

Strategy of teachers in suporting environmentally sustainable development

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ABSTRACT

This study aims to find out: 1) strategy of teachers in instilling character caring for the environment; 2) successful instilling character caring for the environment; 3) supporting and inhibiting factors for instilling character caring for the environment. The research used in this study is qualitative research. The research subjects were headmaster, deputy headmaster, teachers, and students. Determination of the subject of the study was carried out by purposive sampling technique. The technique of data collection is done by using interview, observation and documentation methods. The type of data analysis uses the Miles & Huberman model, namely reduction, data display, and conclusion/data verification. 1) Strategy of teachers in instilling character through materials, methods, and implementation of tasks; 2) Successful instilling character attention can be seen from students who have been able to find answers to the assignments given by the teacher which make the students increase. 3) Supporting factors character development are teachers being role models, able to move other teachers to continue to accompany activities, teachers always appeal, teachers integrate the concept of environmental care in the RPP, syllabus and teaching and learning process. While the inhibiting factor of student character involvement is in the students themselves.

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1. INTRODUCTION

Education for sustainable development is very important for all nations (the world) and cannot be delayed anymore. Every nation has a responsibility to make efforts to raise awareness and build a national community that supports sustainable development [1]. Education for sustainable development (ESD) or also called continuing education for certain countries is a key concept of education in the new millennium.

Sustainable development can be achieved through education, because education is a means to change perceptions, attitudes and human behavior [2]. The Johannesburg 2002 Summit, expanded the vision of sustainable development and reaffirmed the educational goals in the Millennium Development Goals and Education for All, which was initiated in the Dakar frame work for action and proposed a decade of education for sustainable development (DESD) [3]. In the 57th session of the United Nations in 2002, the United Nations declared the period 2005-2014 as the DESD. UNESCO was appointed to guide this decade in order to play a key role in developing quality standards in education for sustainable development [4].

Indonesia responds positively to decades of educational discourse for sustainable development (Decade of Education for Sustainable Development/DESD) [5]. The Ministry of National Education places

education for sustainable development (Education for Sustainable Development) as one of the educational paradigms in Indonesia [6], namely education produces a noble human being who is a blessing for the universe. Humans like that meet their needs by paying attention to the needs of the present generation and future generations (intergenerational sustainability) [7]. This paradigm invites people to think about the sustainability of the planet and the sustainability of the entire universe [8]. Education must foster an understanding of the importance of ecosystem sustainability and balance [9], namely the understanding that humans are part of the ecosystem [10].

Education in Indonesia should be carried out consciously, intentionally, regularly and planned with the intention of changing or developing the desired behavior in order to always support the vision of continuing education development [11]. These behaviors include self-control [12]. But the tendency of the phenomenon that occurs, among others, is the existence of moral values, social ethics, and exemplary (attitudes and behaviors) among school educators and managers about virtues among educators who are not good to be modeled, such as referring social behavior on morality [13].

The path of any education whether formal, informal or informal is very influential in human life. As stated in the educational objectives according to the National Education System Law Number 20 of 2003 Article 1 Paragraph (1) as follows: "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have power spiritual, religious, self-control, personality, intelligence, noble character, and skills needed by him, and society, nation and state" [14]. Departing from this, formally efforts to prepare conditions, facilities/infrastructure, educational activities, and curriculum that lead to the formation of character and character of the young generation of the nation has a strong juridical foundation [15]. However, the signal was only realized when there was a crisis of character and character that hit all levels of society, not least also in school-age children, especially students at Muhammadiyah Vocational School Pakem. Based on the results of the interview on Monday, October 15, 2018, it is known that the problem at Muhammadiyah Vocational School is the lack of maximum commitment of students because there are still students who are late collecting assignments and homework on time, there are still students who skipped and cheated jobs friend or imitate the textbook when the exam is held. To prevent a more severe crisis of character and character, such as acting fraudulently above as if it were an everyday occurrence [16], these efforts are now being initiated through character education.

