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School-based quality improvement management for creating green school in central Lampung secondary schools

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Abstract. Greening is very important for several reasons, one of which is that it contributes to dealing with environmental crises and global warming. However, little is known about literature on how to overcome the issues through participation of organizations including schools. This study aims to investigate whether school-based management in Central Lampung secondary schools, Indonesia, can be used to support the realization of green schools to improve the school quality. This study uses a survey questionnaire randomly addressed to the teachers to collect the data based teachers' perceptions. The data gained from 55 teachers are then analyzed. Result shows that school-based management can be used to help support green schools to improve school quality and contribution to global community goals in decreasing the negative impacts of the global warming phenomenon.

1. Introduction

The Green School program is a physical outcome of the construction planning, design and consensus process that takes into account the performance of the buildings on it throughout the life cycle of 50 to 60 years. The main focus of this process is to strengthen optimal learning, goals that are well suited to the goal of parallel efficiency resources and minimal pollution. The building provides clean and fresh air; comfortable temperature; abundant light; and low noise from unwanted noise while maximizing resource efficiency and minimizing pollution [1]. Many buildings are found using Air Conditioning (AC) so that it will cause global warming. Green Urbanism will be a useful reference and source of ideas for urban and local planners, state and local officials, policymakers, planning and geography students, and anyone who cares about how cities can be more inhabited [2]. Green school buildings are designed to pursue a toxic environment, create a healthy space for learning and teaching and make the school environment healthier [3].

Green schools offer a comfortable, attractive and user-friendly environment that shows the importance of our community for learning and encourages students to excel [4]. Statistical analysis of data shows that teachers in green schools are generally more satisfied with their classrooms and the lighting of their workspace, thermal comfort, indoor air quality, heating, ventilation and AC than teachers in other schools [5]. Powered by principal decision making styles can significantly predict teacher job satisfaction [6]. Green schools, as a school environment, can contribute to children physically, mentally [7]. Schools face increasing demands to provide education about healthy living and improve core academic performance [8]. Many studies also show that environmentally friendly schools can improve the quality of students' academic experience. Environmental education also



fosters its development skills needed by students to be successful [9]. To be able to realize a clean and healthy green school environment, every element in the school must take responsibility for making it successful. One of the ways to make it happen through school-based management is school-based quality improvement. Management of school-based quality improvement is an alternative in education management that places more emphasis on school independence and creativity [10]. School facility factors such as building age and condition, quality of maintenance, temperature, lighting, noise, color, and air quality can affect student health, safety, sense of itself, and psychological state [11]. In terms of the green school practices, Chinese school principals reported five top advantages of sustaining a green school: teachers and students with high awareness of environmental protection, comfortable school internal environment, unpolluted surroundings, school leaders' support, and enough teachers who support green school practices [12].

2. Method

This study used mixed methods (qualitative and quantitative). The data were collected using questionnaires, interviews. The questionnaire addressed to 55 secondary school teachers in Central Lampung, Indonesia, using random sampling. The questionnaire consisted of 17 questions consisting of response categories (strongly agree, agree, disagree, strongly disagree and do not know). The questionnaire also explores teacher perceptions about the application of school quality improvement management to create green schools. The obtained data were analyzed using descriptive statistics and were presented in percentage using the pie chart. The result of data analysis was completed with interview with related parties to confirm the results.

3. Result and Discussion

Greening is a very important activity carried out in dealing with environmental crises and global warming that is happening at this time. Even recent research has identified alternative solutions to reduce the impact of global warming in the school through the implementation of the Green School-Based Management Model [13]. It means greening can be done from the surrounding environment, school environment and urban areas in general. Greening at the school (Green School) can be carried out properly if the school manager wants to implement it well. To be able to realize a clean and healthy green school environment, every element in the school must take responsibility for making it successful. One of the ways to make it happen through school-based management is school-based quality improvement. However, before validating and implementing this model, we made a survey analysis of teacher perceptions about implementing school quality improvement management to create green schools. Survey analysis is based on a questionnaire that we have shared with 60 secondary school teachers.

