

Implementation of Blended Learning to Improve Fifth Graders' Learning Participation

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Abstract— This research aims to improve the learning participation level of Azzahrawi fifth graders' of Private Elementary School SD Muhammadiyah Sapen Yogyakarta through blended learning. This is classroom action research. The subject of the research consisted of 33 Azzahrawi fifth graders of SD Muhammadiyah Sapen Yogyakarta in the 2016/2017 academic year. The data were collected by means of observation and questionnaire techniques. The instruments used were observation and questionnaire sheets. The data were then analyzed with the descriptive technique. The research results suggest that the blended learning can improve students' participation level. In pre-cycle, no student demonstrates very high participation level and only 33.3% of students have high participation. This condition is then improved in Cycle 1 where 9.1% of students demonstrate very high participation level while the majority of students (96.1%) have high participation level. In cycle 2, students' participation level is continuously improved with 87.9% of students demonstrating very high participation while the rest 12.1% of students showing high participation. The research also revealed that blended learning could be implemented for fifth graders. The parents' involvement and cooperation in the blended learning can improve learning participation of fifth graders. All parents (100%) involved in this study agree that e-learning could improve students' participation level.

Keywords—*blended learning, learning participation, e-learning*

I. INTRODUCTION

Educational institutions are required to prepare students to face the world's current development. In regards to that, the Indonesian educational curriculum has been continuously improved. The 2013 Curriculum were developed, among other things, to emphasize student-centered learning, interactive learning, networking learning, actively-seeking learning opportunities, and multi-media-based learning. Based on the regulation of the Minister of Education and Culture No. 22/2016 on learning processes at education units, learning processes should be conducted in interactive, inspiring, fun and challenging manners to motivate learners to participate actively and to provide opportunities for

learners to develop their initiative, creativity and independence in accordance with their talent, interest and physical as well as psychological development.

In order to attain the ideal learning process, improvement efforts must be made to create good learning processes at each level of education especially at elementary level for it is the foundation to pursue higher education levels.

In managing learning processes, teachers should have strategies to allow students learn effectively and efficiently to attain the expected learning objectives. Teacher's strategy involves presentation technique or teaching methods. Teaching method is the way teachers deliver learning materials focusing on the whole learning processes to achieve the learning objectives. Teachers should also be able to choose the proper media suitable to students' characteristics. Thus, a teacher should understand correctly the position of learning media as tools to provide extrinsic motivation during teaching and learning process.

The learning media currently undergoing fast development are computer, laptop, and android applications. At first, computer application is very limited in terms of its usage. The application was used for administrative purposes only. Nowadays, however, computer application is used for a variety of purposes such as a learning means or popularly known as "multimedia".

Computer-based learning media garners many enthusiasts. This can be seen from the eloquent multimedia elements such as voices and pictures as well as their interactivity. People find it easy to run or use multimedia. Therefore, someone can now learn independently in operating a computer without the help of a teacher. As a result of this development, the roles of teachers as educators have also been shifted. Teachers nowadays plays roles as coaches, tutors, and learners as well. The growth of computer media is also supported by the emergence of the Internet that can be accessed easily through laptops and androids. The Internet changes the pattern of community interactions especially among teenagers. The Internet

has become a bridge that connects people extensively.

According to the latest data from the Ministry of Communication and Information Technology of the Republic of Indonesia (*Kominfo*) in the year 2014, at least 30 million children and adolescents in Indonesia are the Internet users. Digital media becomes their first choice of communication channel. The results of the research finds that 80 percent of respondents are the Internet users. There is a wide gap in terms of the Internet usage between those living in urban and more prosperous areas in Indonesia and those living in rural areas (and less prosperous). In Special Region of Yogyakarta, Jakarta, and Banten, for example, almost all respondents are the Internet users. Meanwhile, in North Maluku and West Papua, less than one third of the respondents use the Internet.

The Internet users continue to increase from year to year. It is evident from the data presented by APJII (the Internet Service Provider Association of Indonesia). Figure 1 presents data from the official website of APJII.

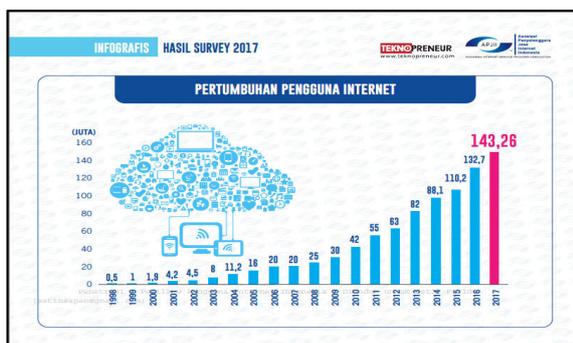


Fig. 1. The Number of the Internet users in Indonesia from 1998 to 2017-APJIII Version

Figure 1 shows that the Internet users in Indonesia began to grow since 1998. In 1998 the Internet users in Indonesia amount to only 0.5 million people. The users reached 55 million in 2011 and 63 million in 2012. The use of the Internet in 2017 experienced an increase compared to the previous year which amounted to 143.26 million people.

Teenagers are found to use the Internet the most. Chart 2 presents the Internet users according to age based on the survey results of APJII in 2017.



Fig. 2. Survey Results of Penetration of the Internet Users in Indonesia Based on Age in 2017 by APJIII

The data above show that the Internet users aged 13-18 years old (school age) account for 75.50% (the highest number) followed by 19-34 years old (74.23%). Meanwhile, people aged 55 years and older is the age group that uses the Internet the least. The use of the Internet in educational world is a potential and solution for the development of learning by using the *online* system to meet the global demands and challenges.