In the context of formal education [17], especially at the level of secondary education the term character education appears or which is often known as character education. Character education is given gradually and continuously so that what has been given through this character education will still be inherent and always instilled so that the future hope of the nation can be realized. Character education facilitates, develops, coordinates, and strengthens the character of students to be in accordance with graduate competency standards (SKL) which leads to the philosophy of Pancasila and supports the vision of sustainable education development [18]. Character education is also included in the material that must be taught and mastered and realized by students in everyday life. The problem is, character education in schools is not maximal at the level of internalization and real actions in the lives of students in daily life [19]. In this framework the need for change and curriculum development begins with structuring the four main elements of national standards [20], namely graduate competency standards (SKL), content standards, process standards, and educational assessment standards [21].

To shape the character of caring for the environment in schools, attention from various parties is needed, both by the government, society, family and schools, especially teachers. The teacher holds a key role in realizing environmental care character education [22]. The role of teachers in developing character education caring for the environment in schools is crucial [23]. Therefore, the teacher must take strategic steps in instilling character care for the environment. The teacher's strategy in instilling the character of environmental care in students can be done in a way, namely environmental literacy, integration of learning material with the concept of character caring for the environment, using learning methods that support the planting of character of environmental care and assignment that supports the planting of character-care environment [24].

Once the importance of the character of environmental care for someone so that the formation of the character of environmental care must be done as early as possible to form a strong foundation [25] of character [26], virtuous and noble heart [27]. The formation of character caring for the environment can be interpreted as forming a sensitive personality, feeling of belonging and loving other individuals around who in the process of formation are influenced by family, school and society [28]. School is a strategic place in shaping the character of students so that students will have a personality that has a sense of sensitivity to other individuals in the surrounding environment [29]. Therefore, steps are needed to cultivate environmentally caring characters [30].

Based on the description above, the researcher wanted to do a deeper analysis study of the Teacher's Strategy in Instilling Environmental Care Characters of Students at Muhammadiyah Vocational School Pakem. The research problem formulations are: 1) What is the teacher's strategy in instilling the character of environmental care? 2) How is the success of planting character caring for the environment? 3) How are the supporting and inhibiting factors for character building caring for the environment?

2. RESEARCH METHOD

The research approach used in this study is a qualitative approach. The reason for using this method is because they want to understand and describe the teacher's strategy in instilling the character of the caring environment of students in Muhammadiyah Vocational School Pakem. In this study, the subjects of the study were principals, deputy principals in the curriculum, teachers and students. From the subject of this research, it is expected to obtain complete data on the teacher's strategy in instilling the character of the caring environment of students at Muhammadiyah Vocational School Pakem. Determination of the subject of the study was carried out by purposive sampling technique. According to Sugiyono [31] purposive sampling, namely the technique of sampling data sources with certain considerations. This particular consideration, for example, the person who is considered to know the best about what we expect, or maybe he is the ruler so that it will be easier for researchers to explore the object / social situation under study.

Data collection techniques are carried out by using interview, observation and documentation methods. First, in-depth interviews guided by interview guides and non-structural. The interview is the primary data in this study. The interview was intended to obtain data by asking questions about everything to the informant about the teacher's strategy in instilling the character of the caring environment of students in Muhammadiyah Vocational School Pakem. Informants interviewed were principals, deputy principals in the curriculum, teachers and students. Second, observation. Observations were made to obtain information about the teacher's strategy in instilling the character of the environment care of students in Muhammadiyah Vocational School Pakem. Observations made are formal and informal. Third, the method of documentation. The documents studied are texts and photos of the activities of the Muhammadiyah Pakem Vocational School teachers. The texts are in the form of school profiles and other notes relating to the teacher. While the photo and recording documents provide visual information about the practical activities of the Muhammadiyah Pakem Vocational School teachers.

In this study the type of data analysis uses the Miles and Huberman models, namely the activities in qualitative data analysis are carried out interactively and take place continuously until complete so that the data is saturated. Activities in data analysis, namely data reduction, data display, and data conclusion drawing/verification. Three main activities are interrelated and carried out simultaneously, namely data reduction, displaying data and completing conclusions or verifying data, namely as follows [31]:

