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Middle School Teacher Self-Efficacy in the Implementation of the Learning Process in Indonesia

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ABSTRAK

Di lingkungan sekolah, seluruh guru mempunyai tingkat efikasi guru yang baik. Namun kenyataannya masih banyak guru yang menilai tingkat efikasinya masih rendah. Hal ini berdampak pada pengetahuan, pemahaman, dan prestasi siswa di lingkungan sekolah. Hal ini mendesak untuk diteliti karena terdapat kesamaan antara teori, harapan, dan kenyataan. Jadi penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi efektivitas diri guru dalam melaksanakan Pendidikan Lingkungan Hidup di sekolah. Metode dalam penelitian ini adalah penelitian kuantitatif dengan regresi. Subyeknya terdiri dari 300 orang guru dari sekolah menengah swasta dan sekolah menengah negeri yang tersebar di seluruh Indonesia. Teknik pengumpulan data menggunakan instrumen. Instrumen dikembangkan dari indikator dan diukur berdasarkan skala likert. Teknik analisis data menggunakan Statistik versi 25.0 dengan statistik deskriptif (mean, standar deviasi, frekuensi, dan persentase) dan inferensial dengan menggunakan metode Regresi Linier Berganda. Hasil dan temuan penelitian menunjukkan bahwa tingkat efikasi diri guru dalam melaksanakan Pendidikan Lingkungan Hidup di sekolah adalah sedang. Ditemukan bahwa faktor yang mempengaruhi efikasi diri guru dalam penyelenggaraan pendidikan adalah kesadaran guru terhadap lingkungan dan persepsi guru terhadap kepemimpinan pembelajaran kepala sekolah.

ABSTRACT

In the school environment, all teachers have a good level of teacher efficacy. However, in reality, many teachers still find low levels of efficacy. This has an impact on students' knowledge, understanding, and achievement in the school environment. This is urgent to be researched because there are similarities between theory, hope, and reality. So the research aims to analyze the factors that influence teachers' self-effectiveness in implementing Environmental Education in schools. The method in this research is quantitative research with regression. The subjects consisted of 300 teachers from private secondary schools and state secondary schools spread across Indonesia. Data collection techniques using instruments. Instruments developed from indicators and measured based on a Likert scale. Data analysis techniques using Statistics version 25.0 with descriptive (mean, standard deviation, frequency, and percentage) and inferential statistics using the Multiple Linear Regression method. The results and research findings show that the level of teacher self-efficacy in implementing Environmental Education in schools is moderate. It was found that the factors that influence teacher self-efficacy in the implementation of education are teacher awareness of the environment and teacher perceptions of the principal's learning leadership.

1. INTRODUCTION

In the school education environment, it was officially introduced with the publication of a Guidebook for Teachers in implementing Cross-Curriculum Education for primary and secondary schools by the Curriculum Development Agency of the Indonesian Ministry of Education (Grosseck et al., 2019; Salau et al., 2022). At the elementary school level, implementation is still limited and the effectiveness of implementation is still limited and the level of implementation is not evenly distributed throughout

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Indonesia (Himanen & Puuska, 2022; Karlsson et al., 2020; O'Reilly et al., 2018). The educational environment is a determining factor in the success of students. Among the factors that cause Education in the Environment to be less successful in being implemented effectively in schools include teachers who lack mastery of the content of education subjects, lack of skills and motivation and determination to implement it (Alalwan et al., 2020; Remmen & Iversen, 2023; Wahono et al., 2020). In the educational environment, it is often found that teachers do not use the guidebooks provided to teach because these guidebooks do not help teachers in carrying out environmental education activities (N M Ardoin & Bowers, 2020; Nicole M Ardoin et al., 2020). On the other hand, teachers also face limited time to complete the preparation of materials and plans for implementing learning and a lack of allocation for implementing educational programs (Adebisi, 2022; L. Huang et al., 2020). Previous research examined the extent of teachers' self-efficacy or ability to carry out environmental education teaching in schools (Yada et al., 2022). One of the important attributes that influence teachers in carrying out their duties as teaching staff is their self-efficacy. Defines self-efficacy as; "a judgment (judgment) of a person regarding his ability to manage and carry out the actions necessary to achieve the specified performance. Self-efficiency influences performance by increasing effort and persistence. "Individuals with high self-efficiency are more diligent in working and can work for long periods compared to individuals who have low self-efficacy"(Hidayah et al., 2023; Horcajo et al., 2022).

Previous research shows that self-efficacy is related to leader and individual success (Dan et al., 2018). Previous research also shows that effective teachers have higher efficacy than less effective teachers (Morrell et al., 2020). A person's confidence in their ability to perform a task is an important area to be explored in the future. However, the personal characteristics of self-efficacy have received less attention from researchers, while several studies show that a person's success can be predicted by self-efficacy. Found that teachers with high self-efficacy were more committed to teaching and more motivated (Burić & Kim, 2020; Schunk & DiBenedetto, 2021). A teacher who has high self-efficacy will also be more optimistic when facing new challenges. This situation indirectly emphasizes the importance of self-efficacy because self-efficacy is always considered an individual's ability to be effective or produce desired results. Not only that, self-efficacy is an aspect that can be taught in various ways, namely through education, seminars, and adaptation of understanding. It is also used in certain areas throughout life. Therefore, self-efficacy needs to be considered important and prioritized in the education system.