The current generation is a digital generation. Digital generation is the generation that was born when digital technology is rapidly growing. The rapid development of technology demands education to continuously make adjustments to today's condition. This shifts education paradigm from conventional education to the modern one. Many students frequently use computer, handphone, and access the Internet. Digital generation has characteristics among others; they have unbridled freedom; they tend to play not only learn; they are expressive not only receptive; they seek not wait for instructions, they seek interactive not only one-way communication and they collaborate not only compete.

Elementary-school-aged children are also parts of the digital generation. Based on the results of the observation in January 2017, all students (100%) of the Azzahrawi 5th grade access the existing digital technology. However, they access digital technology for purposes other than learning. They use the Internet to play games and access social media such as WhatsApp, facebook and Instagram. Almost every day the students access the Internet for fun and it distracts them from their studies. During classes, some of the students do not complete their tasks and some even are not willing to work on their tasks at all. Most of the students do not do their homework. This condition is reported in teacher's journal. The journal also describes that most of the students tend to be less active in learning processes. Only few students are brave enough to express their opinions when the teacher asks questions and only some of them start working immediately when given certain tasks. Most of the students are passive during learning processes. The summary of the teacher's journal on students' participation is presented in Table 1.

TABLE 1. THE AZZAHRAWI 5TH GRADE TEACHER'S JOURNAL IN JANUARY 2017

Student Activities	Number of Students			
	Yes	Percentage	No	Percentage
Doing homework	15	45.5%	18	54.6%
Raising hands when given a question	10	30.3%	25	75.8%
Being active in discussion	11	33.3%	22	66.7%
Being brave in expressing	8	24.2%	25	75.8%

opinions in the classroom				
Being brave in presenting their work in front of the classroom	8	24.2%	25	75.8%
Average	10	31.5%	23	69.7%

Table 1 shows that most of the students are not actively involved in learning processes. The observation on teaching method and learning model reveals that mostly the teacher employs the lecture and assignment technique. Although the teacher has attempted to use learning media, most students are not engaged in learning processes. Teacher centered learning still takes place. The teachers appear more active than the students. Moreover, the Azzahrawi 5th grade students tend to be very passive and seem uninterested in receiving learning materials. Many students put their heads on the table and they don't listen to the teachers' explanation and talking to their friends during classes. This condition does not stimulate the creativity of the students so that the students' learning participation is low.

Although the Internet can provide a negative impact on the students, it also gives positive impacts on the development of science and technology. The Internet also can be used as an alternative means and learning media for students. Internet-based learning is currently known as *e-learning*. Horton [22] defines *e-learning* as the use of information technology and computer to create an experience in learning. *E-learning* usually uses the technology of information and communication network for learning process.

E-learning is one of the innovations that provides a significant contribution to changes occurring in learning processes where students no longer only passively listening to lectures or explanations from teachers. On the other hand, they actively participate by observing, discussing, and demonstrating their works etc. Learning materials can be presented in various formats and shapes that are more dynamic and interactive so that students will be motivated to get more involved in the learning process. Thus, the utilization of *e-learning* as learning media is expected to help students and teachers achieving learning objectives.

In elementary school, the implementation of complete *e-learning* may not be possible because face-to-face activities is also required. Face-to-face learning or direct interaction is needed to foster characters in students. Therefore, the combination between face-to-face meeting and e-learning is expected to resolve learning issues. This combination is known as the blended learning model. In this model, the learning process is still done in a face-to-face way in the classroom to nurture and assess students' affective competencies, instill values and

monitor students' moral growth. Meanwhile, the utilization of e-learning will facilitate students during learning process to obtain the full benefits of learning.

The application of the Blended Learning model brings changes to learning processes. Students do not only listen to teacher's analysis and explanation. Instead, they become more active in the learning process for e-learning has a very high flexibility. This means that students can access the materials anytime and anywhere. The materials also can be accessed repeatedly. The use of Blended Learning is not meant as a replacement for the conventional learning model in the classroom. It serves to strengthen the learning model through the development of education technology. It is expected to give a good impact on the improvement of students' participation in the learning process.

Based on the descriptions, the learning model to improve students' participation is the blended learning model.

Focus and Problem Formulation

- The participation level of the Azzahrawi 5th grade students of SD Muhammadiyah Sapen is still very low (31.5%). The observations show that many students do not do the tasks given by their teacher and do not pay attention to teacher's explanation, are reluctant to answer teacher's questions, do not actively participate in classroom discussion, and are reluctant to present their works in front of the classroom.
- The results of this research is expected to contribute information and knowledge to the education world, especially to help teachers in improving the quality of learning, develop learning media that is more accurate and various according to the needs of the students and the development of science and technology and can develop their professionalism. For education practitioners, this research is expected to improve the quality of teaching by applying the blended learning model.
- How can the implementation of blended learning improve the Azzahrawi fifth graders' participation?
- This research aims to improve the students' learning participation through the implementation of blended learning in the Azzahrawi 5th grade of SD Muhammadiyah Sapen in the 2016/2017 academic year.
- This research focuses on the Azzahrawi fifth graders of SD Muhammadiyah Sapen in the 2016/2017 academic. The material of learning in this research is the theme 9 sub-theme 1.

II. LITERATURE REVIEW

A. Learning Review

In principle, to learn is to do. To do in this case is to do activity for changing one's behavior. Therefore, there is no learning process without any activity. Hasan & Kazlauskas [21] in *research online* states that the activity is a key term that is more than just being active; it is something significant and meaningful. This concept is supported by Vygotsky with his research on response-stimulus model and Pavlov that promotes an idea that, unlike an animal, human activity has certain purposes and done by a set of actions through the use of 'tools', which are not only physical but also psychological. In the activity theory, the relationship between the subject (the doer) and object (the deed) forms an activity core.

