research, namely describing the academic flow of students. The research design used in this study was the intrinsic case study because it focuses on the case itself by observing specifically and deeply the condition of students' academic flow. In each process of intervention implementation, the measurements were taken by narrative records in the form of service activity records or journals.

The participants involved in this research were determined by non-probability sampling method. The technique chosen was purposive sampling, namely the selection of samples was taken based on the age category of adults with the consideration made through the results of observation. The selected participants consisted of five students (three male students, and two female students) of the Arabic Language Study Program, Faculty of Language and Literature Education, Indonesian University of Education (UPI).

The data of students' academic flow were collected through observation, which was adjusted to the aspects of flow, including aspects of absorption by activity and fluency of performance. The process of data analysis in this research contains three stages, namely (1) data reduction, (2) data presentation; and (3) drawing conclusion and verification.

3. Results and Discussion

During activities, it can be seen the different students' competence in thinking or accomplishing the tasks. The findings showed that there was a student who thinks fluently or has a lot of ideas, a student who is so critically in giving arguments, a student who frequently makes mistakes, and a student who is not critical or tends to follow the other's opinion in a discussion. Therefore, the achievement of flow in every student will be explained in the following Table 1.

In general, the students were able to reach the *flow* condition marked by several things during activities, namely a balance between challenges and skills, transformation of time, immersion in activities, thinking fluently, having no difficulty concentrating, knowing the steps to be taken, thinking clearly, thinking as their wish, enjoying the activities, being able to control the tasks.

Before reaching *flow*, the students need to have an interest in the activities and self-motivation. Interest and motivation are essential in the implementation of activities. Students cannot survive to spend a long time on these activities if there is no interest in the activities they do. Interest is needed to make students get in the *flow* condition during the activities because *flow* refers to an individual's high intrinsic interest in which the individual is committed to the tasks, and he considers that doing specific tasks is for their interest and not because of demands or pressure from outside (Hedman and Sharafi, 2004; Hebb, 1955). Intrinsic motivation is defined as the relationship between the individual and a task that is interesting for him. Another definition is the satisfaction felt by the individuals because they get to benefit from the completion of the task (Ryan and Deci, 2000). The individuals who are intrinsically motivated and interested in the activities carried out, especially those activities, bring up good results (Csikszentmihalyi, 1997).

Table 1. The Achievement of Students' Academic *Flow*

No	Indicators of Flow	Participants					
		MJT	NSF	RAH	RS	WNH	
1.	The balance between challenges and skills	MJT often made mistakes in memorizing words, but he was quite fluent in adding words. MJT tended to be difficult to reach <i>flow</i> conditions.	NSF was really focused during activities. She memorized words well, and she tended to be fluent in adding words. She only made one mistake at the beginning of the activities round. She was able to reach the <i>flow</i> condition and immediately entered the <i>flow</i> condition after leaving it.	RAH was not good at memorizing words, but he was fast in adding words during activities. RAH entered and left the <i>flow</i> condition quite fast.	RS was not good at memorizing words, but he was really fluent in adding words. RAH entered and left the <i>flow</i> condition quickly.	WNH was not focused at the beginning of an activity, but then she was fluent in memorizing and adding words. WNH tended to enter the <i>flow</i> condition quickly after she left it.	
2.	Time transformation	MJT was enthusiastic during activities, although he was not focused enough at the beginning of an activity, quite critical in the discussion, and did not realize the time that passed during the activity. MJT got in and out of the <i>flow</i> condition because he thought things that were not relevant to the activity and sat far apart from the	NSF was enthusiastic and focused on activities. NSF had no difficulty in achieving <i>flow</i> .	RAH was enthusiastic, focused, and very critical in discussions. He was in the <i>flow</i> condition during the activity.	RS was quite enthusiastic, focused, and critical during discussions. He had no difficulty in achieving <i>flow</i> .	WNH was very enthusiastic and focused during the activities. She was in the <i>flow</i> condition during the activity.	

