



**ELEMENTARY** *Islamic Teacher Journal*

E-ISSN : 2503-0256 / ISSN : 2355-0155

Volume 9 Nomor 1 Januari - Juni 2021 (PP. 147-160)

DOI: 10.21043/elementary.v9i1.9867

Diakses di : <http://journal.iainkudus.ac.id/index.php/elementary>

## THE ANALYSIS OF NEEDS FOR INTEGRATED SCIENCE LEARNING TOOLS DEVELOPMENT FOR CHARACTER EDUCATION

**Irham Nugroho**

Universitas Muhammadiyah Magelang

*irham\_nugroho@ummgl.ac.id*

**Norma Dewi Shalikhah**

Universitas Muhammadiyah Magelang

*normadewi@ummgl.ac.id*

**Arif Wiyat Purnanto**

Universitas Muhammadiyah Magelang

*arifwiyat@ummgl.ac.id*

### Abstract

The direction of the development of science learning tools at this time still has not accommodated the students' character building in elementary school, both SD/MI (Islamic elementary school). This study aims to analyze the needs of developing science learning tools in elementary school. This study uses a qualitative descriptive approach. The data collection techniques are questionnaire, observation and interviews involving 63 elementary school teachers as respondents. This research produced three important findings. First, 57.1% of teachers prepare science learning tools. Second, 79.0% of teachers integrate the aspects of characteristics. Third, 58.7% of the teachers claimed that problem-based learning contributes to character education. For this reason, it is necessary to develop an integrated science learning media for character education to support teaching and learning activities in elementary schools.

**Keywords:** Learning Media, Science, Character Education.

### *Abstrak*

*Arah pengembangan perangkat pembelajaran sains saat ini masih belum banyak mengakomodir pembentukan karakter peserta didik SD/MI. Penelitian ini bertujuan untuk menganalisis kebutuhan pengembangan perangkat pembelajaran sains di SD/MI. penelitian ini menggunakan pendekatan diskriptif kualitatif. Pengumpulan data menggunakan teknik kuesioner, observasi, dan wawancara dengan melibatkan 63 guru SD/MI sebagai responden. Penelitian ini menghasilkan tiga temuan penting. Pertama, 57,1% guru menyiapkan perangkat pembelajaran sains. Kedua, 79.0% guru mengintegrasikan aspek-aspek karakteristik. Ketiga, 58,7% guru menyatakan pembelajaran berbasis masalah memberi kontribusi dalam pendidikan karakter. Untuk itu perlu dikembangkannya perangkat pembelajaran sains terintegrasi pendidikan karakter untuk mendukung kegiatan belajar mengajar (KBM) di SD/MI.*

**Kata Kunci:** *Perangkat Pembelajaran, Sains, Pendidikan Karakter.*

## **INTRODUCTION**

Science education and teaching in elementary school must be able to provide provisions for students to be able to keep up with the times (Nugraha, 2019). In science education, morals, values, ethics and character education cannot be taught as a separate curriculum (Chowdhury, 2018). Today there is a change in the learning paradigm which was originally teacher-centered learning orientation into student-centered. The approach that was originally more textual in nature turned into contextual. Environmental pedagogies that promote students understanding of integrated science (Hadi & Manurung, 2019). Therefore we need learning innovations that are able to develop and explore students' knowledge concretely and independently (Mannan, 2015). Learning by applying concepts in daily life will be more meaningful if delivered in a pleasant learning atmosphere (Minarti, Susilowati, & Indriyanti, 2012). As the times and technological developments, education always changes according to the situation. This is indicated by the continuing improvement of the education curriculum in Indonesia. The curriculum currently used is the 2013 Curriculum. This curriculum is recommended to be applied starting from the elementary level.

Through the curriculum: Use the ethically rich content of academic subjects (such as literature, history, and science) (Pala, 2011). As the times



and technological developments, education always changes according to the situation. This is indicated by the continuing improvement of the education curriculum in Indonesia. The curriculum currently used is the Curriculum of 2013. This curriculum is recommended to be applied starting from the elementary level. Regulation of the Minister of Education and Culture number 67 of 2013 is concerning the basic framework and structure of elementary schools curriculum. The 2013 curriculum is designed with the following characteristics; developing a balance of developing spiritual and social attitudes, curiosity, creativity, and collaboration with intellectual and psychomotor abilities (Kemendikbud, 2013). The insufficient upgrade / improvement of the quality of teachers in terms of pedagogical competence, suggests that teachers still often use conventional methods. Character traits are habits, tendencies, and desires for a concrete object and always appear repeatedly (Nikmah & Susilowati, 2020).