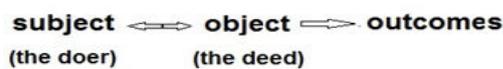


Fig. 3. Core of an activity

According to Bonwell & Eison [9], Oemar Hamalik [40], characteristics of active students are indicated by students' involvement in activities such as listening, reading, discussing and writing and in the skill development. The students are also involved in high level thinking (analysis, synthesis, evaluation). A greater emphasis is placed on the exploration of their own attitudes and values. The same thing is depicted by Bell & Kahrhoff [7] that the active learning is a process where the students are actively involved in the development of understanding of facts, ideas and skills through the completion of tasks and activities of learning. Furthermore, Casale-Giannola & Green [12] mention that active learning is an intentional opportunity so that the students are involved in learning process through movement, reflection and discussion. In their article Brame & Director, C. A. *Active Learning* [10] assert that active learning generally is defined as activities conducted by the students to build knowledge and understanding through various activities by using a method to ask students to do a high level of thinking. Therefore, learning is expected to stimulate the students to perform activities such as the term that have been popularized by John Dewey, namely *learning by doing*. Children need an environment that gives him the opportunity to explore actively and undertake activities by engaging their active participations. This will help in the process of active construction toward knowledge [45]. In addition, the research results [27] show that the learning participation can improve the attitude of students' discipline. Because the pattern of activity and participation of students in the learning process emphasize the achievement of a purpose (the desired indicator), it shows that the participation of students has an important role in improving their competence.

The role of the students' participation in the learning process of course strongly supports a good learning achievement for both students and teachers. Bellanca [8] explain that active learning can challenge students and proven to have an influence on the performance of the students. According to Harmin, M & Toth, M. [20], a student who is an active learner will be ready and willing to work on the school tasks. The research results of Fitzsimons [14] state that the students show the learning interests when the active learning has been developed.

The participation itself is not only limited to students moving physically. Martinis Yamin [32], Monk & Silman [37], Yamagata-Lynch [59] explain that to learn actively is marked not only through the student's participation that learns physically but also being active mentally. The statement explains that the student's active participation is active physically and mentally. This is in line with the opinion of Abu Ahmadi and Widodo Supriyono [1] that in the teaching and learning activities students who are seen as the subject involve and participate actively, intellectually and emotionally. The same thing is stated by Sardiman [44] who defines active participation as an activity that has a physical and mental character: do and think as an inseparable set. Successful learning must be conducted through various activities, both physical and psychological activities. Physical activities engage students to actively participate with their limbs, such as making something, playing and working, not only sitting and listening passively. Students are considered to have psychological activities when the power of his soul works maximally or has many functions in the context of learning. This statement is strengthened by the opinion of Vickery [56] that to learn actively is not only related with "to do" physically but they are also active intrinsically in their learning behavior.

Students' learning participation can be deduced as a form of all activities done physically and non-physically in the optimal process of teaching and learning activities to create a conducive classroom atmosphere. The term 'participation' emphasis on students because students' participation in learning process will create an active learning situation. Active learning is a teaching and learning system which encourages students to participate physically, mentally, intellectually and emotionally to obtain the learning results in the form of unification between cognitive, affective psychomotor, and aspects.

There are various activities that can be done by students both in school and at home. The activity of students not only to listen to and record as is often found in traditional schools. Paul D. Dierich divided learning activities into 8 groups such as quoted by Sardiman [44], namely as follows:

- Visual activities such as reading, observing pictures, observing and conducting an experiment, conducting demonstrations, conducting exhibition, and observing other people working or playing.
- Oral activities such as proposing a fact or principle, connecting an occurrence/phenomenon, asking questions, providing an advice, an opinion, interviewing, and discussing certain topic.
- Listening activities such as listening to the learning material presentation, listening to a conversation or group discussions, listening to music instruments, and listening to radio broadcasts.
- Writing activities such as writing a story, reports, and articles, making a summary, taking tests, and filling in questionnaires.
- Drawing activities, such as to draw graphs, diagram, map, and patterns.
- Metric activities such as conducting experiments, selecting tools, conducting exhibition, participating in games (simulation), dancing, and gardening.
- Mental activities such as reflecting, remembering, solving problems, analyzing, finding connections, and making a decision.
- Emotional activities such as finding one's interest, courage, and the ability to stay calm etc.

Eison, J. [13] states that a strategy of active learning can be created and used to involve students in a critical or creative thinking, to speak with the couple, small groups or the whole class, to express their ideas through writing, to explore the attitudes and personal values, to reflect the learning process, to give and receive feedback. According to the results of research done by Keuvelaar et al. [26] giving feedback in active learning is very important. Feedback is one of the most powerful tools that can be used by teachers to improve the students' learning. Meanwhile, various learning activities to engage students actively according to Levine [29] among others are: reflecting their own experience when they grow into adults (and may compare their experiences with those of classmates, testing their understanding of the concepts, making observations or interview related to the text material, performing simple activities and reflecting what they have learned, and searching for information beyond the text by using library or internet resources.

An assessment of the teaching and learning process is mainly to see to what extent the students' participation in following the teaching and learning process. The students' participation according to Nana Sudjana [39] can be seen in the case of: participating in implementing his learning tasks, involving in problem-solving, asking friends/teachers when he do not understand the problem he faces, trying to find

various information to solve problems, assessing his own ability and the results that he acquires, training themselves in solving problems or matters of the similar kind, the opportunity to use/apply what is acquired in completing tasks/problems faced, conducting a group discussion in accordance with the instructions of the teacher. This is supported by the opinion of Tesfaye & Berhanu [54] that the group discussions provide an opportunity for the students to participate actively in demonstrations and presentations.

Tileston [55] mentions 5 elements of learning strategy that can activate students, namely:

- Plugging in or creating environment that improves the comfortability level of the students.
- Powering up or attracting students into the learning by taking advantage from what they already know and associating it to the new learning.
- Synthesizing or finding information from several sources and integrating the information to make it meaningful and useful for the students.
- Outsourcing or an opportunity where students use the information they have learned in a way that is meaningful.
- Reflecting or a part of the lesson where students are given opportunities to think about learning, to examine deeper, to connect it with their world and to evaluate their own selves.