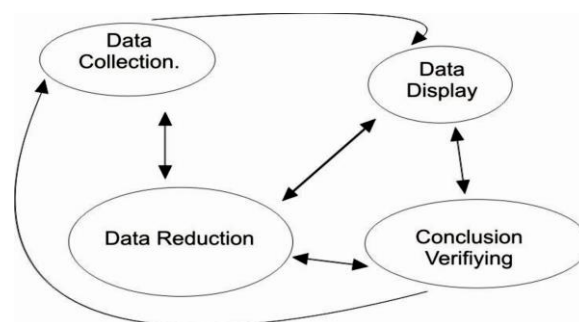


Figure 1. Technique of data analysis in the model of Miles and Huberman

3. RESULTS AND ANALYSIS

SMK Muhammadiyah Pakem [32] is a Vocational High School in the Pakembinangun - Pakem Sleman sub-district which was established in 1954 with the Establishment Decree dated August 5, 1986 and Operational License Decree 0272 / II / 1986 and now accredited A. The Muhammadiyah Pakem Vocational School is addressed at Jalan Turi - Pakem KM 0.5 Pakembinangun Pakem Sleman, Tel. (0274) 895178, e-mail stm_muhpakem@yahoo.co.id, has an ownership land area of 3355 m2 and an area of land not owned has 5364 m2.

SMK Muhammadiyah Pakem is an educational institution that is at the Vocational School level with an emphasis on industrial and environmental based schools, which facilitates work practices for vocational students and apprenticeship for teachers according to expertise programs, provides instructors as work practice advisers and internships, and issues certificates for students Vocational School and teacher. Muhammadiyah Pakem Vocational School is a target school of PT. Astra Daihatsu Motor and PT. Astra Honda Motor. Muhammadiyah Pakem Vocational School is a vocational high school that is included in the Engineering/Technology field/group. In accordance with its field, Muhammadiyah Pakem Vocational School has 5 Expertise Programs/Departments which have accredited A status, namely Building Information and Modeling Design, Automotive Light Vehicle Engineering, Business and Motorcycle Engineering, Islamic Banking and Software Engineering.

On July 2, 2013 SMK Muhammadiyah Pakem received an ISO certificate from PT. TUV Rheinland Indonesia. Based on Government Regulation No. 19 of 2005 concerning National Education standards (SNP) Article 2 paragraph 1 stated that: the scope of National Education standards that must be fulfilled and developed by schools includes eight standards, namely content standards, process standards, graduation standards, infrastructure standards, education standards, education personnel standards, management standards, assessment standards, and standardization. As a new school with ISO 9001: 2008 quality management standards, SMK Muhammadiyah Pakem has interesting tasks and challenges to realize these eight national standards. The acceptance of the ISO Certificate is evidence of the quality of the SMK Muhammadiyah Pakem so that the entire family of Muhammadiyah Vocational School Pakem is not complacent and complacent. The submission of this ISO certificate also has consequences for the SMK Muhammadiyah Pakem, namely continuing to maintain its quality consistency, both in the system and the learning process and in governance as a school organization.

The vision of the SMK Muhammadiyah Pakem is: "Printing skilled workers who are devoted, cultured and environmentally friendly". The mission of the SMK Muhammadiyah Pakem, namely: a) Optimizing the use of practical facilities and infrastructure; b) Professionalizing teachers and employees; c) Creating a competitive and Islamic learning system; d) Creating disaster buffer schools through disaster mitigation learning; e) Growing environmental and disaster responsive activities; f) Collaborating with DUDI, Universities and related institutions to realize HR development, curriculum, internship, teacher internships and graduate marketing; g) Familiarize and give good examples in accordance with Javanese cultural customs, nationality and care for the environment.

3.1. Strategy of teachers in instilling characters caring for the environment

Based on the results of research obtained by researchers, teachers at SMK Muhammadiyah Pakem can continue to develop their PLH pedagogy because it is supported by schools that always bridge teachers to attend seminars, workshops, training, socialization, technical training, workshops. The teacher can also update the PLH pedagogy by searching various sources on the internet. Not only that, teachers at Muhammadiyah Pakem Vocational High School always exchange information when they are attending regular meetings or just chatting with fellow teachers. The next way is to ask questions raised by students, so that the teacher can develop with what is asked.

Teachers at SMK Muhammadiyah Pakem to instill the character of care for the environment of students through learning materials is by integrating learning materials with the concept of caring for the environment. Previously the teacher first put the integration into the syllabus and lesson plan. Then after it is poured into the syllabus and lesson plan, the teacher in explaining the learning material is integrated with the character concept of environmental care, either by using questions or using feedback.

Teachers of SMK Muhammadiyah Pakem in instilling the character of environmental care through learning methods in the classroom is the teacher adjusting the learning method to the needs of the teacher and the material to be taught. Here the teacher is also more careful in determining the method to be used.