No	Indicators of Flow	Participants				
		MJT	NSF	RAH	RS	WNH
		discussion leader.				
3.	Enjoy the Process	MJT was very enthusiastic and enjoyed both making scenarios and making video activities. MJT got in and out of the <i>flow</i> condition when he was making scenarios and videos.	NSF was enthusiastic and enjoyed both the activities of making scenarios and making videos. NSF was consistently in the <i>flow</i> condition because she attempted to make a good concept.	RAH was interested in activities, took the initiative, and enjoyed the activities of making scenarios and videos. RAH was consistently in the <i>flow</i> condition because he mastered video making and video editing.	RS was interested in activities, cooperated with RAH to take the initiative in making a video, and enjoyed the activities of making scenarios and video. RS was consistently in the <i>flow</i> condition because he mastered the video making.	WNH was enthusiastic and enjoyed both making scenarios and making video activities. WNH was consistently in the <i>flow</i> condition because of her high curiosity in making concepts.
4.	Immerse in thought	MJT had a little difficulty in getting ideas at the beginning of the activity or before being given the procedure of activities, he stopped for a while and looked at other students. Seeing the other students who were focused on their tasks, MJT resumed his tasks. While working on the first task, MJT had difficulty achieving <i>flow</i> , but in	NSF was very focused and immersed in her thought while working on the first and the second task. She did not do anything that was not relevant to the task. She was very easy to reach <i>flow</i> .	RAH was very focused from the beginning to the end of the activity. He looked immersed in the mind while doing the task. He was very easy to reach <i>flow</i> .	RS was focused during the activity. Although he occasionally did the other things, but they did not bother with the achievement of <i>flow</i> .	WNH was very focused on doing the task. She did not do anything that was not relevant to the tasks. Therefore, she was very easy to reach the <i>flow</i> condition

No	Indicators of Flow	Participants				
		MJT	NSF	RAH	RS	WNH
		the second activity, he was able to reach <i>flow</i> condition.				
5.	Think fluently	MJT thought fluently. MJT was able to give many answers, but frequently his answers were considered incorrect by other students. In addition, he was able to give creative and funny answers. MJT had no difficulty in achieving <i>flow</i> .	NSF gave pretty good answers. She was able to give creative and funny answers. She had difficulty achieving <i>flow</i> , but after going through difficulties, she was able to be in the <i>flow</i> condition consistently.	RAH gave pretty good answers. He often gave creative and funny answers. He had difficulty achieving <i>flow</i> , but after going through difficulties, he was able to be in the <i>flow</i> condition consistently.	RS gave excellent answers. He often gave creative and funny answers. He had difficulty achieving <i>flow</i> , but after going through difficulties, he was able to be in <i>flow</i> condition consistently.	WNH gave pretty good answers. She was able to give creative and funny answers. She had difficulty achieving <i>flow</i> , but after going through difficulties, she was able to be in <i>flow</i> condition consistently.
6.	Have no difficulty concentrating	MJT was not enthusiastic about the first session, and he had difficulty concentrating, so he was less active in discussions. Therefore, he did not achieve <i>flow</i> . On the other hand, in the second session, he wrote many things on his worksheets, and he was very active in discussions. In the second	In the first session, NSF was not enthusiastic, and she lacked concentration in activities so she could not reach <i>flow</i> . In the second session, she had no difficulty concentrating, and she was very focused on filling out the worksheets. She was able to reach <i>flow</i> in the second session.	RAH lacked concentration in the first session, so he was difficult to achieve <i>flow</i> . Whereas, in the second session, he was very focused on filling out the worksheets, and he had no difficulty concentrating, so he successfully reached <i>flow</i> .	In the first session, RS was difficult to concentrate, so he had difficulty achieving <i>flow</i> . On the other hand, in the second session, he was focused enough to fill in the worksheets, and he had no difficulty concentrating, so he was able to reach <i>flow</i> .	WNH lacked concentration in the first session, so she had difficulty achieving <i>flow</i> . Whereas, in the second session, she was focused on filling out the worksheets, and she had no difficulty concentrating, so she was able to achieve <i>flow</i> .