Hamzah B. Uno & Nurdin Mohamad [19] explain that engaging students in a learning process means that the students are expected to be actively involved in thinking, interacting, trying to find a new concept or working on a project. Stephen, Ellis & Martlew [52] also explain that the active learning is involving the students in the learning activities. It provide opportunities for students to engage and to respond verbally, through manipulating the object and with the physical actions but the emphasis is on the plan, learning activities directed by the teacher. This is in line with the research results of Gleason et al. [15] that active learning is an important component in education. By involving students in a learning process, they will be able to apply the knowledge that they got. The students are expected to actively integrate the knowledge, skills, attitudes, values and behavior so that they become the capable in their respective fields.

Furthermore, Silberman [50] mentions how to improve students' active participation. This section contains how to melt a situation and various other opening activities for all kinds of training program. The techniques are designed to perform one or more activities, among others are: to build team, assessment, involvement of learning.

The rapid development of information and communication technology (ICT) gives an opportunity to engage students. According to Zainal Arifin and Adhi Setiawan [60], it is by integrating strategies of active learning with ICT media into learning to be more interesting, fun and effective for teachers and students so that the learning is more interactive. Vickery [56], Baepler, P., et al [4] also confirm that the Toolbox in ICT can provide an opportunity to students to become active learners.

B. Blended Learning

Etymologically, the term *Blended Learning* consists of two words: *blended* and *learning*. The word *blend* means a mixture, together to make the quality better or a harmonization formula of the combination or the unification. Meanwhile, *learning* has a general meaning, namely to learn. At a glance, the two words mean patterns of learning that contains elements of mixing, or unification between one pattern with another.

Graham [16] states that *blended learning* is a combination of face to face learning and computer-approach learning. This is in line with the opinion of Wang [57] that the *blended learning* involves the combination of two areas of attention: consideration of technology and instrument until a level that is bigger or smaller, combined with pedagogy and education theory. Staker & Horn [51] add on that *blended learning* is a program of formal education in which a student learns at least a part through online delivery of both content and instruction by using some control elements of students, namely of time, place, path, speed and supervision.

In the *International Journal of Computing and Business Research* (IJCBR) published in May 2012, Shinde & Desmukh [48] explain that blended learning is a teaching practice that unites two methods of teaching, namely face-to-face and online learning and it grows fast through models of learning and various sites that are proven to be very effective in helping schools to improve performances of the students, limited resources, and the hope of learners of twenty-first century. *Blended learning* is implemented in various ways, starting from the model of the fully *online* curriculum or with the *face to face* interaction that integrated with *online* components with adding times or days outside the classroom.

In line with the opinion above, Littlejohn and Pleger [31] state that "*blend*" is a combination of *e-learning* with other approaches such as *face-to-face* or a mixture of *e-learning* with other media. Saliba, et al. [43] add on that blended learning refers to a strategic and systematic approach to combine the time and how to learn, integrates best components from face to face interaction and online for each discipline by using right ICT.

Mosa in Rusman [42] states that mixed learning patterns are two main elements, namely learning in classroom and *online learning*. In this online learning there are learning using internet network in which there is a web-based learning. This is in line with the opinion of Sherman [47] which states that information and communication technology becomes a tool of learning that is important for teachers and students in the classroom. Even the use of information and communication technology in the learning may provide an opportunity to students who have no ability to learn well in order to take a turn for the better in schools.

The blended learning characteristic according to Watson [58] are:

- A shift from teaching in lecture model to teaching centered on students in which the students become active and interactive.
- An interaction improvement between students - teachers, students - students, students - contents and students - learning sources from the outside.
- An integrated formative and summative assessment mechanism for students and teachers.
- A learning that unites various ways of delivering, models of teaching, styles of learning, as well as various technology-based media.
- As a combination of direct teaching (*face-to-face*), independent learning, and independent learning via online.
- A learning supported by an effective combination of ways of delivering, teaching and styles of learning.
- Teachers and learners' parents have the same important role, teachers as facilitators and parents as supporters.

Characteristics of *blended learning* according to Huang & Zhang [23] are as follows: flexible in providing learning sources, supporting for diversity of learning styles; enrichment of *e-learning experience* in schools. Blended learning can allow teachers and students to improve their learning practices. For example, in the past students work on tasks in the form of paper sheets and then gather them, now they can send their tasks online .

The purpose of *blended learning* according to Shinde & Desmukh [48] are: helping students to develop for the better in the learning process in accordance with the learning style and preferences in learning; providing practical, realistic opportunities for teachers and students in the learning independent, useful, and growing continuously; improving a scheduling of flexibility for students, with combining the best aspects of face-to-face learning and online instructions. A face to face class can be used to involve students in an interactive experience. While a portion of the *online* classes provide students a rich multimedia content of knowledge anytime and anywhere as long as the students have an access to the

Internet; overcoming a problem of learning that requires settlement through the use of varied methods of learning. While the purpose of *blended learning* according to Bath & Bourke [6], namely supporting students in achieving learning goals, providing a learning and teaching experience as good as possible; as a supporter of teachers in their roles (including management and administration).

The benefits of *blended learning* according to Shinde and Desmukh [48] are: combining face-to-face learning with online media, for example, a class blog can provide interesting opportunities for students to write and interact with a sense of anonymity and distance that they might not find in a face to face discussion in the classroom and the sense of anonymity can allow students to interact with less stress and more openness [30]; simplifying and accelerating a process of communication between teachers and students (and learning partners); encouraging students' participation in the learning process which eventually leads to independent learning [2]; making learning easy that satisfies students [49].

According to Saliba, et al [43] *blended learning* can improve students' access and flexibility, the level of learning participation, students' achievements and learning experiences. Meanwhile for the teaching staff, *blended learning* can improve practices of teaching and classroom management practices. This is supported by the research results of Hallam [18] which shows that by using *blended learning* the learning results of students (posttest) are better than using traditional learning model.