3.1. Teachers' perceptions of the green school policies

Teachers' perceptions of the policies implemented by school leaders in implementing school quality improvement embody green schools. It can be concluded that 59% of teachers extremely agree and 41% agree about the policies implemented by school leaders in implementing school quality improvement in realizing green schools.

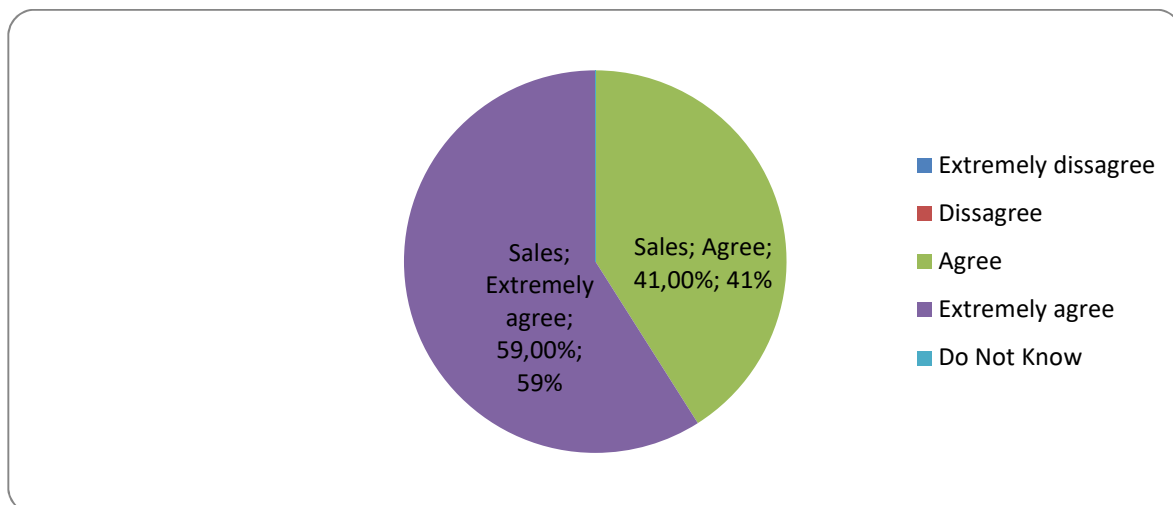


Figure 1 Teachers' perceptions of the policies implemented by School Leaders in implementing School Quality Improvement embody Green Schools

Figure 1 shows that most teachers extremely agree 59%, agree 41 % to the perception of the green school policies. This fact indicated that all teachers support leader in implementing green school polities. This finding confirms with the result of interview with principal of the curriculum field. For example :

Many policies are carried out by the head of the UPTD education unit at SMPN 1 Seputih Agung. First, the customization of healthy schools has been applied, with the application of disposing of trash in its place, washing hands, schools providing important health learning lessons with slogans about hygiene. Second, in every class to always be clean and impromptu class cleanliness competition to provide motivation. Third, related to teaching and learning activities carried out by the school environment as a source of learning, for example Ipa learning, craftsmanship with the use of used materials. So students are not bored in the classroom. Fourth, the MOU was conducted on the health office, the environmental service. For Puskesmas, every 3 months for health guidance, environmental counseling by the environmental department. Quality improvement carried out at school is also supported by outsiders in achieving green schools"

3.2. Teachers' perceptions of environmental-based school curriculum

Teachers' perceptions of environmental-based school curriculum development can be concluded that 66% of extremely agree and 34 % agree the development of environment-based curriculum.