Teachers of SMK Muhammadiyah Pakem to inculcate the character of environmental care through assigning assignments is by giving group assignments and individual assignments. The assignment is done after the teacher has finished explaining the material and direction in the learning process, then the teacher divides the students into small groups to complete group assignments. After learning, the teacher gives homework to students. Students exchange opinions with their peers to find answers to questions that are in their assignments. Based on the results of the research described above, we will see more clearly in Table 1 below, which is as follows:

Table 1. Strategy of teachers in instilling characters caring for the environment of students at SMK Muhammadiyah Pakem

No	Component	Information
1.	Teacher's Pedagogy	The teacher's strategy in instilling the character of the students' environmental care through classroom learning is that teachers at Muhammadiyah Pakem Vocational School can continue to develop their PLH pedagogy because it is supported by schools that always bridge teachers to attend seminars, workshops, training, socialization, bimtek, workshop. The teacher can also update the PLH pedagogy by searching various sources on the internet. Not only that, teachers at Muhammadiyah Pakem Vocational School always exchange information when they are attending regular meetings or just chatting with fellow teachers. The next way is to ask questions raised by students, so that the teacher can develop with what is asked.
2.	Learning Materials	The strategy that is carried out by the teacher to instill the character of caring for the environment of students through learning material is by integrating learning material with the concept of character caring for the environment. Previously the teacher first put the integration into the syllabus and lesson plan. Then after pouring into the syllabus and lesson plan, the teacher in explaining the learning material integrates it with the concept of caring for the environment, either by using questions or using feedback.
3.	Learning Methods	The strategy carried out by the teacher in instilling the character of caring for the environment through classroom learning methods is that the teacher adjusts the learning method to the teacher's needs and the material to be taught. Here the teacher is also more careful in determining the method to be used.
4.	Giving Assignments	The strategy undertaken by the teacher to instill the character of environmental care through assignment is by giving group assignments and individual assignments. The assignment is done after the teacher has finished explaining the material and direction in the learning process, then the teacher divides the students into small groups to complete group assignments. After learning, the teacher gives homework to students. Students exchange opinions with their peers to find answers to questions that are in their assignments.

Teacher PLH pedagogy at SMK Muhammadiyah Pakem has activities, namely a process that is designed or realized by teachers that is sustainable (does not stop at current conditions only) and aims to improve students' learning abilities so that their behavior, knowledge and practices in daily life -day has changed for the better, especially in terms of protecting the environment. After choosing material that is in accordance with the environmental concept, teachers at SMK Muhammadiyah Pakem involve the thinking of students in the material by reviewing the facts of the material in the form of cases, analyzing existing ethical issues and formulating their moral thoughts and assignments. These activities are very useful because the teacher incorporates student activities by integrating environmental concepts that have an impact on students' understanding of which activities can support environmental sustainability around them.

3.2. Successful instilling character caring for the environment

Based on the results of research obtained by researchers that there is a successful planting of character care about the environment of students through the teacher in learning in the classroom by teaching material that is integrated in the concept of character caring for the environment and giving assignments to students indirectly making active students find answers to assignments the tasks that the teacher gives so that the participants' knowledge increases. Not only that, participants will also be active in class and outside the classroom, such as doing assignments in the lab or in the library. Providing assignments regarding environmental care can be applied in all subjects so that it will help support the cultivation of character of environmental care for students, especially aware of the importance of preserving nature for the sustainability of life. Based on the results of the research described above, we will see more clearly in Table 2 below, which is as follows:

Table 2. The successful of instilling characters caring for the environment of students at SMK Muhammadiyah Pakem through the teacher in classroom learning

No	Component	Information
1.	Teacher's Pedagogy	Students help increase teacher knowledge through the questions in class
2.	Learning Materials	Students know various concepts of caring for the environment that have something to do with the various materials taught by the teacher
3.	Learning Methods	Students are able to combine learning methods with the character concept of caring for the environment, such as discussions where the material is shared in the WA group class (no need to spend a lot of paper)
4.	Giving Assignments	Students collect assignments via email Students collect assignments on used/opaque paper

Teaching techniques and assigning assignments by teachers at SMK Muhammadiyah Pakem have the aim that students produce more stable learning outcomes, because students carry out exercises during the task, so that the experience of students in learning something becomes more integrated.