The values of character education are developed from four sources, namely: religion, Pancasila, culture, and national education goals. Based on the four sources of value, values that can be developed through character education are identified (Afandi, 2016). The negative effects of the development of science and technology and globalization today seem to be quite significant throughout the world, including in Indonesia. Lickona (1996) identified ten points of teen tendencies that appear in their daily behavior, namely: 1) the increase of teens rebellion, 2) the increase of dishonesty, 3) the decrease of respect for parents, teachers, and leaders, 4) the increase of mean and cruel peers, 5) the emergence of crime and robbery, 6) the use of indecent words, 7) the decrease in ethics and work ethic, 8) the increase in selfishness and the lack of sense of responsibility, 9) the emergence of a wave of deviant behavior, such as premature sexual behavior, drug abuse and suicidal behavior, and 10) the increase of ignorance of politeness, including the ignorance of morals as the basis of life, such as extorting, disrespecting the rules, and endangering themselves and others. Higher order thinking skills are closely related to thinking skills in accordance with the cognitive, affective, and psychomotor domains which are an integral part of the teaching and learning process (Mubarok, 2019). Therefore, character education needs to be augmented in intensity and quality in all lines and levels of education, through integration into all subjects in schools (Sadia, 2013). The development of character education for students must be applied seriously because strong personality and



character affect the future of the nation (Patimah, 2015). Character education is really needed by students, and it can be instilled through science learning, one of which is by using a contextual approach (Widiyatmoko, 2013).

The purposes of character education expected by the Ministry of National Education (now: Ministry of Education and Culture) are as follows: first, developing the potential of the hearts / conscience / affective of the students as human beings and citizens who have cultural values and national character; second, developing students' habits and behavior that are commendable and in line with the universal values and cultural traditions of the religious nation; third, instilling the students' spirit of leadership and responsibility as the nation next generation; fourth, developing students' abilities to become independent, creative, national-minded human beings; fifth, developing the school life environment as a learning environment that is safe, honest, full of creativity and friendship, as well as with a high sense of nationality and full dignity (Maunah, 2015). The character building of elementary school children can be done by instilling character values consistently either when they are in the family environment, school environment, or community environment. With this consistency, the expected character can be instilled well so that a good character is formed (Kurniawan, 2015). Planning, implementing, and evaluating progress towards the students' character become a benchmark for character education, so the contents, strategies, principles, and evaluation of the program of character education held in schools are needed to be considered (Ichsan, 2011).

At least through KTSP there have been efforts to build character (Mustaqim, 2015), however Characteristics in the curriculum of 2013 are in line with the nature of science according to Suastra (2009), which states that science has three components, namely the product, process and attitude. Science, as a product, has a meaning as a collection of facts, concepts, principles and laws about natural phenomena. Science, as a process, is a structured and systematic series carried out to discover concepts, principles, laws and natural phenomena. Science, as attitude, is expected to be able to shape character. The curriculum of 2013, in addition to prioritizing the importance of skills in knowledge, also optimizes learning in terms of developing character values (Rahayuningtyas et al., 2021). Based on the nature of science, it is clearly implied that what is desired in learning is how students are



able to behave and be able to show their character (Marjan, Arnyana, & Setiawan, 2014). Some components that can measure the success of the teaching and learning process of science are the quality variable of the teaching and learning process of science, students' attitudes towards science, students' interest in learning, and students' ability to solve science problems. Science is "knowledge gained through learning and proof" (Nugroho, 2016). Facts in the field show that in studying science, students tend to memorize concepts, theories, and principles without interpreting the acquisition process (Nugroho & Imron, 2019). One of the important points of an educational assignment is building students' character. Learning science will play a very important role in character building if it is through the integration of certain character values (Mustaqim, 2015). Character is an inner standard that is implemented in various forms of self-quality. Character development is not included as the subject matter, but is integrated in subjects, especially Natural Sciences, self-development and culture education unit (Azizi & Prasetyo, 2017). The evaluation system used by science teachers of MI (Islamic Elementary School) still uses a summative evaluation system that relies on the form of end-of-semester assessment, not based on assessment in the learning process. Due to the weaknesses in teaching strategies, and laboratory media applied by science teachers, and the process evaluation system that relies on authentic assessments as an alternative to minimizing existing weaknesses in science teachers.