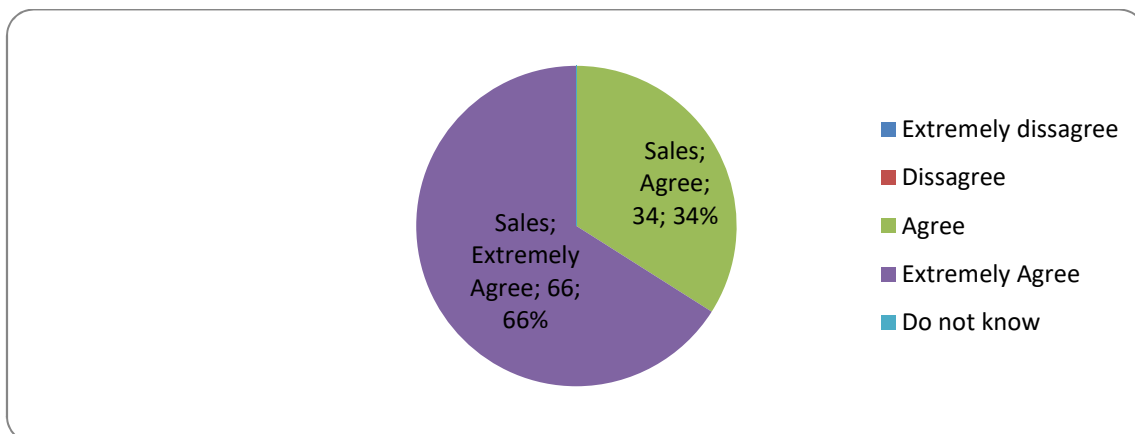


Figure 2.The teacher's perception of enviromental based School Curriculum

Figure 2 shows that most teachers extremely agree 66%, agree 34 % to the perception of environmental-based school curriculum. This fact indicated that all teachers support existence of a school environmental curriculum for the school. This finding confirms with the result of interview with principal of the curriculum field. For example :

Our school has more than 4 years curriculum emphasizing character education which leads to a clean environment, one of which is learning based on the environment, meaning students are invited to learn not only in class but can be outside the classroom "Strengthened by the opinion of student representatives." In general, green schools are schools that are shady, cool, good air circulation so the learning atmosphere becomes comfortable. The implementation of the development of curricular activities is by accordance school curriculum that emphasizes student character development and student talent, of course, to support the improvement of school quality through the green school program. The environmental-based school curriculum can actually be carried out well as long as the teacher is equipped with sufficient knowledge about the content that can be integrated with greening efforts in the school environment. Mastery of teacher knowledge about integrating environment-based school curricula can be pursued through teacher development programs [14], where one of the effective methods is through a multi-level scaffolding approach [15]. A multi-level scaffolding approach can assist teachers in developing ideas about learning and organizing heuristics around important parts of the knowledge base of subject matter related to greening.

3.3 Teachers' perceptions of participation of school quality improvement

It can be concluded that 64% of extremely agree and 36 % agree with the participation of teachers and students in implementing school quality improvement to realize green schools.

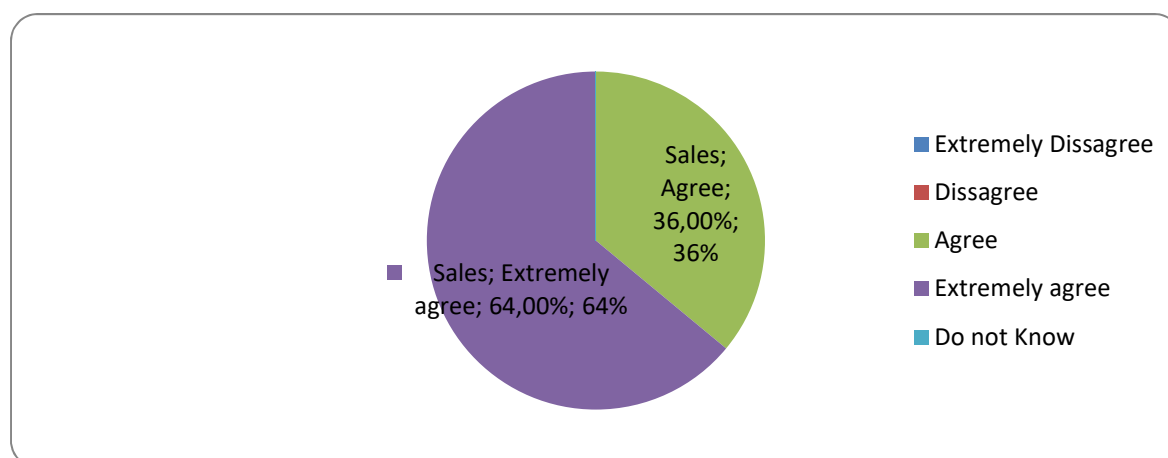


Figure 3. Teachers perception of teacher and student participation in implementing school quality improvement to realize green school