No	Indicators of Flow	Participants				
		MJT	NSF	RAH	RS	WNH
		session, he did not have difficulty concentrating, so he was able to achieve <i>flow</i> .				
7.	Think clearly	At the beginning of an activity, MJT seemed to lack concentration, but he was able to answer dilemma questions according to the specified time. As time changed, he was the potential to think, he almost answered one of the problem-solving questions correctly, but finally, he failed because he changed his mind and followed other students' answers. Therefore, MJT had difficulty reaching <i>flow</i> conditions in activities.	NSF looked on activities, and she was able to think clearly when she answered dilemma questions, but she didn't think clearly in the problem-solving questions because she was not careful enough to look at question instructions. She had difficulty achieving <i>flow</i> .	RAH answered dilemma questions quickly, but he had difficulty thinking clearly when he answered the problem-solving questions. He almost answered correctly one of the problem-solving questions, but finally, he failed to answer correctly. He had difficulty achieving <i>flow</i> in activities.	RS was able to answer dilemma questions well, but he had difficulty thinking clearly to answer the problem-solving questions well. Therefore, he had difficulty achieving <i>flow</i> .	WNH answered dilemma questions well, and she was the only student who was able to answer one of the problem-solving questions correctly. At the beginning of the middle of activities, she had difficulty achieving <i>flow</i> , but toward the end of activities, she was able to reach <i>flow</i> .

No	Indicators of Flow	Participants				
		MJT	NSF	RAH	RS	WNH
8.	Think as they wish	MJT was very enthusiastic, free to express, and enjoyed activities. He also performed well, and he tried to make other students laugh. Therefore, he was able to reach the <i>flow</i> easily.	NSF was very focused on filling out the worksheets, and she was free to work. She prepared herself to perform, so she successfully performed well. During the activation process, she was consistently <i>inflow</i> condition.	RAH had no difficulty in filling out the worksheets. He was free to work. Also, he presented his work well. He successfully reached <i>flow</i> quickly.	RS was free to express himself in worksheets, and he enjoyed the activities. Moreover, he performed well and tried to make the other students laugh. He was able to reach <i>flow</i> easily.	WNH had no difficulty in filling out worksheets; she was free to work and enjoyed the activities. Furthermore, she presented her work well, and she successfully reached <i>flow</i> quickly.
9.	The mastery of procedure activities	MJT knew the steps in carrying out the tasks, and he concentrated when he worked on the tasks. Therefore, MJT was able to achieve <i>flow</i> quickly.	NSF had no difficulty doing the tasks because she knew what to do to complete the tasks. NSF had no difficulty achieving <i>flow</i> .	RAH was able to do the tasks easily because he mastered the steps in the tasks. Also, he was fully concentrated on doing the activity. RAH was able to reach <i>flow</i> easily.	RS knew the steps in carrying out the tasks and focused during the activity, so he had no difficulty during the activity. He was able to reach <i>flow</i> easily.	WNH was able to do the tasks easily because she knew the steps in doing the tasks, and she was very focused on doing the tasks. Therefore, she had no difficulty reaching <i>flow</i> .
10.	Task Control	MJT contributed ideas and was able to work well together. He was able to control the tasks well. Therefore, he was able to reach <i>flow</i> .	NSF gave ideas, had the initiative, and worked together very well. She was able to control the tasks and successfully reached <i>flow</i> .	RAH had the initiative, gave many ideas, and he still appreciated the ideas of other students. He successfully reached the <i>flow</i> condition easily.	RS expressed many ideas, and he still appreciated the ideas of other students. He was able to control the tasks and was able to reach <i>flow</i> .	WNH contributed ideas and worked well together. She was able to control the tasks well and successfully achieved <i>flow</i> .