In this research, the development and improvement of the intensity and quality of character education in schools through the integration of character education in the science learning process is carried out through the selection of concept maps, teaching materials, lesson plans, integration of Islamic values, learning media and evaluation. Teaching materials is one tool to deliver material in learning process (Ahsani et al., 2020). However, from various studies that have been carried out there are a number of things that have not been studied, one of which is the development of science learning tools that have not been adapted to the 2013 curriculum. Learning tool is said to be quality if it meets the quality aspects that are valid, practical, and effective (Irawati, 2016). Meanwhile, according to Laila's research, learning systems and devices are less supportive in implementing the integration of Islamic values with MI science material. Teachers tend to dichotomize general science and religious knowledge. There is no learning device that is specially prepared and designed to integrate



Islamic values with science MI subjects (Fajrin & Muqowim, 2020) There are nine models of science learning that are predicted to be able to develop and increase the intensity and quality of character education, namely 1) problem based learning models, 2) contextual learning models, 3) community science and technology learning models (STM), 4) learning cycle models, 5) problem solving models, 6) cooperative learning models, 7) inquiry learning models, 8) project-based learning models, and 9) portfolio-based learning models, while character education refers to eleven principles of character education developed (Sadia, 2013). The use of this approach or method is expected to be able to instill good character values, so that children not only know about good character (moral knowledge), but also are expected to be able to carry out (moral action) which is the main goal of character education (Munip 2017). This research specific aim is to analyze the need for developing integrated science teaching tools development for character education. For this reason, we believe that this research has a significant contribution in realizing science learning media in elementary school.

## **METHODS**

This research is a research and development designed with science learning model integrated with character education as the outcome target. The science learning model is structured to foster Islamic character and values as well as the achievement of students' competencies in the field of science, which is set forth in the form of learning tools that can be used by science teachers. In this case the focus is on the needs analysis study through field studies on elementary school/ MI (Islamic elementary school) in Magelang Regency.

A variety of information obtained through the needs analysis study is used as a reference for designing integrated character education learning tools. Then, this research will be developed through; 1) Expert test toward the science learning draft model / media produced, 2) Empirical test by practitioners (science teacher, science supervisor, and lecturer), 3) Test of model in limited scope (conducted at SD / MI in Magelang Regency). Current research is focused on analyzing needs through empirical studies relating to the learning tools prepared by the teacher in each science learning activity in SD / MI. Field findings in this study are used as a basis for designing scientific learning tools and models that contain Islamic characteristics to achieve competencies that reflect the character of good students.





This research involved 60 elementary schools in Magelang Regency. The collection of data used interview, observation, and questionnaire techniques. The data mining was carried out using questionnaires to determine the readiness of teachers before teaching, in terms of preparation of science learning tools, which include; concept maps, teaching materials, lesson plans, integration of Islamic values, learning media and evaluation, as well as aspects of the characteristics and models of science learning that have been used by teachers in science learning. The data obtained were analyzed descriptively and given a qualitative meaning.

## **RESULTS AND DISCUSSION**

### **a) Aspects of Learning Tools Integrated and Developed in Science Learning**

This study shows the findings that the implementation of character education can be done through the development of learning tools that include the selection of; concept maps, teaching materials, lesson plans, integration of Islamic values, learning media, and evaluations / questions. All SD / MI teacher respondents stated that the learning tools prepared were not fully integrated and developed in science learning. This is indicated by less than 50% of teachers prepare concept maps, lesson plans and learning media that are presented in table 1.

In the indicator of learning tools, the aspect of map concept shows that only 36.5% of teachers who conclude each learning activity using concept maps. This certainly has a significant effect on students' understanding of the material learned in each meeting. Apart from that the continuing impact is on the implementation of character in everyday life. Therefore, the preparation of learning media conducted by researchers emphasizes on the concept map. In the lesson plans aspect, only 41.3% of teachers evaluate the lesson plans that have been used. This results in monotonous teaching and learning activities and the lack of science and technology updates in teaching and learning activities. In the aspect of learning media, indicators of preparing new learning media show 47.6% of teachers prepare learning media, and 44.4% of teachers evaluate learning media that had been used.



Due to these problems, the readiness of teachers in the preparation of learning tools is considered has not met the six aspects of the learning tools readiness standards. This becomes the focus of the development of learning tools that will be carried out by researchers, considering the duties and obligations of elementary schools educators that are not only to teach, but also to prepare administration. Therefore learning tool is interesting to be presented as a reference for the implementation of teaching and learning activities in elementary schools.