3.3. Supporting factors and obstacles factors in instilling characters caring for the environment

Based on the results of research obtained by researchers who are the supporting factors for success in instilling the character of care for the students' environment is in the daily lives and behavior of principals, teachers and staff. Whereas the factors that inhibit success in instilling the character of caring for the environment of the students are the students themselves. Students realize but have not done so. Learners are aware that this is not appropriate but students still do it. Based on the results of the research described above, we will see more clearly in Table 3 below, which is as follows:

Table 3. Supporting factors and inhibiting factors for instilling character caring for the environment of students at SMK Muhammadiyah Pakem

No	Component	Information
1.	Supporting Factors	The supporting factors success in instilling the character of caring for students are daily life and the principal, teacher and staff always accompany each student's activities, both at school and outside of school.
2.	Inhibiting Factors	The inhibiting factor in instilling the character of environmental care in students is the students themselves. Students realize but have not done so. Learners are aware that this is not appropriate but students still do it.

All components in the SMK Muhammadiyah Pakem work together to make environmental sustainability successful through education despite obstacles to their students. But the principal and his teacher and staff are never bored to remind all of their activities to combine with the concept of the environment which is then slow the sea has a change in the learners themselves.

4. CONCLUSION

Based on the results of the research and discussion above, it can be concluded, first, the teacher's strategy in instilling the character of the students' environmental care in classroom learning by the way the teacher always develops PLH pedagogy which is also supported by the school that always bridges teachers to attend seminars, workshops, training, socialization, technical training and workshops. The teacher can also update the PLH pedagogy by searching various sources on the internet. Not only that, teachers at SMK Muhammadiyah Pakem always exchange information when they are attending regular meetings or just chatting with fellow teachers. The teacher's next way is to ask questions raised by students, so that the teacher can develop with what is asked. Teachers at the SMK Muhammadiyah Pakem integrate learning material with the concept of caring for the environment. Previously the teacher first put the integration into the syllabus and lesson plan. SMK Muhammadiyah Pakem in instilling the character of caring for the environment through classroom learning methods is the teacher adjusting the learning method to the needs of the teacher and the material to be taught. Here the teacher is also more careful in determining the method to be used. Teachers of SMK Muhammadiyah Pakem to inculcate the character of environmental care through assigning assignments is by giving group assignments and individual assignments. The assignment is done after the teacher has finished explaining the material and direction in the learning process, then the teacher divides the students into small groups to complete group assignments. After learning, the teacher gives homework to students. Students exchange opinions with their peers to find answers to questions that are in their assignments. Second, that there is a successful planting of character care about the environment of students through the teacher that students actively seek answers and news that have to do with environmental concerns. Third, what is a supporting factor for success in instilling the character of caring for the students is in the daily lives and behavior of principals, teachers and staff. Whereas the factors that inhibit success in instilling the character of caring for the environment of the students are the students themselves. Students realize but have not done so. Learners are aware that this is not appropriate but students still do it.