Advantages of *Blended Learning* among others according to Shinde and Desmukh [48] are; learning can be conducted anytime and anywhere; learning occurs independently and conventionally, these two advantages make learning more effective and efficient. This is in line with the research results of Seok, et al. [46] which shows that on the whole, students and instructor have a positive perception of effectiveness of the online course and online learning improves accessibility. Through *blended learning*, students find it easy to access learning materials; the learning is more flexible and not awkward.

Furthermore, the advantages of *blended learning* according to Bath & Bourke [6] are; providing wider learning opportunities and spaces; supporting learning activity management (such as communication, assessment, delivery of task, marking and feedback); supporting provisions of information and resources for students; involving and motivating students through interactivity and collaboration.

The shortcomings of *blended learning* are identified by Shinde & Desmukh [48]. It requires diverse learning media. If there is no supporting

facilities, *blended learning* cannot be implemented. Unfortunately, not all students have access to computer and the Internet. It will be hard for students with insufficient Internet access to participate in independent online learning. Furthermore, *blended learning* needs appropriate learning strategies. This is in line with the results of research conducted by Jeffrey, et al [24] that *blended learning* will not produce better learning when teachers are not able to design lessons that provide more opportunities for students to obtain learning experiences different from the ones obtained from either online or face-to-face learning. Meanwhile, according to Klentien [28] *blended learning* can be used to improve an ability to think analytically and to evaluate capability in implementing science projects of high school students. However, this learning method is not popular in schools because teachers usually do not have time to do it and to supervise a project for each student.

According to Carman [11], the President of Aglint Learning, states that there are five keys in developing *blended learning*, namely:

- *Live Event*, namely direct or face-to-face learning;
- *Self-Paced Learning*, namely to combine a conventional learning with independent learning (*self-paced learning*) which allows students to learn anytime, anywhere using various contents (learning materials) designed specifically for independent learning of both the text-based and multimedia-based ones.
- *Collaboration*, combine collaboration, both collaboration of teachers and collaboration of students in which the two may be cross-school/-college.
- *Assessment*, of course in a learning process do not forget how to measure the success of learning.
- *Performance Support Materials*, don't forget this part when will combine between face-to-face learning in the classroom and virtual face-to-face, make sure that the readiness of resources to support this.

Components of *blended learning* are:

- *Face to face*. The face-to-face learning is one form of conventional learning which unite teachers with students in one room to learn and there is a direct interaction between the teachers and the students. This is in accordance with the exposure of Miliszewska [35] that research has shown the importance of face to face interaction in learning. Students that interact directly with other students will grow a sense of belonging with other students so that they can avoid problems of insulation that are common in far-apart classroom.
- *E. learning*. Horton [22] defines *e-learning* as the use of information technology and computer to

create an experience in learning. E-learning usually uses information and communication network technology in the learning process. The letter "e" on *e-learning* comes from the word electronic, e-learning can be interpreted as all learning activities both individual or group, online or offline, and synchronous or asynchronous by nature, using a computer or another electronic equipment [38]. Furthermore, Hadjerrouit [17] states that the web-based learning sources have a potential as a very powerful tool to improve the teaching and the learning process in school education and can provide various new and interesting experiences.

E-learning is a learning model utilizing the information and communication technology. According To Mayer [34] e-learning's characteristics are: 1) having content that is relevant to the purpose of the lesson; 2) using instructional methods, for example the presentation of examples and exercises to improve the learning; 3) using media elements such as words and pictures to convey learning materials; 4) allowing direct learning centered on the teacher (synchronous e-learning) or designed for an independent learning (asynchronous e-learning); 5) building an understanding and skills related to the purpose of the learning either individual or group performances.

Bates [5] argues that the success of *e-learning* is supported by the existence of the maximum interaction between teachers and students, between the students and various learning facilities, between students and other students as well as the existence of a pattern of active learning in the interaction. Owens [41] explains that levels of learning using *e-learning* center on what is heard, seen, written and spoken by the students. Media that supports these levels, namely video, animation and interactive audio. This level is higher than that of learning using *e-reading*.

III. MATERIAL AND METHODOLOGY

A. The Data

In this research the data collection techniques used, among others: observation and questionnaire. The observation done by researchers are to observe the learning process activities between the teachers and students. This observation aims to observe the suitability of planning with the activity steps of learning that have been designed previously. The observation done is to measure the level of students' participation in learning in class or in the media *e-learning* is divided into 8 aspects namely; *visual activity, oral activity, listening activity, writing activity, drawing activity, metric activity, mental activity, emotional activity*. Every aspect consists of 1-3 indicators among others are active in paying attention, reading, asking and answering the question,

working on the tasks given, discussing, listening, copying/noting, *downloading*, and *uploading the task*, making construction/summary, making diagram, courage to do, presentation, interest.

The questionnaire in this research contains a number of questions answered by the students and parents as respondents. Data from the questionnaire is used as a complement of the data which measures the level of participation of students after the application of model of learning *blended learning*.

The criteria of participation are calculated using the reference of Likert scale. The variables of Likert Scale to be measured are elaborated into indicators. Then the indicators set as a starting point to arrange items of an instrument which can be in the form of statements or questions [53]. The answer of each instrument item using the Likert scale has gradation from very positive gradation to very negative gradation that can be in the form of words. The research uses 4 criteria, namely the level of participation very high, high, low and very low. The criteria for success in this research when the minimum 75% of students have high and very high levels of participation.

The data analysis technique in this research is done in a descriptive quantitative way, namely to describe the level of students' participation based on the score of participation that has been calculated quantitatively. The score calculation of participation is done by adding up the scores obtained from each student for each of the indicators in the form of quantitative numbers.