**Table 1. Aspects of Learning Tools Integrated and Developed in Science Learning (Teachers' Perception)**

Number	Learning Tool	Percentage
<b>A. Concept Map</b>		
1	Preparing Concept Map before teaching	42,9%
2	Explaining the Concept Map in the beginning of teaching.	52,4%
3	Concluding each learning activity using Concept Map.	36,5%
<b>B. Teaching Material</b>		
1	Preparing teaching materials before teaching-learning activity	81,0%
2	Reviewing teaching materials that will be used for teaching-learning activity.	68,3%
3	Updating sources / references used to make teaching materials.	54,0%
<b>C. Lesson Plans</b>		
1	Preparing lesson plans before conducting teaching-learning activity	55,6%
2	Conducting teaching-learning activity based on lesson plans.	57,1%
3	Evaluating the lesson plans that have been used	41,3%
<b>D. Integration of Islamic Values</b>		
1	Preparing Islamic values that will be integrated in teaching-learning activity.	71,4%
2	Integrating Islamic values in the making of lesson plans	55,6%
3	Delivering Islamic values in the teaching-learning activity	81,0%
<b>E. Learning Media</b>		
1	Preparing learning media before teaching learning activity	47,6%
2	Using learning media when teaching.	52,4%





3	Evaluating the learning media that have been used	44,4%
<b>F. Evaluation/Exercises</b>		
1	Preparing evaluation/exercise in every teaching-learning activity	82,5%
2	Analyzing the evaluations/exercises in every teaching-learning activity	52,4%
3	Analyzing the achievement of evaluation / exercise that have been done by students	52,4%

### **b) Aspects of Character integrated and developed in Science Learning**

According to the perception of science teachers, aspects of character that can be integrated into science learning in Table 2, that present the results of the aspects of character that are integrated and developed in science learning that have been carried out by the teacher, shows two indicators namely responsibility and honesty, where 87.3% of the teachers emphasize these aspects of character. From twenty aspects of character, the aspect of the value of democracy shows 49.2% of teachers who integrate value of democracy. This is interesting to follow up with the development of science learning tools emphasizing on the character of democratic values because it is in line with the nature of science, namely science as a product, process, and attitude. Science as a process is the emphasizing point to bring out the characteristics of democratic values. Character can increase students' honesty (Ahsani et al., 2021).

**Table 2. Aspects of Character integrated and developed in Science Learning (Teachers' Perception)**

Number	Indicators	Percentage
1	Respect for themselves and others	79,4%
2	Responsibility	87,3%
3	Honesty	87,3%
4	Openness	74,6%
5	Tolerance	85,7%
6	Sincere helpfulness	84,1%
7	Self-Discipline	77,8%
8	Cooperation	81,0%
9	Democratic Values	49,2%
10	Carefulness	81,0%
11	Integrity	71,4%



12	Empathy	76,2%
13	Confidence	84,1%
14	Obedience to rules /social norms	84,1%
15	Religiosity	84,1%
16	Independence	77,8%
17	Logical, critical, creative, innovative thinking	60,3%
18	Respect to diversity	85,7%
19	Hard work	84,1%
20	Social and environmental care	84,1%

### c) Science Learning Models that Contribute to The Development of Students' Characters

The model of science learning that is perceived and predicted to contribute to the development of character education is presented in Table 3 below. The science learning model that shows a significant contribution to the development of student character is shown in the problem based learning model, which is 58.7% of the teachers stating their contribution is significant. This has become the reference in the development of learning tools carried out by researchers to integrate problem-based learning models as the main reference.

From the nine science learning models, the biggest contribution is on problem-based learning, which is 58.7%. While the lowest contribution is on the learning model of community science and technology and learning cycle model, which is 15.9%, as the result of the elementary schools teachers that do not understand the characteristics of the model. Therefore, the reference in the development of science learning models will optimize the nine science learning models integrated in the learning media that will be developed because science as a process is closely related to the learning model that will be implemented so that science as an attitude is translated through the students' character in addressing contextual issues in the field. Character education integrated into the school community is a strategy to help re-engage our students, deal with conflict (Otten, 2000).