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REFERENCES

- [1] Afandi, R., "Integration of environmental education through social studies learning in alternative primary schools creating green schools," *Pedagogia Journal*, vol. 2, no. 1, pp. 98-108, 2013.
- [2] Arifin, B., *Strategy and policy for learning character education*, Yogyakarta: Ar-Ruzz Media, 2012.
- [3] Astuti, F., Implementation of adiwiyata policy in efforts to realize environmental education in high schools in malang city high school, *Journal of Education Policy and Development*, vol. 3, no. 8, pp. 1-9, 2015.
- [4] Balthasar Kambuaya, d., E-book: Adiwiyata Guide for Caring and Environmentally Friendly Schools, Oct 2011, [Online]. Available: menlh.go.id/information-regarding-adiwiyata: <http://www.menlh.go.id/information-regarding-adiwiyata>, [Accessed May 27, 2018].
- [5] Lickona, T., *Education for Character: Educating to Form Character (How Schools Can Teach Attitudes of Respect and Responsibility)*, Jakarta: Bumi Aksara, 2016.
- [6] Damayanti, *Guide to Implementation of Character Education in Schools*, Yogyakarta: Araska, 2014.
- [7] Darning Rakhmawati, A. P., "The role of the adiwiyata program in the development of the student's character care: case study at SMK Negeri 2 Semarang", *Unnes Science Education Journal*, vol. 5, no. 1, pp. 1148-1154, 2016.
- [8] Depdiknas, *Education Unit Level Curriculum*, Jakarta: Curriculum Center, Balitbang Depdiknas., 2009.
- [9] Hamzah, S., *Environmental Education*, Bengkulu: Refika Aditama, 2012.
- [10] Hariyanto, K. P., *Indonesian Environmental Education: Basic Pedagogy and Methodology*, Bandung: PT Remaja Rosdakarya, 2017.
- [11] Hidayatullah, F., *Character Education: Building Nation Civilization*, Surakarta: Yuma Pustaka, 2010.
- [12] Ministry of Education and Culture of the Republic of Indonesia. National Character Development Policy Year 2020-2025. Jakarta, 2010.
- [13] Ministry of Environment and Ministry of Education and Culture. E-book: Adiwiyata Guide for Caring and Environmentally Friendly Schools. Jakarta: Ministry of Environment and Ministry of Education and Culture, 2011.
- [14] Ministry of Education and Culture of the Republic of Indonesia. National Nation Character Development Policy for 2010-2025. Jakarta: Curriculum Research and Development Agency, 2010.
- [15] Mortimore, C. W., *Pedagogy: What do We Know? In Mortimore, P (ed.) Understandi Pedagogy and Its Impact an Learning*. London: Paul Chapman Publishing, 1999.
- [16] Lickona, T., *Education for Character: Educating to Form Character (How Schools Can Teach Attitudes of Respect and Responsibility)*. Jakarta: Bumi Aksara, 2016.
- [17] Mortimore, C. W., *Pedagogy: What do We Know? In Mortimore, P (ed.) Understandi Pedagogy and Its Impact an Learning*. London: Paul Chapman Publishing, 1999.
- [18] Puspitasari, E. "Character Education Approach," *Jurnal Eduksos*, vol. III, no. 2, pp. 45-57, 2014.
- [19] Green, M. d., *Making Sense of Leadership: Exploring the Five Key Roles*, Philadelphia: Kogan Page Limited, 2008.
- [20] Posner, J. K., *The Leadership Challenge*, San Francisco: Jossey-Bass, 2004.
- [21] Risminawati, M. d., *Innovative Learning Models in Primary Schools*, Surakarta: FKIP UMS, 2012.
- [22] Sabiq Farhan, R. B., "Effect of Character Education Application through Student Team Achievement Division Learning Model on Learning Outcomes of Light Vehicle Engine Maintenance in Surakarta Pancasila Vocational School," *Jurnal JIPTEK*, vol. X, no. 2, pp. 46-55, 2017.
- [23] Manan, M. M., "Leadership Characteristics of Excellent Headmaster," *Journal of Education and Practice*, vol. 5, pp. 23, pp. 120-124, 2016.
- [24] Hoy, W. J., *The Road to Open Healthy Schools*, California: Corwin Press, Inc., 1997.
- [25] Sagala, S., *Strategy Management in Education Quality Improvement*, Bandung: Alfabeta, 2009.
- [26] Sanusi, A., *National Education Productivity*, Bandung: IKIP Bandung, 2016.
- [27] Saripudin, K. K. *Character Education: The Concept and Application of Living Values Education*, Bandung: PT Refika Aditama, 2017.
- [28] Suprihatin, D. A., *Introduction to Environmental Education*. Yogyakarta: Gava Media, 2013.
- [29] Surtikanti, J. S., *Teaching and Learning Strategies*. Surakarta: UMS, 2008.
- [30] Sutriani, M. B., "Application of Assignment Methods to Improve Learning Outcomes in Material Addition and Reduction of Fractions in Class V of Bukit Harapan SDN 2," *Tadulako Online Creative Journal*, vol. 4, no. 1, pp. 18-34, Mar 2014.
- [31] Sugiyono. *Educational research methods quantitative, qualitative approach and R & D*, Bandung: Alfabeta, 2015.
- [32] SMK Muhammadiyah Pakem. SMK Muhammadiyah Pakem, Oct 29, 2015, [Online]. Available: <https://smkmuhpakem.sch.id/read/2/vision-and-mision>, [Accessed Nov 09, 2018].

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