PALAPA
Jurnal Studi Keislaman dan Ilmu Pendidikan

p-ISSN : 2338-2325
e-ISSN : 2540-9697

Terindeks : SINTA 4, DOAJ, Crossref, Garuda, Moraref, Google Scholar, dan lain-lain.

https://doi.org/10.36088/palapa.v11i1.3149

# CIRCUIT LEARNING IN IMPROVING CONCENTRATION STUDENT LEARNING IN MADRASAH

Fathor Rozi & Moh. Yahya
Universitas Nurul Jadid Probolinggo
fathorrozi330@gmail.com ; mohamadyahya2056@gmail.com

**Abstract**

*This study aims to explain circuit learning in increasing the learning concentration of 5th grade students at MI Mambaul Ulum. The concentration of learning can be one of the reasons for the success of learning in educational institutions. For this reason, it is necessary to pay sufficient attention to efforts to achieve it. This research uses a qualitative approach with a case study type. There were 4 informants in this study, namely the head of the madrasa, two teachers and one student. Data collection techniques using observation and in-depth interviews. Data analysis used is data collection, data reduction, data display, and conclusions. The research results obtained were, (1) apperception, (2) visualization, (3) forming groups and discussions, and (4) presentations. The implication of this research is that student learning outcomes are getting better.*

***Keywords***: *Circuit Learning, Student Learning Concentration*

## INTRODUCTION

In a learning process, one of the things that affects student learning outcomes is the concentration of learning. Concentration is the ability of a person or individual to maintain focus on activities in an environment (Krissanthy et al., 2020). Concentration of learning is a person's ability to focus his overall attention on the lesson. Learning concentration is understood as a process of focusing the functions of the mind and soul of an individual on an object which in this case is related to learning. This learning concentration is part of a fundamental effort in achieving a good learning result, therefore this learning concentration then becomes very important in learning (Riinawati, 2021; Anissuhada', 2022).

Therefore concentration is needed in daily activities. concentration is a skill that is learned not to react or be distracted by irrelevant stimuli, where our minds must be directed to a point in a job (Khotimah et al., 2021). The success of a study is strongly influenced by the concentration of learning. A learning process will not be effective if the individual concerned is difficult to concentrate. Many things will be wasted later, such as energy, costs and time.

However, in reality the concentration of learning cannot be obtained easily. MI Mambaul Ulum is an MI educational institution where in its learning activities it is found that some students in grade 5 experience a lack of focus or a low level of concentration in learning. The cause is that there are sounds that disturb students' concentration such as the sound of vehicles passing near the school, as well as the lack of rest time for students due to playing cellphones, boredom with the atmosphere and the learning process. This is in line with the theory which states that several things affect concentration in learning, including: (1) the overall condition of a person's body is said to be normal according to health standards (2), sufficient rest time, (3) free from various mental disorders, (4) free from loud noises, and (5) balanced nutritional intake that enters the body (Riinawati, 2021).

In addition, it is also in line with the characteristics of students with low concentration, namely, will have a strong urge to disturb their friends, will divert the issue or topic of conversation, often experience boredom, not enthusiastic when spoken to, and often speak (Rozi & Rahayu, 2022).

Patience, diligence, and the guidance of a teacher are very determining factors for increasing student learning concentration. This is because the concentration of learning is something that is not easy for students to overcome on their own. If it is not immediately addressed, it will adversely affect many things related to learning. To be able to increase student learning concentration, it takes quite a long time. Learning or the nature of the teacher who is less attractive so that it is boring is one of the reasons for the low concentration of students in learning. In order to increase the concentration of student learning at MI Mambaul Ulum Class 5 then a circuit learning learning model is applied.

The circuit learning learning model is defined as a model that is applied in the learning process by optimizing the mindset of students by repeating and adding (Rahmah & Hasibuan, 2019). Repeating is essentially a process of connecting new knowledge with prior knowledge in students' cognitive understanding (Bikhurin'in et al., 2018). To be able to improve

students' communication skills and creativity can be assisted by the application of this circuit learning learning model (Aeniah, 2020). This can be seen when students are taking notes, in this process a student has demands to be creative both in terms of writing patterns, language to the preparation of the writing. That way indirectly this model forces students to be able to concentrate properly.