B. Method

This is Classroom Action Research. This research is collaborative research between the researcher and her colleague. The research design is adopted from the Spiral model of Kemmis Taggart and Nixon [25] which consists of planning, action, observation, and reflection. The model figure of Kemmis Taggart and Nixon [25] is presented as follows.

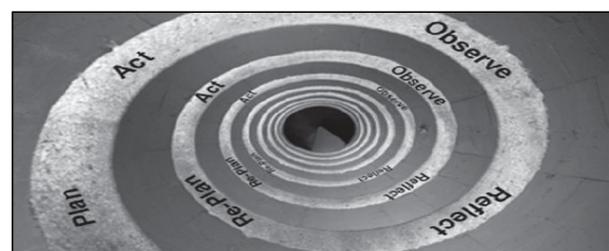


Fig. 4. Spiral Model of Kemmis, Raggart and Nixon [25]

This research was conducted in the second semester of the 2016/2017 academic year. The observation was done on 1 May 2017. The implementation was done in two cycles. Cycle 1 started on 6 May 2017 and cycle 2 on 12th May

2017. This research was done in the Azzahrawi 5th grade of SD Muhammadiyah Sapen Yogyakarta. This school has approximately 255 students in each grade with an achievement in the academic and non-academic field. In this school there is a class (Azzahrawi Class) that needs special attention because there are still many students in the class with low learning participation level (39.5%). Therefore, the subject of this research is the Azzahrawi 5th grade consisting of 33 students (20 males and 13 females). All the students in this grade have backgrounds and capabilities that are heterogeneous which is evident with the grade range between 45-94. Unfortunately, most of the students are less active during learning processes.

This classroom action research was done in two cycles, each cycle consists of four steps namely *plan, action, observation, and reflection* [3]. The steps of this research is described as follows.

1) *Pre research activities*

Before making plan, preliminary research was conducted to identify problems.

This stage collected preliminary data to find out the level of students' participation. Interviews and observation were conducted. The next step was to identify and formulate the problemx. After completing the problem identification step, low students participation level is the main issue.

2) *Planning Stage*

This stage consisted of action design which is described as follows:

- Doing observation together with observer during learning processes in the classroom to identify problems.
- Determining criteria for successful action; arranging an implementation plan of learning (IPL) containing learning step and activities for blended learning.
- Coordinating with the observer about the implementation of blended learning and model simulation.
- Preparing the research instrument consisting of questionnaire for students, observation sheets on participation level for teachers. A supplementary data on parents' perception toward e-learning were also collected.
- Preparing the schedule of action implementation.
- Preparing media, sources, and raw materials and tools.
- Creating an online class by using Edmodo application
- The students were given instruction to follow the procedure of *blended-Learning*.

3) *Acting stage (implementation)*

This *Acting stage* (implementation) uses a collaborative research, teachers implement activities

of learning using the model of *blended learning* with the planning that has been prepared. While the observer has a duty to observe the learning process. The steps of the action implementation are as follows:

- The initial activities
 - The lessons begin with a greeting and praying.
 - The presence of students.
 - The teacher conditions the students to be ready to follow the lesson.
 - The teacher does asperses associated with the materials to be learned.
 - The teacher explains the topic, goals and benefits of the competencies that will be learned and the model of learning that will be done associating with the competencies to be learned.
 - Asperses related materials to be learned.
 - Relating asperses with the materials to be learned
- Core Activities
 - The students watch videos and pictures about environmentalists or activitists.
 - The students read a book about environmentalists or activitists.
 - The students do the question and answer and discussion about the cause of flood
 - In groups the students make a map of concept after reading and watching videos.
 - The student representatives present results of the group discussions and the other students give responses.
 - The students together with the teacher discuss results of the activities.
- Final activities
 - The question and answer between the students and the teacher about the materials that are not yet understood.
 - The students together with the teacher conclude the class.
 - The teacher gives instructions to do the online quiz and tasks and the students convey their opinion on the discussion forum of *E-learning* when they are at home.
 - closing the class with a prayer.

4) *Observation Stage*

During the implementation of learning, the observer does observations based on observation sheets that has been prepared and documents the activities. At the end of each cycle, students also fill in the questionnaire about their activities during the learning either when face-to-face in the classroom or when use the medium of learning *E-learning*. The Observer also asks the the students' parents on e-learning by filling the questionnaire.

5) Reflection Stage

Interpretation	Cycle 1		Cycle 2	
	Count	Percentage	Count	Percentage
Very Low	0	0.0%	0	0.0%
Low	5	15.2%	0	0.0%
High	23	69.7%	3	9.1%
Very High	5	15.2%	10	90.9%

At this stage, the teacher and the observer analyze the process of action in the learning that has been done. This is done to determine whether the process of the action is in accordance with the planning or not. The teacher and the observer reflect on the learning process using the evaluation technique. The results of reflection are used to decide further research steps whether the improvement effort is considered enough or further improvement should be made in the next cycle.

IV. RESULTS AND DISCUSSION

A. Result

1) Pre Cycle

(1) Student Participation

The students participation is measured by using observations and questionnaires. The observation on students' participation is made by using a four-point scale. The observation contains 8 aspects of participation. Each aspect consists of 1-3 indicators. The total number of indicators in this observation is 16 statements. The level of students' participation is measured by grouping the scores in the categorization of measurement results.

Participation indicators that will be measured in every aspect are described in the table below.