Figure 3 shows that most teachers extremely agree 64%, agree 36 % to the perception of participation of quality improvement. This fact indicated that all teachers support the participation of teachers and student in implementation green school. This finding confirms with the result of interview with the deputy headmaster for student affairs. For example:

"Yes, schools do participatory-based education both within and outside the school environment. For example there is a cooperation with students and teachers in the school environment and the environment around the school on Friday the second week". Strengthened by the opinion of the advice and infrastructure representative: "Yes, of course, without the help of students, the school community, as well as the committee and student guardians of this program are not going well. There must be cooperation, especially for students we give confidence that they are capable of doing what has been assigned".

3.4 Teachers' perceptions of school facilities management

It can be concluded that 59% of extremely agree, 39% agree and 2% disagree on the management of facilities and school facilities that supported green schools.

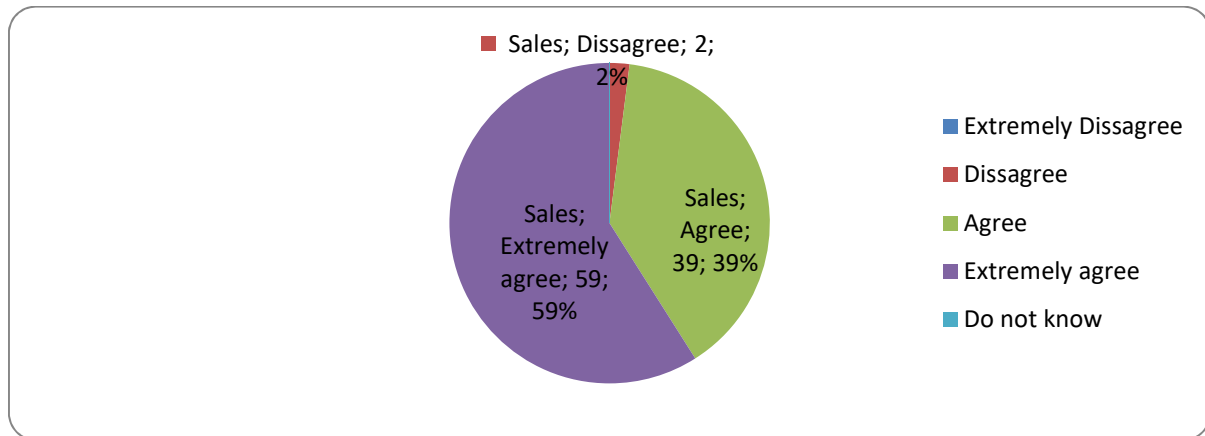


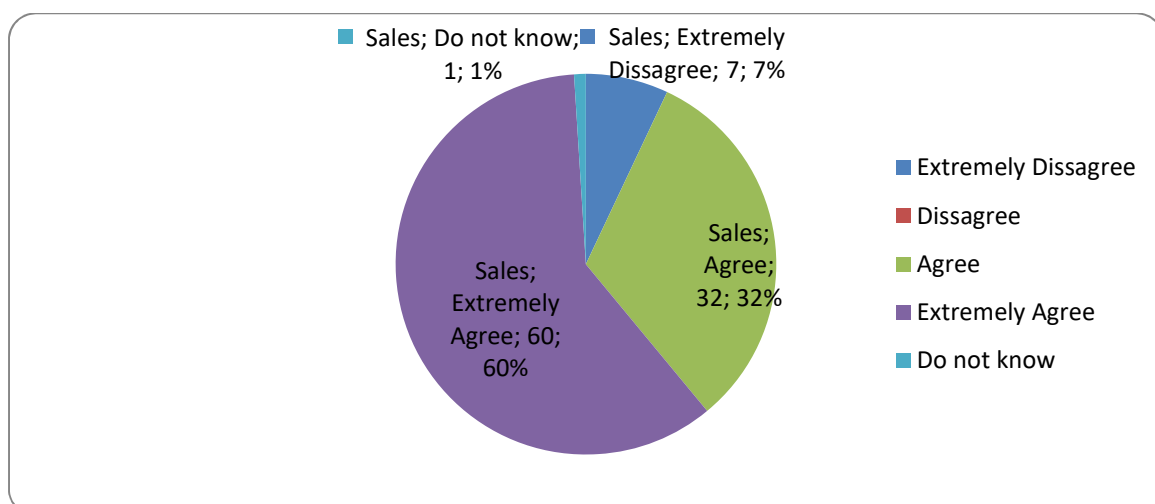
Figure 4. Teacher perception of the school facilities management that support green schools