The interest in the activities *inflow* is in line with the idea of *Personalization and Co-designing Education* in the Montessori Method, which is the individuals are more likely to be interested in what they learn. They are more motivated to learn new concepts and skills, more ready to succeed if what they learn reflects the context of real life, teach practical and beneficial skills and discuss topics that are relevant to individual life (European Comitee, 2014).

The Montessori Method-based activities carried out to develop not only the academic *flow* but also develop students' creativity. Based on the findings of the research, students have the characteristics of creative individuals during activities. In the Dare To Be Different activity, students were able to answer quickly, rationally, and without any barrier, students also raised many answers during the activity. The number of answers raised is the characteristic of fluency in creativity based on the theory proposed by Guilford (1968).

There was a situation where a student gave the same answer as another student's answer, and then the student immediately changed the answer. Rethinking to find a different answer is the characteristic of thinking flexibility in creativity (Guilford, 1968). The relationship between activities aimed at achieving *flow* and creativity is not surprising, because basically the theory of *flow* was discovered by creativity experts who are investigating the creativity in the artist. Creativity is defined as an activity producing a new thing or work, and the process of discovering new things is a fun process. Therefore, creativity and *flow* have a close relationship that is *flow* is a condition that helps individuals to be creative. The element of enjoyment in *flow* facilitates individuals to be creative in producing something (Csikszentmihalyi, 1996). Kotler (2014), an expert who focuses on the concept of creativity, found that *flow* can increase short-term and long-term creativity.

Experiencing *flow* trains individuals to be more creative. In addition, the individuals who develop aptitude and creativity are those who experienced *flow* in selected activities (Csikszentmihalyi, 1996; Csikszentmihalyi et al., 1993). Furthermore, creative and complex activities such as work, sport, art, hobby, or social interaction are reported as sources of flow (Massimini and Fave, 2000).

In addition to developing creativity, *flow* development activities give opportunities for students to be able to think clearly. Clear thinking is the ability to think critically and rationally with the ability to engage in independent and reflective thinking. Clear thinking is not only about gathering information but also capable to use the information well to solve problems. Griffin et al. (2012) found several signs of individuals with clear thinking that are they do not change beliefs although others told their beliefs were wrong, consider evidence that contradicted others' beliefs, change beliefs after learning new information, do not pay attention to evidence which contradicted other people's strong beliefs, ignore emotion and hold on to the evidence.

In addition to thinking clearly, students need to have higher-order thinking skills in implementing activities. Higher-order thinking is thinking skills at a higher level than memorizing facts. It brings individuals to a higher level of thinking than restating facts or information, and it requires individuals to do something with facts, understands information, concludes information, and related information with the other concepts, categorizes, synthesize, and apply it when looking for new solutions to new problems (Thomas and Thorne, 2009). According to Barak (2007), the implementation of higher-order thinking in learning experiences is focused on analyzing, evaluating, synthesizing, developing skills in problem-solving, inferring, estimating, generalizing, and thinking creatively. The other examples of these skills include asking questions, making decisions, and thinking critically and systematically (Barak, 2007).

Higher-order thinking can be divided three categories: (1) transfer, (2) critical thinking, and (3) problem-solving. In the transfer category, the individuals are directed to make meaning the learning and do not only demand to memorize but also understand and be able to use what has been learned. In the category of critical thinking, it is implemented wisdom aspect or producing reasonable criticism. The purpose of teaching is to equip individuals to be wise by guiding them to make good decisions and use rational evaluation. The ability to think critically is proved to have a positive and significant impact on achieving *flow* conditions. The skills that need to be taught to students to be able to think critically include the ability to evaluate the credibility of a source, identify assumptions, generalizations, and biases. In the category of problem-solving, the individuals are directed to achieve the desired goals because they cannot automatically know the right way to achieve the desired goals, they should use one or more high-order thinking processes. The ways that can be done to support problem-solving involve memorizing information, learning by understanding, evaluating ideas critically, formulating creative

alternatives and communicating effectively.