TABLE 2. PARTICIPATION INDICATOR

No	Aspects	The indicator
1	Visual activities	<ul style="list-style-type: none"> Attempting to read the information that is required for resolving issues from both the book and the digital media Paying attention to the teacher explanation Observing the pictures and learning videos
2	Oral activities	<ul style="list-style-type: none"> Asking questions to other students or the teacher Answering the questions from the teacher or other students orally Presenting the results/the tasks
3	Listening activities	<ul style="list-style-type: none"> Listening to the explanation of the teacher. Listening to the presentation of materials and learning videos thoroughly
4	Writing activities	<ul style="list-style-type: none"> Recording important materials during the presentation, discussion and explanation from the teacher, Recording and working on various tasks, quiz and test both in the classroom and online

No	Aspects	The indicator
5	Drawing activities	<ul style="list-style-type: none"> Able to draw illustrations, graphs, diagram Making a summary in the form of a mind map
6	Metric activities	<ul style="list-style-type: none"> Participating in carrying out the tasks of the group Uploading the observation result in e-learning media
7	Mental activities	<ul style="list-style-type: none"> analyzing and providing solutions to certain issues.
8	Emotional activities	<ul style="list-style-type: none"> interacting with friends and teachers in the activities of learning

Summary of the score of students' participation in pre cycle is as follows:

TABLE 3. STUDENTS PARTICIPATION IN PRE CYCLE

Score Interval	Interpretation	Frequency	Percentage
16 - 28	Very low	3	9.1%
29 - 40	Low	19	57.6%
41 - 52	High	11	33.3%
53 - 64	Very High	0	0.0%

Table 3 shows that in terms of participation level, most of the students fall within the low category (57.6%) and very low category (9.1%). This means that the level of students' participation in pre cycle is mostly in the low category.

The level of students' participation in every aspect in pre cycle is presented in the following chart.

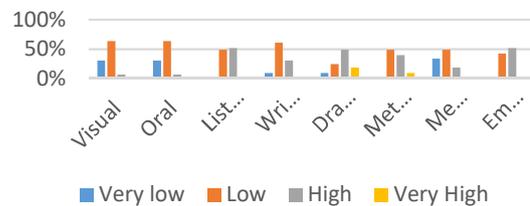


Fig. 5. Students Participation in Pre Cycle in Every Aspect

Most of students have low participation level in almost every aspect. Therefore, students participation needs to be improved.

Cycle 1

The implementation of Cycle 1 by using *blended learning* produces good results. The participation of students experienced an improvement compared to that of pre-cycle. Because blended learning is new for both the teacher and the students, they have to put more efforts so they get accustomed to this learning model.

Data on students' participation in cycle 1 is presented in Table 4.

TABLE 4. STUDENTS PARTICIPATION IN CYCLE 1

Based on Table 4 shows that after blended learning is used in Cycle 1 , most of the students fall within the high category (69.7%) in terms of participation level. This means that the level of students' participation in Cycle 1 is mostly in the high category.

The level of students' participation in every aspect In cycle 1 is presented in the following chart.

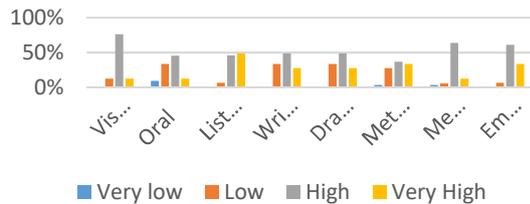


Fig. 6. Percentage Results of Students Participation in Cycle 1 on Every Aspect

Most of students have high and very high participation level in almost every aspect. Therefore, students participation needs to be improved. However, some students still demonstrate low and very low participation level in oral, mental and metric activity aspects. Therefore, students' participation level could be improved in the next level.

Cycle 2

The implementation of Cycle 2 by using *blended learning* shows better results than Cycle 1. Teachers' skills in impelementing blended learning shows an improvement. Both teachers and students demonstrate better skills in using information technology for learning purposes. They are more actively involved in learning processes either in face-to- face or online classes. It improves students' motivation to learn.

Data on student's' participation in cycle 2 is presented in Table 5.

TABLE 5. SCORE RESULTS OF STUDENTS PARTICIPATION BASED ON OBSERVATION IN CYCLE 2

Score Interval	Interpretation	Frequency	Percentage
16 - 28	Very low	0	0.0%
29 - 40	Low	0	0.0%
41 - 52	High	3	9.1%
53 - 64	Very High	30	90.9%

Table 5 shows that in terms of participation level, most of the students fall within the very high category (90.9%) and high category (9.1%). This

means that the level of students' participation in Cycle 2 is mostly in the very high category.

Based on table V above can be known that the level of students' participation based on the teacher's observation in cycle 2 by using *blended learning* methods most of students include in the very high category as much as 90.9% and the high category 9.1%. This means that the level of students' participation based on the teacher's observation in cycle 2 by using *blended learning* methods most of them have already included in the category very high. The improvement of students' participation level in Cycle 2 compared to Cycle 1 can be seen in the following table.

TABLE 6. THE COMPARISON OF THE PARTICIPATION LEVEL IN CYCLE 1 AND CYCLE 2

Score Interval	Interpretation	Frequency	Percentage
16 - 28	Very low	0	0.0%
29 - 40	Low	5	15.2%
41 - 52	High	23	69.7%
53 - 64	Very High	5	15.2%

Teacher's observation on students' participation level shows that the implementation of *blended learning* can improve the students' participation in Cycle 1 to 69.7% (high category) and 15.2% (very high category). However, as many as 15.2% of students are still in the low category.

Teacher's observation on students' participation level shows that the implementation of *blended learning* can improve the students' participation in Cycle 2 to 90.9% (very high category) and 9.1% (high category). There is no student demonstrating low and very low participation level.

The data above show that the level of students' participation experiences an improvement from Cycle 1 to Cycle 2 from 84.9% of students in the high and very high categories to 100.0% of students in the high or very high categories.

This finding is in line with the opinion of Saliba, et al [43] that the *blended learning* can improve the access and flexibility of students, improve the level of learning participation, achievements and the learning experience, while for the teaching staff the *blended learning* can improve the practices of teaching and classroom management.

The level of students' participation in every aspect in Cycle 2 is presented in the chart below.