**Table. 3 Science Learning Models that Contribute to The Development of Students' Characters**

Number	Science Learning Models	Percentage
1	Problem based learning	58,7%
2	Contextual teaching and learning	54,0%
3	Learning cycle model	15,9%
4	Portfolio based learning	52,4%
5	Learning model of community science and technology	15,9%
6	Problem solving learning	57,1%
7	Cooperative learning	52,4%
8	Inquiry based learning	31,7%
9	Project based learning	49,2%

Based on I Wayan Sadia's research on character education models that are integrated with science learning, 39.3% of the learning models that contribute are problem-based learning models. This means that there are significant differences in the contribution of science learning that occurs. This is due to the fact that science teachers have not yet fulfilled a good understanding of the characteristics of problem-based learning models. Meanwhile, the problem based science learning model in this study shows the percentage of 58.7%, which means that the teachers have good understandings of the characteristics of the problem based learning model.

## CONCLUSION

The development of science learning models can be done through the complete set of learning tools which include concept maps, teaching materials, lesson plans, integration of Islamic values, learning media, and evaluation of practice questions, as well as through the selection of models or learning strategies. Characters that can be integrated and developed in science learning include responsibility, honesty, tolerance, and respect for diversity. The duties and obligations of elementary schools teachers in addition to teaching are expected to be able to prepare learning tools. For this reason, based on the needs analysis that has been carried out, it is necessary to develop an integrated science learning tool for character education to support the main tasks and functions of teachers in teaching and learning activities in elementary schools, both SD/MI. Therefore, this paper opens new research opportunities in education field regarding the development of character-based science learning tools in SD/MI.



## REFERENCES

- Ahsani, E. L. F., Ni'mah, N., Rifqiyani, L., Rahmawati, P., & Auliya, R. (2021). Peran Guru Dalam Mempertahankan Budaya Indonesia Untuk Membentuk Karakter Siswa di Sekolah Indonesia Kuala Lumpur (SIKL). *Eduscience : Jurnal Ilmu Pendidikan*, 6(2), 71-77.
- Ahsani, E. L. F., Rusilowati, A., & Anni, C. T. (2020). The Development of Integrated Science Teaching Materials Based on the Science Literacy of Fifth Graders. *1st ICONECT International Conference Education, Culture and Technology*, Query date: 2020-08-14 14:24:03, 65-71.
- Afandi, M. (2016). Character Education Investment in SD/MI. *Elementary Journal*, July, 2(2).
- Azizi, M., & Prasetyo, S. (2017). Kontribusi Pengembangan Media Komik IPA Bermuatan Karakter Pada Materi Sumber Daya Alam untuk Siswa MI/SD. *Al-Bidayah: Jurnal Pendidikan Dasar Islam*, 9(2), 185-194.
- Chowdhury, M. (2018). Emphasizing morals, values, ethics, and character education in science education and science teaching. *MOJES: Malaysian Online Journal of Educational Sciences*, 4(2), 1-16.
- Fajrin, L., & Muqowim. (2020). Problematika Pengintegrasian Nilai-Nilai Keislaman pada Pembelajaran IPA di MI Miftahul Huda Jepara. *Elementary*, 8(2), 295-312.
- Hadi, K., & Manurung, B. (2019). The Effect of Teaching Materials Based on Local Value Integrated by Character Education through PBL Models on Students' High Order Thinking Skill. *Britain International of Humanities and Social Sciences (BioHS) Journal*, 1(2), 213-223.
- Ichsan, I. (2011). Menata Kembali Pendidikan Karakter di Sekolah. *Al-Bidayah: Jurnal Pendidikan Dasar Islam*, 3(2).
- Irawati, F. (2016). Pengembangan Perangkat Pembelajaran Dengan Pendekatan Berpikir Matematis Rigorous (RMT) Pada Materi Bangun Ruang di Kelas VIII D SMP Nusantara Krian. *Jurnal Pendidikan Matematika STKIP PGRI Sidoarjo*, 4(1), 9-16.
- Kemendikbud. (2013). *Salinan Lampiran Peraturan Menteri Pendidikan dan Kebudayaan Nomor 67 Tahun 2013 Tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Dasar/Madrasah Ibtidaiyah*. (2013), 1-135.