Based on the research findings, the students were free to express themselves in answering questions or creating work. In addition, the students were free to determine the work displayed in front of the other students. The Montessori Learning Method was able to develop a sense of freedom. The effective way to understand and learn various phenomena related to the acquisition of freedom of expression from the cognitive side of the individual is the most emphasized thing in the Montessori Learning Method (European Comitee, 2014). Freedom is an important component in the quality of human life, as stated by an expert that the experience of freedom is the attribution that individuals make in relation to individual behavior under certain conditions. The conditions which are relevant to freedom are the attraction to something, the presence of unpredictable choices, the level of individual skills in a situation, the expectation of results as a result of actions, and whether the choices can motivate the individuals intrinsically.

Freedom can be influenced by motivation, as the study conducted by Csikszentmihalyi et al. (1993), which shows that extrinsic motivation tends to be considered less facilitating freedom. Meanwhile, the intrinsic motivation can significantly influence the freedom. The relationship between intrinsic motivation and freedom is very contrast. Every time the individual feels free, the individual does whatever he wants to do. Freedom does not give challenges that should be adjusted by the individual. Intrinsic motivation is defined as the relationship between individuals and things that are interesting to them. Another definition is satisfaction felt by the individuals because they benefit from the completion of tasks (Ryan and Deci, 2000). The individuals who are intrinsically motivated are continually interested in activities carried out, especially those activities that give good results (Csikszentmihalyi, 1997).

Based on the research findings, the students seemed focused and often laughed at funny ideas or actions, and spent much time in activities. The conditions that occurred in students indicated that the students enjoyed the activities and certainly achieved *flow* conditions. The results of the study were in line with the opinions of experts from various literature, namely *flow* is related to enjoyable activities, or it causes enjoyment so that the individuals carried out activities intensely. If the individuals feel happy or they have no burden with the activities carried out, then they will be willing and unconsciously spent much time in carrying out these activities (Bakker, 2005; Moneta, 1996). Furthermore, the results of Ishimura and Kodama's study show that *flow* activities are related to the process of personal growth and personal development, and it brings fun and motivation for further activities.

Not everyone can experience the *flow* condition, and *flow* occurs naturally without any compulsion from anyone. When the individual enjoys something, and he focuses on problems in a certain subject means that the individual is experiencing *flow*. *Flow* is a condition where someone extremely enjoys something when someone is struggling with problems in their own subject.

The *flow* conditions related to pleasure are supported by the results of the study which found that the individuals are at a high level of pleasure when they are in the *flow* condition and when they have opportunities to do activities in an environment that suits the individual skills. The concept of freedom in *flow* is opposite to the aspect of balance between challenge and skills. The results of studies in America and Italy prove that the individuals are not happy when the challenges are relatively high.

In the discussion session, the students discussed well, although at the beginning they had difficulty reaching an agreement, the students could respect each other's ideas, did not prioritize their personal ego, and had the initiative in doing the tasks. The situations experienced by the students indicate that the students were able to reach the *flow* conditions because they could control the process of working the tasks. Controlling difficult situations experienced by the students was in line with the study conducted by Linley and Joseph, (2004), who found that *flow* experiences involve a sense of control that is a feeling of control in stressful situations. The individuals try to control several things in encountering some difficulties, and they try to be strong in various situations.

A sense of control is the same as self-control. Self-control refers to a cognitive process that enables

individuals to override, inhibit, or modify impulses, thought, emotion, and behavior to be in line with the existing standards and can support the overall purposes. Also, self-control is needed to be able to consistently direct attention to relevant information when working on the task. The results of the study showed that the students had the initiative to do the tasks, and the purposes can be achieved.

Flow is a condition that supports individual development. Therefore, *flow* is included in positive psychology along with mindfulness and spirituality incorporated in optimal experience. Positive psychology occurs to enlighten the positive perspective of the psychological condition of individuals who previously focused on the negative perspective. *Flow* is the essential element because it supports various individual activities, especially learning activities, in order to achieve happiness and the welfare of individual life and help the development of individual potential (Linley and Joseph, 2004). The positive psychology was found by Linley and Joseph (2004), who made a model called Positive Emotion, Engagement, Positive Relationship, Meaning, dan Accomplishment/Achievement (PERMA) in which *flow* becomes the improvement technique.