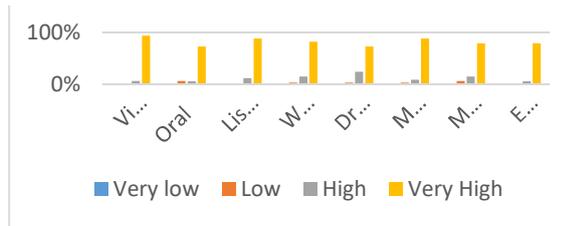


Fig. 7. Percentage Results of Students Participation in Cycle 1 on Every Aspect

The chart above shows that most of the students (more than 75% of them) demonstrate high and very high participation level in every aspect. No student has low participation level in every aspect.

(2) The observation on Students' Parents

To supplement the data on the implementation of the blended learning, the researcher asks for parents' or guardians' opinions/assessments through online media.

The parents' assessments of the students' participation and performance with *blended learning* methods are presented in Table VII

TABLE 7. PARENTS OPINION ON E-LEARNING

Question	Yes	Not
According to you, are the children interested in using e-learning media to support their studies?	32	1
	97.0%	3.0%
Are you interested in <i>e-learning</i> media as a supporting means for your children studies?	32	1
	97.0%	3.0%
According to you, can e-learning improve your children's learning participation?	33	0
	100.0%	0.0%

Table 7 shows that the majority of parents are interested in the use of *e-learning* media. In addition, the parents themselves are also interested in the *e-learning* media as a supporting means of students' learning. All the parents argue that the *e-learning* is considered can help improving their children's learning participation.

B. Discussions

Students' learning participation is all the physical and non-physical activities in optimal teaching and learning processes to create a conducive classroom atmosphere. Learners' involvement in the learning process creates an active learning situation. Overall, the observation results of Cycle 1 on students' participation shows that only 9.1% of students are in the very high category. After the implementation of Blended learning in cycle 2, there are improvements of students' participation (87.9% are in the very high category).

The observation on Cycle 1 focusing on *visual activities* shows that only 15.2 % of students are in the very high category. Most of the students rarely perform *visual activities* i.e. reading theme books and other supporting books, looking for information with the Internet to resolve an issue, and were pleased to see the demonstrations done by their teacher and friends when explaining the lessons. After the implementation of the *blended learning* in cycle 2, there are improvements of students' participation for the *visual activities* (90.0% of the students are within the very high category).

The observation on Cycle 1 for *oral activities* shows that only 9.1% of the students are in the very high category. Most of the students rarely perform *oral activities* i.e. asking teachers and classmates when having trouble, answering the questions given by the teacher orally in the classroom, courageously expressing the opinions during classroom discussions and courageously presenting the results of their discussions in front of the classroom. After the implementation of *blended learning* in cycle 2, there are improvements of students' participation for *oral activities* (66.7% of the students fall within the very high category).

The observation on the cycle 1 for *listening activities* shows that only 42.4% of the students are in the very high category. Most of the students rarely perform *listening activities* i.e. listening to teachers' explanation, learning videos during classes, other students when they are asking for or expressing opinions/ ideas. After the implementation of *blended learning* in cycle 2, there are improvements of students' participation for *listening activities* (99.9% of the students are in the very high category).

The observation on the cycle 1 for *writing activities* shows that only 18.2% of the students are in the very high category. Most of the students rarely perform *writing activities* i.e. recording important materials such as the results of the discussion/presentation/teacher explanation, summarizing discussion results and recording each task or quiz provided in both the classroom and online classes. After the implementation of *blended learning* in cycle 2 shows that there are improvements of students' participation for *writing activities* (84,8% of the students are in the very high category).

The observation on Cycle 1 for *drawing activities* shows that only 12.1% of the students fall within the very high category. Most of the students rarely perform *drawing activities* i.e. demonstrating interests in lessons that come with illustration pictures, being able to draw good illustration pictures, being able to understand materials in the form of diagram and happy to make a summary in the form of a mind map. After the implementation of *blended learning* in cycle 2, there are improvements of

students' participation for *drawing activities* (78.8% of the students are in the very high category).

The observation on Cycle 1 for *metric activities* shows that only 18.2% of the students are in the very high category. Most of the students rarely perform *metric activities* i.e. being enthusiastic when working on the tasks given, and being able to *upload* each task through the *e-learning* media. After the implementation of *blended learning* in cycle 2, there are improvements of students' participation for *metric activities* (87.9% of the students are in the very high category).

The observation on Cycle 1 for *mental activities* shows that 48,5% of students are in the very high category. After the implementation of *blended learning* in cycle 2, there are improvements of students' participation for *mental activities* (97% of the students are in the very high category).

The observation on Cycle I for *emotional activities* shows that 21,2% of students are in the very high category. After the implementation of *blended learning* in Cycle 2, there are improvements of students' participation for *emotional activities* (87.9% of the students are in the very high category). The results of the Cycle 2 indicate that there are improvements of students' activity in the emotional aspects.

All activities that have been discussed indicate students participation. Therefore, these results suggest that the blended learning has successfully improved students participation. This is supported by the parents' assessments stating that the e-learning media help to improve their children's active participation during learning processes. This is also in accordance with the previous opinion of Mitchell, et al. [36] and Vickery [56] stating that the utilization of ICT technology can cause students to learn actively.

Based on the results of the research performed in two cycles, the implementation of *blended learning* is considered successful to improve the participation of the fifth graders. In Cycle 1, the number of students that fall within the very active category are 9.1%, the number increases in cycle 2 (87.9%).

V. CONCLUSION

This classroom action research suggests that the implementation of blended learning can improve students' participation assessed from 8 indicators: visual, oral, listening, writing, drawing, metric, mental, and emotional skills. Through blended learning, teachers' supervision is not limited in classroom only; they can monitor the students through online classes. Teachers and parents can work together in monitoring students' learning activities through online classes. Considering many benefits of blended learning especially toward the improvement of students' learning participation, this

learning model is highly recommended for teachers to improve the learning quality.

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