The research on circuit learning learning models was also carried out by (Shalahudin et al., 2021) then came to the conclusion that the circuit learning learning model applied at MI Muhajirin Jambi City Class III on thematic subjects can increase student learning concentration. From this research, it is highly recommended in learning to apply this model, because it is proven to be able to improve student learning outcomes. In addition, this model can also make students enthusiastic, active so that the class atmosphere does not feel boring. Nirmala Ekasari (Ekasari, 2021) also conducted research on a similar topic and obtained the final conclusion that the application of the circuit learning learning model can lead Grade 5 students at SD Bina Bakti 2 Bandung to improve learning outcomes. Research conducted by (Ritawati et al., 2021) is a research with a theme similar to the final conclusion of student learning outcomes in natural resource material can be increased with the classification of 13 students in the first cycle getting good grades, then 19 students in the second cycle who get good grades. A good grade in this case means that it reaches the passing criteria. The same research was also conducted by (Utami, 2021) and obtained the results of the study that the application of the circuit learning model could improve the ability and creativity of students in writing advertisements. Similar studies regarding concentration were also carried out by (Wijayanti & Efendi, 2021) and obtained the conclusion that the learning model can increase student learning concentration.

From several previous studies, the majority discussed the application of circuit learning learning models combined with certain learning methods in increasing student learning concentration. In addition, existing research is also one of the proofs that learning models are also a determinant in increasing student learning concentration. To complement existing research, existing research makes the concept or form of implementation of the circuit learning learning model in increasing student learning concentration in Madrasah Ibtidaiyah schools the main focus. This study aims to describe the implementation or implementation of the circuit learning learning model as an effort to improve student learning at MI Mambaul Ulum.

## METHOD

The research in this paper is carried out using a qualitative case study type approach. The focus taken in this research is on the implementation of the circuit learning learning model in increasing the learning concentration of Class 5 MI Mambaul Ulum students. Researchers obtained data by making observations (observations) and from sources (through interviews). The data obtained is then described coherently, reduced, then saturated data is taken according to research needs. This is done to facilitate researchers in formulating conclusions. This research was conducted since November 25, 2022. The steps taken by researchers in conducting this research were analyzing gaps or problems, then narrating the results in a report. There were four people who became informants in this study so that the results obtained could be justified. The four informants were obtained through technical analysis of purposive sampling techniques. The four sources, including Moh. Yahya, S. P as head of the madrasa, Siti Romlah, S. Pd and Rohaniah, S. Pd as teachers, and Izza Kamelia Basyid as a representative for MI Mambaul Ulum students. Researchers provide structured explanations, as facts in the field, can also be measured regarding the conditions that exist at the research location both in the form of the object being studied as well as facts related to these conditions and to draw a conclusion later (Arifin, 1994). This research is expected to be able to fully and thoroughly describe the implementation of the circuit learning learning model in increasing the learning concentration of MI Mambaul Ulum grade 5 students. Data analysis was carried out with reference to the concepts of data collection, data reduction, data display, and conclusions (Arifin, 1994).

## RESULTS

The form of the concept or implementation of the circuit learning learning model in increasing student learning concentration at MI Mambaul Ulum is then based on indicators of learning concentration which include, (1) There is a concern and acceptance in students regarding the material they are learning, (2) Responding to the material being studied, (3) Body movements according to the teacher's orders, (4) Students can apply the material they have learned, (5) Students are able to create an analysis of the material being studied, (6) Students can convey their ideas, (7) Students swift in providing knowledge if at any time asked by the teacher, (8) Have a high interest in the teaching material being studied, (9) During the learning process do not feel bored.