PERMA has consisted of five elements, namely, positive emotion, engagement, positive relationship, meaning, and achievement. PERMA aims to help individuals achieve life welfare. The positive emotion as the first element in PERMA is a way to get welfare if there are efforts to increase positive emotion. The individuals can increase positive emotions about the past (gratitude dan forgiveness), positive emotions about the present (enjoying the physical pleasure and mindfulness), and positive emotions about the future (the power of hope and optimism).

The second element, engagement, is an experience when individuals fully develop skills, strengths, and attention to challenging tasks. A positive relationship as the third element is fundamental to welfare. Experiences that contribute to welfare are frequently strengthened through individual relationships such as excitement, the meaning of life, laughter, a sense of belonging, and pride in achievement. Other people's relationships can provide the purpose and meaning of life. The research showed that doing acts of kindness for other people results in increased welfare. Based on the evolutionary perspective, individuals are social creatures because the urge to connect with others increases life sustainability. Developing a healthy relationship is the center of adaptation, and it allows individuals to feel love, affection, kindness, empathy, teamwork, cooperation, self-sacrifice.

The fourth element is the meaning. The meaning and purpose of life are how the individuals realize their responsibilities as God's creatures. The meaning is related to how individuals benefit to others and accept kindness from others. There are various social institutions that enable to increase of the meaning of life, such as religion, family, science, politics, work organizations, cooperatives, and communities. The last element is an achievement. The individuals strive for achievement, competence, success, mastery for themselves either at work, in sports, games, hobbies. The individuals pursue achievement even when it does not always lead to emotions, meaning, or positive relationships. Among the five elements of the PERMA model, the engagement element is the element which requires the existence of *flow*. Engagement is aimed at developing individual skills and *flow* as a positive cognitive condition that can make individual activities enjoyable or without any burden.

From the perspective of developmental psychology, higher education students are in early adulthood. Early adulthood is a formative period. Early adulthood has the freedom to do things as they wish. Freedom in early adulthood gives space for early adults to be creative according to their interests. Activities in the Montessori Method use strategies which emphasize student involvement ranging from discussion strategies, writing, art, games in the effort to bring up the *flow*.

Writing activity helps in ease of concentration. Abbott (2000) states that writing activity is a productive activity to make individuals can achieve peak and *flow* experience. Writing activity makes students directly involved and apply writing skills possessed by students. The importance of learning activity involves the emotional side of students; they make meaning of learning, tell learning experience, and self-evaluate related to learning.

The other strategy is the game. The game is considered to facilitate the emergence of *flow* and the

development of creativity. Games are parts of the learning environment. Activities based on learning environment support individuals expressing cognitive abilities and attribute, and have a new mindset (European Comitee, 2014). The increasing challenges in the game make the game strategy very potential to make the students reach *flow* conditions. As stated by Csikszentmihalyi (2014), the game makes it easy to focus, provide clear targets, rules, and feedback. Also, an ideal *educative* game makes the players learn how to solve complex problems. Problems in the game start with easy problems and then get harder as the player's skills improve. The players are motivated to learn because the learning happened through a process of hypothesizing. They are investigating and reflecting on the simulated world in the game. Also, the game's purposes are precise, and the information is available for players when they need it to achieve each goal.

A range of activities was done, and a posttest was given to students to determine the impact of the Montessori Method implementation. Based on the research findings, the students approximately got average scores. The average scores achieved by the students indicated that the implementation of the Montessori Method did not develop the students' academic flow. The findings were in line with the results of Ermi and Bayraktar (2014) study, which showed that students did not reach high *flow*. Ermi and Bayraktar estimate that the causes of achieving low *flow* were the routine situations conducted by the students. The Montessori Method is a method developed in Europe and has been implemented in several European countries such as England, Italy, Germany, Romania, Lithuania, Portugal, and Spain.