Figure 4 shows that most teacher extremely agree 59%, agree 39 % dan disagree 2% to perception of school facilities management. Fact indicated that all teachers support that facilities and infrastructure strongly support the green school program. This finding confirms with the result of interview with the vice principal for facilities and infrastructure. For example :

This opinion was supported by the vice-principal of the school for facilities and infrastructure: "Implementation the development of facilities and infrastructure has been carried out step by step from various existing facilities and infrastructure, to support the improvement of the quality of schools through the green school program ". Supported by students' opinion "Good mom, from the school environment, the learning atmosphere, the teacher, friends too. Facilities and infrastructure are adequate, bu. There is a small mosque, library, Natural Sciences Laboratory, Computers, parks, sports fields, and many more. Everything supports our learning

3.5 Teachers' perceptions of the green school evaluation

It can be concluded that 66% extremely agree, 32% agree, 7% disagree and 1% do not know with the evaluation of the green school program to make improvements in the future.



5. Figure 5 Teachers perception of the green school evaluation

Figure 5 shows that most teacher extremely agree 60%, agree 32, disagree 7%,do not know 1 % to the perception of the green school evaluation. This fact indicated that all teachers support that facilities and infrastructure. This finding confirm with result of interview with principal.

For example:

Evaluation is done once a week, every semester there is a class cleanliness competition as an evaluation, which ones need to be improved and which need to be improved. This is supported by the representation of suggestions and infrastructure, namely: Evaluation is always done to find out to what extent the planned program is going well, What will be done if there are still deficiencies that we must fix.

3.6The barriers of implementing school quality improvement

It can be concluded that 56% of extremely agree and 44% agree that there are still obstacles that occur in the field that need to be repaired.