From these several indicators, several steps were created that were used by teachers at MI Mambaul Ulum, especially for grade 5 students, including displaying pictures or several teachers replacing them with concept maps, then explaining the pictures or concept maps, then forming a group to hold discussions. and then students deliver presentations in front of the class. This was conveyed by the head of MI Mambaul Ulum in his interview who said that the implementation of the circuit learning model at MI Mambaul Ulum which was one of the efforts to increase student learning concentration was in four steps, namely providing pictures or concept maps, explaining pictures or concept maps. After that, the teacher forms a discussion group, and finally the students make a presentation. The four steps refer to or base themselves on the indicators described earlier.

The advantage of implementing this circuit learning model is that through the mindset in composing sentences it will have an impact on students' skills and creativity. In addition, it can also provide an increase in focus and concentration in participating in learning (Ritawati et al., 2021). For this reason, this learning model was applied to increase student learning concentration at MI Mambaul Ulum grade 5. As stated by the head of the madrasa in his interview, it was said that the circuit learning learning model was applied at MI Mambaul Ulum in increasing the learning concentration of students who were sitting on benches Grade 5.

From what was conveyed by the head of the madrasa, it can be understood that there are four steps in the form of implementing the circuit learning learning model at MI Mambaul Ulum in increasing student learning concentration, namely displaying pictures and concept maps, explaining or explaining pictures and concept maps, forming discussion groups and students make presentations. From each of these steps there is an indicator that becomes the benchmark behind it.

**Apperception**

The first step taken by the MI Mambaul Ulum teacher as a form of implementing the circuit learning learning model is the appearance of an image or concept map. This activity aims to provoke or stimulate student learning readiness. This was conveyed by one of the MI Mambaul Ulum teachers in grade 5, the teacher said that the first step was to give or show students an image, some teachers used concept maps. It doesn't have to be in the form of a picture, the important thing is that there is something that can be shown to

students. The indicator to be achieved through this activity is to stimulate student learning readiness. This first stage is usually called the apperception stage.

From what was explained by the MI Mambaul Ulum teacher, it can be understood that the first step taken was to show something to students, in this case the MI Mambaul Ulum teacher, especially grade 5, used pictures and some used concept maps. The aim is to stimulate student learning readiness and as a form of student verbal response. This stage is hereinafter referred to as the apperception stage. Apperception is understood as a form of connecting the initial knowledge used in the delivery of subject matter in class. The category of learning success in each meeting is strongly influenced by the level of success of visualization. The visualization stage is strongly recommended to start with things experienced by students, the aim is for students to be involved in it cognitively. In addition, an effort to attract students' attention and concentration so that they participate in the world created by the teacher is also the goal of an apperception (Astuti, 2018).

Strategies that can be carried out by the teacher in building apperception by providing a stimulus regarding the material or understanding that students already have, then slowly providing comparisons with the new material that will be taught. However, this strategy is limited to situations when the previous material has continuity with the material to be delivered (Saifullah, 2022). The strategy that can be done by the teacher if he is in this situation is to connect teaching material with anything that has a close relationship with students. The impact of this apperception is that the new material that will be delivered will be easily accepted and provide an integral understanding with an overview of the new material through past material. In addition, creating students' attention and interest in learning, there is an acceptance of new teaching material through developing student motivation in learning (Mustikasari & Harida, 2020).

**Visualization**

The second step is to explain the picture or concept map shown earlier to students. This explanation is an activity that aims to analyze the concentration of students' attention. This was conveyed by one of the grade 5 teachers at MI Mambaul Ulum in his interview, namely, an explanation regarding the image or concept map shown at the beginning. The goal or indicator to be achieved is that students are able to give full attention or full concentration to the learning material. In explaining the pictures and concept maps, the

teacher is as creative as possible or does not make students feel bored. The emergence of boredom in students triggers a loss of attention and concentration of students towards the teacher's explanation. This stage is called visualization.

From this explanation it can be understood that the next step in implementing the circuit learning learning model is to provide an explanation of the image or concept map shown earlier. The indicator in this step is that students are able to give their full attention or concentration to the teaching material. This stage is then called visualization.

**Group Formation and Discussion**

The next step is for the teacher to form a group to then carry out a discussion. This step is an activity that stimulates the movement of the student's limbs. When students are able to respond by moving their bodies and according to the teacher's instructions or directions, then these students can be said to be concentrating.