Nowadays, there is no implementation of the Montessori Method in the Asia region. The implementation of the Montessori Method in Asia, especially Indonesia, does not have a significant difference from the implementation in Europe because the contents of the method and materials of the Montessori Method are general and free of cultural bias.

4. Conclusion

The academic *flow* is a condition of full attention that makes individuals highly involved in activities, so they do not pay attention to anything that is not relevant to the learning activities. The conditions of *flow* are marked by the students pay attention to activities undertaken, so they do not pay attention to things out of academic activities and the fluency in doing the academic tasks. The academic flow needs to be developed in higher education students with methods that are appropriate to the development of students. This research employed the Montessori Method, which can create a positive environment that is beneficial to motivate the students to concentrate more on learning, be active and enjoy the learning process, and be independent in doing academic tasks.

Based on the research findings, the students were able to achieve the academic *flow* by achieving the indicators of academic *flow*, but there was an indicator that was difficult to achieve, namely thinking clearly, so the indicators of thinking clearly needed to be more developed. The advantage of students was that they did not have any difficulty to concentrate, were able to balance skills and tasks in activities, but the students were less able to think clearly and critically in activities which examined the ability of problem-solving. During activities, there were differences in students' ability to think or do tasks. Some students thought fluently or had many ideas, and the other student gave arguments critically, the other student often made mistakes, another student was less critical or tended to follow the other's opinion in a discussion. The characteristics of students in activities affect the achievement of academic *flow* conditions. Although intervention had been given quite intensely, the academic *flow* of students was still at a moderate level. The academic *flow* at a moderate level was in line with the opinions of experts who explain that the academic *flow* is a complex condition, so the achievement of academic flow is difficult enough.

The Montessori method can be used to develop students' academic flow, but there are several limitations to this research. Research limitations are put forward so that it can be developed in further research. The limitations of the study are described as follows: (1) selection of participants by observation to obtain the number of participants less representative; (2) the case study method can

provide a concrete picture of student academic flow experience, but weak in terms of validity, reliability, and generalization; (3) the implementation of activities lasts quite a long time, namely 50 to 100 minutes, and most activities last 100 minutes. Duration which tend to take a long time for students and risk making students come out of the flow state and find it difficult to enter or achieve flow back. (4) the Montessori method used in research is not a partnership with other parties (lecturers) so that the achievement of student's academic flow is not optimal. (5) this study only focuses on students with low academic flow, whereas students with high academic flow also need more disclosure further if involved in the application of the Montessori Method for development of academic flow. (6) the instruments used are still unable to reveal academic flow specifically.

Recommendations for future researchers who will develop or strengthen the concept of academic flow for students is as follows: (1) selection of participants by observation needs to be supported in other ways such as interviews or filling in the academic flow scale so that the participants are selected can be more representative of the needs of the intervention; (2) the case study method is quite good in describing the conditions of academic flow students in detail, but the use of observation is prone to bias observers so we need a method that can better describe the flow academic details, for example with true experiment which has validity tall one. (3) interventions using the Montessori Method require a limited duration tend to take a long time and are at risk of difficulty reaching the flow conditions academic. Further researchers need to motivate students to utilize time efficiently and set targets on implementation activities; (4) Montessori method used in the research is not a partnership with other parties so that the achievement of academic flow in students not maximal. Therefore, further researchers need to build collaborative partnership with lecturers in conducting research. Researcher furthermore, it is necessary to develop intervention materials that are integrated with lecture material Together with the lecturer of the relevant subject; (5) this study only focuses on students with low academic flow, whereas students with high academic flow also need more disclosure further if involved in the application of the Montessori Method for development of academic flow. Further researchers need to research about implementation of group guidance that can develop academic flow in order to fulfill student academic competence; (6) the instrument used reveals the general flow, not yet can reveal specific academic flow. Future researchers need to developing instruments that can reveal academic flow more specific.

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