- Kurniawan, M. I. (2015). Tri pusat pendidikan sebagai sarana pendidikan karakter anak sekolah dasar. *PEDAGOGIA: Jurnal Pendidikan*, 4(1), 41–49.
- Mannan, M. N. (2015). Pengembangan perangkat pembelajaran berbasis kearifan lokal untuk mengembangkan karakter positif siswa SD. *Jurnal Inovasi dan Pembelajaran Fisika*, 2(2), 141–146.
- Marjan, J., Arnyana, I. B. P., & Setiawan, I. G. a N. (2014). Pengaruh Pembelajaran Pendekatan Saintifik Terhadap Hasil Belajar Biologi dan Keterampilan Proses Sains Siswa MA Mu ' allimat NW Pancor Selong Kabupaten Lombok Timur Nusa Tenggara Barat. *Jurnal Pendidikan IPA*, 4(1), 1–12. Diambil dari [http://pasca.undiksha.ac.id/e-journal/index.php/jurnal\\_ipa/article/view/1316/1017](http://pasca.undiksha.ac.id/e-journal/index.php/jurnal_ipa/article/view/1316/1017)
- Maunah, B. (2015). Implementasi pendidikan karakter dalam pembentukan kepribadian holistik siswa. *Jurnal Pendidikan Karakter*, (1).
- Minarti, I. B., Susilowati, S. M. E., & Indriyanti, D. R. (2012). Pengembangan Perangkat Pembelajaran Ipa Terpadu Bervisi Sets Berbasis Edutainment pada Tema Pencernaan. *Journal of Innovative Science Education*, 1(2).
- Mubarok, H. (2019). High Order Thinking Skill dalam Pembentukan Karakter Siswa Sekolah Dasar di Era Industri 4.0. *ELEMENTARY: Islamic Teacher Journal*, 7(2), 215–230.
- Munip, A. (2017). Strategi Guru Kelas dalam Menumbuhkan Nilai-Nilai Karakter Pada Siswa SD. *Al Ibtida: Jurnal Pendidikan Guru MI*, 4, 45–60.
- Mustaqim, M. (2015). Model Pendidikan Karakter Terintegrasi pada Pembelajaran di Pendidikan Dasar. *Elementary*, 3(1).
- Nikmah, A., & Susilowati, R. (2020). PEMBENTUKAN KARAKTER MELALUI MEMBACA “NARRATIVE TEXT” DALAM PEMBELAJARAN BAHASA INGGRIS DI MI SALAFIYAH KAJEN PATI. *ELEMENTARY: Islamic Teacher Journal*, 8(1), 121–138.
- Nugraha, I. (2019). Fun Chemistry for Kids : Upaya Peningkatan Minat Belajar Sains bagi Siswa Kelas 2 SD Muhammadiyah Sapen melalui Percobaan Sains Sederhana dengan menggunakan Alat Bekas Pakai dan Bahan sehari-hari. *Jurnal Bakti Saintek*, 3(1), 31–38. <https://doi.org/10.14421/jbs.1367>



- Nugroho, I. (2016). Positivisme Auguste Comte: Analisa Epistemologis dan Nilai Etisnya Terhadap Sains. *Cakrawala: Jurnal Studi Islam*, 11(2), 167-177.
- Nugroho, I., & Imron, I. (2019). Implementasi Model Problem Based Learning (PBL) Pada Keterampilan Proses dan Karakter Islami Peserta Didik Dalam Pembelajaran Sains di Madrasah Ibtidaiyah. *AULADUNA: Jurnal Pendidikan Dasar Islam*, 6(2), 130-137.
- Otten, E. H. (2000). *Character Education. ERIC Digest*.
- Pala, A. (2011). The Need for Character Education. *International Journal of Social Sciences and Humanity Studies*, 3(2), 23-32.
- Patimah, P. (2015). Pendidikan Karakter di Madrasah Ibtidaiyah. *Al Ibtida: Jurnal Pendidikan Guru MI*, 2(1).
- Rahayuningtyas, D. R., Rizqi, P. A., Putri, R. F. M., Sawwama, A., & Ahsani, E. L. F. (2021). Peran Guru Dalam Mempertahankan Cultural Heritage Indonesia Dalam Membentuk Karakter Siswa di Sekolah Indonesia Kuala Lumpur. *PENSA : Jurnal Pendidikan Dan Ilmu Sosial*, 3(April), 27-37. <https://doi.org/https://doi.org/10.36088/pensa.v3i1.1126>
- Sadia, W. (2013). Model pendidikan karakter terintegrasi pembelajaran sains. *JPI (Jurnal Pendidikan Indonesia)*, 2(2).
- Widiyatmoko, A. (2013). Pengembangan Perangkat Pembelajaran IPA Terpadu Berkarakter Menggunakan Pendekatan Humanistik Berbantu Alat Peraga Murah. *Jurnal Pendidikan IPA Indonesia*, 2(1).