This was conveyed by the grade 5 teacher at MI Mambaul Ulum who stated that forming groups, either in finding group mates or moving from their desks to their group mates, if according to the teacher's directions, these students have a fairly good concentration. This activity can be an effort as well as a benchmark regarding student concentration. From the formation of this group, it is also hoped that there will be a statement or it can be in the form of a rebuttal, for example, complaining about their group mates or the material provided, this is a response to the initial knowledge students have acquired. Then apart from that response, the student's activity during the discussion is also a response to the knowledge he obtained before this activity. So, it will be seen in this discussion activity whether a student is concentrating or not in the two previous steps. The majority with the application of learning models like this, students are able to concentrate fully. This could have been due to the stimulation that the students responded well to.

The group provisions that are usually used by class 5 MI Mambaul ulum teachers are that students are divided into small groups and consist of 5 students, then given the task of studying the material to be taught with guidance from the teacher, but departing from the same root problem, namely related with drawings or initial concept maps. This concept can be called cooperative learning. Cooperative learning has many types, so the teacher may use whichever type he wants is also relevant to the material.

From this explanation, it can be understood that the formation of groups or cooperative learning is a teacher's strategy in seeing how the concentration of students has.

In addition, through this group, student responses will then be formed or appear in accordance with the initial knowledge they receive. When the 5th grade students of MI Mambaul Ulum are able to respond correctly according to the teacher's instructions, it is certain that the students are concentrating from the start.

**Presentation**

The final step in applying the circuit learning learning model at MI Mambaul Ulum grade 5 is for students to make presentations based on what they have discussed with their group mates. The indicator to be achieved in this activity is the ability of students to express ideas or opinions. Expressing ideas and opinions requires concentration so that what is conveyed can be understood by the audience.

This was conveyed by the grade 5 teacher at MI Mambaul Ulum in his interview who stated that the final step in applying the circuit learning model in increasing student concentration was to make a presentation in front of the class with material or materials as produced during discussions with group mates. This activity requires students to concentrate fully so that what is conveyed in their presentation can make friends who are listening to understand the meaning and meaning. From this presentation students not only convey material or things that have been discussed with their group mates, but also answer questions asked by friends who are listening or being their audience. At the end of the lesson the teacher closes the learning activity with a reflection as evaluation material, what is lacking in that meeting can be corrected at the next meeting.

From this explanation it can be understood that the presentation is the final step in applying the circuit learning learning model in increasing the learning concentration of class 5 MI Mambaul Ulum students. The presentation activity is expected to be a forum or opportunity for students to express ideas or opinions as discussed with their groups.

## DISCUSSION

There are several stages that are passed in implementing the circuit learning learning model so that the objectives to be achieved can be obtained optimally, including that there must be focused and conducive classroom conditions, students are required to have and or make notes on teaching material according to their mindset and creativity, it is necessary a question and answer process is held, and reflection regarding the material or lesson must be

carried out by students (Utami, 2021). Related to a similar matter, namely the steps in implementing the circuit learning learning model, namely, there is a question and answer session about the material to be studied, the teacher provides an overview such as the main mapping of the material to be studied, the teacher provides a detailed explanation regarding the main mapping that has been delivered previously, the teacher divides the students into several groups, the students make the main mapping in their own language in the worksheet, the teacher gives an explanation that the main mapping made by the students will then be presented in front of the class, each group has the same opportunity to explain the main mapping, groups with the best exposure category in front of the class is given a reward and given encouragement and enthusiasm to the group whose presentation is in the unsatisfactory category (Ritawati et al., 2021).

In the learning process, the first minute is an important moment for subsequent learning. For this reason, apperception is highly recommended to be carried out at the beginning of learning so that the student's brain will be ready to accept learning (Nurmasyitha & Hajrah, 2021). The faces of happy students, laughing and smiling are an indication that the apperception given by the teacher is appropriate, so that students feel happy and relaxed. When it is able to create readiness in students in receiving information, then it is time for the teacher to provide the next apperception, namely inviting students to remember the previous learning material. By having sufficient learning readiness, it can be ascertained that students of class 5 MI Mambaul Ulum can have learning concentration.