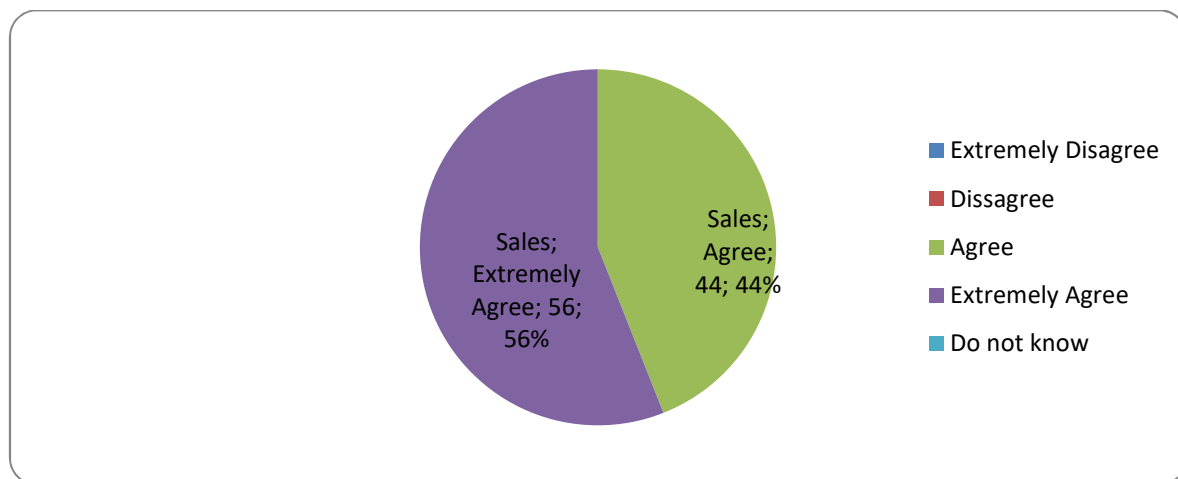


Figure 6 The barriers of implementing school quality improvement

Figure 6 shows that most teacher extremely agree 56%, agree 44%, disagree the barriers of implementing the school quality improvement. This fact indicated that all teachers stated there are obstacles in implementation green school. This finding confirms with the result of interview with the vice principal for facilities and infrastructure. For example : "Every activity must have a resistance but as much as possible we can overcome these obstacles, for example: the character of the school community who have not fully supported green, for example in loving plants, caring for plants and loving plants must always be motivated ". Supported by the teacher's opinion that: " Obstacles are there, how can we deal with them so that obstacles can be overcome little by little. Evaluations are always carried out to find out what hasn't been done and which ones have been completed done".

4. Conclusion

Green schools are important for future generations, where a green school can be used as a fun learning tool. All of that must be supported by the school to be able to provide facilities and infrastructures that use the green school concept as comfort in carrying out learning, with the comfort of the environment enthusiasm and good performance for teachers in carrying out learning to students at school. One way to create green schools is by managing school-based quality improvement, where schools are given the freedom to carry out their creativity. With the quality of this school, the school can to develop its creativity and be able to compete in the era of globalization. Planning and implementation are sometimes constrained by implementation in the field. There are still many schools people who do not understand the importance of green schools and care about the environment. Another obstacle during school holidays is that the maintenance of plants still depends on the guardians of the school who have

an insufficient number of personnel. Final waste disposal need to be re-evaluated so that a clean and healthy environment can be realized. Then the evaluation in every aspect needs to be carried out continuously so that it gets maximum results.

The results of the study show that the green school program in Lampung Secondary School is being implemented by the green school guideline indicators. It is seen from the vision and mission of the school which is environmentally sound, teenagers extra-curricular love the environment, integrated subjects develop environmental protection and management materials, giving rewards, namely, charter and trophies. Participating activities were Friday clean, environmentally conscious actions by planting 1000 trees, management and utilization of waste into economically valuable works of art, composting and collaboration with the Education Office, Forestry Service, Lampung amid environmental management and preservation activities through print media and electronic media. Learning environmentally friendly environment, toga (family medicine garden) and saving electricity and stationery socialization, namely the prohibition of checking electronic equipment. Green school is an effort to save the environment that is done in schools and there is a balanced pattern between humans and the environment.

5. References

- [1] Gordon D E 2010 Green schools as high performance learning facilities *National Clearinghouse for Educational Facilities*
- [2] Beatley T 2012 *Green urbanism: Learning from European Cities* (Island Press)
- [3] Chan T C 2013 An examination of green school practices in Atlanta schools *Online Submission*
- [4] Christopher G 2009 *School Business Affairs* **75** 25
- [5] Issa M H, Rankin J H, Attalla M and Christian A J 2011 *Indoor Built Environ.* **20** 511
- [6] Hariri H, Monypenny R and Prideaux M 2016 *School Leadership & Manage.* **36** 41
- [7] Dymont J E and Bell A C 2008 *Health Educ. Res.* **23** 952
- [8] Berezowitz C K, Bontrager Y A B and Schoeller D A 2015 *J. School Health* **85** 508
- [9] Chapman P 2012 *Indep. School* **72** 40
- [10] Subroto S 2010 *Manajemen Pendidikan di sekolah* (Yogyakarta: Rineka Cipta)
- [11] Young E, Green H A, Roehrich-Patrick L, Joseph L and Gibson T 2003 Do K-12 School Facilities Affect Education Outcomes? *Staff Information Report*
- [12] Wang T 2013 Chinese school principals' behavioural intentions in relation to green school practices *Doctoral Dissertation*
- [13] Rahman B and Maulina H 2019 *J. Phys. Conf. Series* **1155** 012086
- [14] Rahman B, Abdurrahman A, Kadaryanto B and Rusminto N E 2015 *Aust. J. Teach. Educ.* **40** 11
- [15] Abdurrahman A, Nurulsari N, Maulina H, Rahman B, Umam R and Jernsittiparsert K 2019 *Int. J. Innov. Creativity and Change*, **7** 71

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