The next stage is visualization, the visualization is understood as a diagram, image or animation that leads to certain information (Vianingrum et al., 2021). The process of providing an interactive visual picture as a reinforcement of an information by using a computer as a supporting tool is also the definition of visualization (Anwar, 2020). Apart from that, visualization can also be understood as an effort to make an educational process innovative, creative and effective (Muthoharoh, 2019). Constructing abstract things is one way that can be done in visualization. As for the learning process, the existence of 2 or 3-dimensional images is the visualization that is most often used. From these definitions it can be concluded that visualization is a tool in interpreting things or data into an image or a mixture of images (Ching & Nasri, 2021).

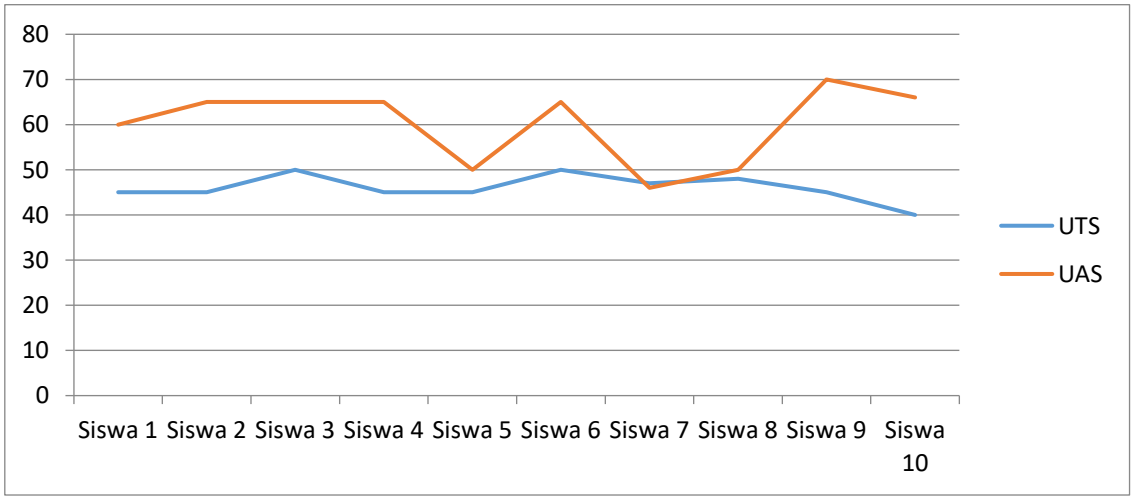
Studying in groups is the next step. The concept of learning in groups and working collaboratively with the number of members ranging from 4 to 6 people selected in a

heterogeneous way is called cooperative learning (Arhas, 2018). This learning is also a very demanding learning of student activity. Cooperative learning is a learning model that involves student participation in a small group to interact with each other (Fadliyani, 2016). Through this cooperative learning, students' concentration can last longer, because body movements and exchanging thoughts can make a person able to concentrate for quite a long time.

The final step is for students to make presentations, presentations are an activity of speaking in front of a crowd. Presentation is an activity of submitting a topic, opinion or information to other people (Trimastuti et al., 2021)" The presentation made by the 5th grade students of MI Mambaul Ulum was in front of their class mates and the results of discussions with their group mates were the material to be delivered.

If the four steps are mapped, they are part of the concept of the circuit learning learning model, namely at the apperception stage, they are part of creating a conducive and focused learning situation which is something that must be touched on in the circuit learning model. At the picture explanation stage is a phase where students are emphasized to be creative by giving small notes or conclusions to the teacher's explanation. The group formation stage is a question and answer session where students must have good concentration, which is a feature of the circuit learning model. Then students make presentations as part of the reflection on the lessons that have been completed.

From these four steps, it can be said that the concentration of students in class 5 MI Mambaul Ulum has increased. This is based on the results of the questions at the end of the semester which are quite different from the results of the midterm tests. Here's the graph:




Graph 1. Comparison of grade 5 students' grades in the Indonesian language subject

## CONCLUSION

From this explanation it can be understood that the application of the circuit learning model can increase the learning concentration of class 5 MI Mambaul Ulum students. The form of applying the circuit learning learning model at MI Mambaul Ulum is divided into 4 steps, namely apperception, visualization, group formation and discussion, presentations. Of the four steps then have an impact on the majority of student scores are better than the previous grades. The implication of this research is that student learning outcomes are getting better. This research is limited to the steps and forms of applying the circuit learning learning model in increasing student concentration. For this reason, further research is needed regarding the inhibiting or supporting factors in its implementation.

## REFERENCES

Aeniah, B. (2020). Meningkatkan Prestasi Belajar IPS Materi Mengenal Cara Menghadapi Bencana Alam Dengan Model Cooperative Tipe Circuit Learning Siswa Kelas VI Semester I SDN Batu Kembar Kecamatan Janapria Tahun Pelajaran 2015 / 2016. *Jurnal Ilmu Sosial Dan Pendidikan*, *4*(1), 222–229.

Anissuhada'. (2022). Penerapan Model Pembelajaran Teams Games Tournament dalam Meningkatkan Cara Berfikir Siswi. *Palapa: Jurnal Studi Keislaman Dan Ilmu Pendidikan*, *10*(1), 14–31.

Anwar, A. (2020). Identifikasi Tingkat Berpikir Geometri Siswa Berdasarkan Teori Van Hiele. *Jurnal Pendidikan Matematika : Judika Education*, *3*(2), 85–92.

Arhas, S. H. (2018). Metode Pembelajaran Black knight . Apa ? Mengapa ? dan Bagaimana ? *Jurnal Administrare: Jurnal Pemikiran Ilmiah Dan Pendidikan Administrasi Perkantoran*, *5*(2), 165–172.

Arifin, I. (1994). *Penelitian Kualitatif*. Kalimasada Press.

Astuti, D. Y. (2018). Upaya Peningkatan Hasil Belajar Ekonomi/ Akuntansi Dengan Pembelajaran Kooperatif Tipe Tps (Think Pair Share) Pada Kelas Xii Ips 2 Sma Negeri 1 Pasir Penyu Tahun Pelajaran 2013/ 2014. *Jurnal Pendidikan Tambusai*, *2*(6), 1890–1902.

Bikhurin'in, O., Husna, A., & Martanti, F. (2018). Upaya Meningkatkan Hasil Belajar IPS Melalui Model Pembelajaran Circuit Learning pada Siswa Kelas V. *MAGISTRA*, *9*(70), 88–103.

Ching, N. C., & Nasri, N. M. (2021). *Penggunaan Kaedah Visualisasi Dalam Pengajaran Dan Pembelajaran Perbendaharaan Kata Bahasa Inggeris ( Using Method Visualization in the Teaching and Learning of English Vocabulary )*. *3*(3), 444–449.

Ekasari, N. (2021). Penerapan Metode Circuit Learning Untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Pendidikan Indonesia*, *2*(2), 282–293.

Fadliyani. (2016). Perbedaan Kemampuan Berpikir Kritis Dan Kemampuan Berpikir Kreatif Matematika Siswa Dengan Menggunakan Model Pembelajaran Kontekstual Dan Pembelajaran Kooperatif Learning Tipe Numbered Heads Together Pada Kelas V Negeri 104607 Sei Rotan. *Jurnal Bina Gogik*, *3*(1), 15–24.

Khotimah, S. H., Sunaryati, T., & Suhartini, S. (2021). Penerapan Media Gambar Sebagai Upaya dalam Peningkatan Konsentrasi Belajar Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *5*(1), 676–685. https://doi.org/10.31004/obsesi.v5i1.683

Krissanthy, A., Kurniawan, F., & Resita, C. (2020). Hubungan Kebugaran Jasmani dengan Tingkat Konsentrasi Siswa di SMA 9 Bekasi. *Jurnal Literasi Olahraga*, *1*(1), 77–81.

Mustikasari, R., & Harida, R. (2020). Apersepsi Pembelajaran Melalui Stand-Up Comedy Untuk Meningkatkan Motivasi Belajar Mahasiswa Dengan Metode Ceramah Di Stkip Pgri Ponorogo. *Jurnal Pendidikan*, *21*(2), 111–121.

Muthoharoh, M. (2019). Media PowerPoint dalam Pembelajaran. *Tasyri'*, *2*(April), 21–32.

Nurmasyitha, & Hajrah. (2021). Apersepsi Guru Dalam Pembelajaran Bahasa Indonesia Di Youtube. *Indonesia: Jurnal Pembelajaran Bahasa Dan Sastra Indonesia*, *2*(1), 64–69.

Rahmah, A., & Hasibuan, A. F. (2019). Penerapan Model Circuit Learning dengan Metode Pembelajaran Drill untuk Meningkatkan Kemandirian dan Hasil Belajar Akuntansi. *Jurnal Akuntansi Dan Pembelajaran*, *8*(2), 60–91.

Riinawati. (2021). Hubungan Konsentrasi Belajar Siswa terhadap Prestasi Belajar Peserta Didik pada Masa Pandemi Covid-19 di Sekolah Dasar. *Edukatif : Jurnal Ilmu Pendidikan*, *3*(4), 2305–2312.

Ritawati, Sabli, M., & Pajrini, A. (2021). Meningkatkan Hasil Belajar Siswa Kelas Iv Pada Mata Pelajaran Ilmu Pengetahuan Alam Dengan Menggunakan Model Circuit Learning Di Madrasah Ibtidaiyah Nurul Huda Tanah Bekali. *El-Madib: Jurnal Pendidikan Dasar Islam*, *1*(2), 53–77.

Rozi, F., & Rahayu, S. (2022). Implementasi Media Gambar Ilustrasi Naturalis dalam Meningkatkan Konsentrasi Belajara anak. *Manazhim : Jurnal Manajemen Dan Ilmu Pendidikan*, *4*(2), 505–516.

Saifullah. (2022). Peningkatan Keterampilan Berbicara Melalui Pembelajaran Kontekstual Questioning Pada Siswa Kelas V Sdn Maniang Kecamatan Pulau Laut Tengah Kabupaten Kotabaru. *CENDEKIA: Jurnal Ilmiah Pendidikan*, *10*(1), 44–52. https://doi.org/10.33659/cip.v10i1.217

Shalahudin, Hidayah, & Fitri, A. (2021). Meningkatkan Hasil Belajar Siswa Melalui Model Pembelajaran Circuit Learning Pada Pembelajaran Tematik. *Al-Mafahim : Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, *4*(1), 23–29.

Trimastuti, W., Christinawati, S., H, Y. R., Setiatin, S., Vina, & Puspita, A. (2021). Public Speaking dan Teknik Presentasi dalam Menciptakan Pengajaran yang Menarik. *JURNAL PADMA Jurnal Pengabdian Kepada Masyarakat Politeknik Piksi Ganesha*, *01*(02), 1–14.

Utami, A. S. (2021). Peningkatan Efektivitas Pembelajaran Menulis Iklan Dengan Model Circuit Learning. *Dinamika : Jurnal Bahasa, Sastra, Pembelajarannya*, *4*(1), 16–25.

Vianingrum, Nirsal, & Ashari, N. W. (2021). Visualisasi Sarana Dan Prasarana Fakultas Teknik Komputer Universitas Cokroaminoto Palopo Berbasis 3d Sebagai Media Promosi. *Jurnal Ilmiah Information Technology d'Computare*, *11*(1), 27–35.

Wijayanti, W., & Efendi, M. (2021). Efektivitas Model Pakem dalam Meningkatkan Konsentrasi Belajar Anak Usia Dini. *Wisdom: Jurnal Pendidikan Anak Usia Dini*, *02*(01), 92–109.