Teachers with high self-efficacy are more willing to accept innovation in the education system. High teacher self-efficacy will be the main driver of educational development which will bring the country into the third wave of civilization. Committed and dedicated teachers also determine whether the teaching and learning process can run effectively (Alshurideh et al., 2020; Cai et al., 2021). Effectiveness does not only depend on teaching skills but also includes the teacher's attitude and feelings towards his duties. Teachers who believe in their abilities will work hard, be committed to their work, and show better work performance. They will also always be ready to provide their views and contributions for the benefit of the school. Even highly effective teachers can influence the decisions made by their organizations. Changing attitudes towards a better and positive direction was also identified as one of the factors influencing teacher self-efficacy in implementing Environmental Education values in schools attitudes shape personal beliefs (Gordon et al., 2023; Kundu, 2020). Self-confidence from the cognitive aspect describes the teacher's thoughts on environmental problems and affective self-confidence describes the teacher's emotions towards environmental problems. Thus, attitudes greatly influence teacher self-efficacy because attitudes reflect the teacher's ability to deal with environmental problems. Teacher awareness of the environment is also identified as a factor that influences teacher self-efficacy in integrating environmental education in schools.

Awareness is a person's awareness, sense of responsibility, and sensitivity towards their environment in terms of aesthetics, perception, feelings, or a person's response to a thing or problem. Emphasize that environmental education aims to form knowledge about nature and natural systems through research activities and also forms an understanding of the environment, environmental values, and the complex interaction of natural elements with humans (Nicole M Ardoin et al., 2020; Onopriienko et al., 2021). Meanwhile, environmental education is related to the development of attitudes and values of love for the environment, including elements of human understanding and behavior. It also encourages students to explore personal responses to relationships with the environment and environmental issues by emphasizing personal ethics, responsible nature, and environmental awareness. Principal instructional leadership practice factors were also identified as influencing teacher self-efficacy. Instructional leadership is any activity carried out by a school to increase the success of the teaching and learning process and school development (Gümüş et al., 2021; Hallinger & Kulophas, 2020). The effectiveness and excellence of a school lies in the learning leadership of the principal and this includes the effectiveness of implementing Environmental Education which is closely related to the commitment between the principal

and teachers in teaching (Hallinger & Kovačević, 2019; Thomaidou Pavlidou & Efstathiades, 2021). Environmental activities or programs also need to be implemented to further improve the quality of teaching and the school environment.

Effectiveness in carrying out a teaching activity concerns three main aspects, namely basic knowledge, understanding the field of work, and mastery of appropriate skills. Basic knowledge consists of the level or levels of knowledge mastered by a school principal together with his teachers which is translated in the form of attitudes and awareness of the environment, while the definition of the field of work is the behavior of the principal and teachers in carrying out their duties. increasing student mastery and application of environmental values in contexts inside the classroom and outside the classroom. Mastery of appropriate skills refers to the teacher's ability to choose direct practical approaches and methods in handling Environmental Education to deliver effective and meaningful learning. Teachers need to identify weak students and action needs to be taken to overcome these problems. School principals need to monitor and supervise teachers' teaching and take appropriate follow-up actions to improve the quality of Environmental Education teaching. The principal as a school leader is seen as having a very important role in determining quality and excellence and is a supporter of the success of a school organization. Schools that achieve high success in academics are led by principals who have effective leadership qualities (Hainora Hamzah et al., 2022; Tintoré et al., 2022). Previous study argue that the leadership of a school principal is important because the principal is an individual who is expected to be able to make changes and determine the direction of the school (Tamadoni et al., 2021). Principals influence the quality of school programs more than anyone else, in many ways, the principal is the most important and influential individual in any school, it is his leadership that determines the school atmosphere, learning climate, level of professionalism, and student morale. Teachers and the level of concern for what may or may not happen to students if the school is a dynamic, innovative, child-centered place; if the institution has a reputation for excellence in teaching; If students are performing at their best, we can almost always point to the principal's leadership as the key to success (Damayanti et al., 2021; Pont, 2020).

The urgency of the research was carried out because of the gap between theory, expectations, and reality in the field. Theory says that self-efficacy will lead students to achieve better results and knowledge, with the hope that teachers will prepare material, and plan learning well, while the reality in the field is that students still have low knowledge and understanding of learning in the school education environment. Due to the gap between theory, expectations, and reality, the novelty of this research was conducted to identify factors, namely teachers' attitudes and awareness of the environment and the principal's instructional leadership practices) which contribute to the level of teacher self-efficacy to know the level of teacher self-efficacy, attitudes of teachers, and teachers' awareness of the environment. This study aims to analyze teachers' perceptions of the level of learning leadership practices of school principals in implementing environmental education, and to find out the factors that influence teachers self-efficacy in implementing education in the school environment.

2. METHOD

The research method used in this research is quantitative research with a descriptive-regression approach. The subjects in this research were 300 people, consisting of private school teachers and state school teachers spread throughout Indonesia. The sample selection was based on the stratified random sampling method. The number of respondents (n=300) met and exceeded the sample size calculated based on the GPower program, namely 300 people with a value of $\alpha = 0.05$ (one side), effect size = 0.15 (medium), and actual strength (medium). Actual power or $1 - \beta$) inferential statistical test value 0.95 (Cheung et al., 2019).

Data collection techniques using research instruments in the form of questionnaires are divided into four main parts. Part A relates to the respondent's background. Part B is divided into 2 categories, namely B1 (teacher's attitude towards the environment) and B2 (teacher's level of awareness towards the environment). The questions in Parts B2 and B3 were adapted from the New Ecological Paradigm scale to measure teachers' attitudes and awareness towards the environment. Instruments related to attitudes and concern for the environment each contain 20 questions. Part C is an item that assesses teachers' perceptions of the level of principal's instructional leadership practices in the implementation of Environmental Education adapted from the Principal's Instructional Management Assessment Scale questionnaire (Veletić et al., 2023). The Environmental Education Effectiveness Belief Instrument Questionnaire developed was used to measure the level of teacher self-efficacy toward Environmental Education (Part D) (Chang et al., 2020). This instrument contains two scales, namely the Personal Effectiveness Belief Scale in Environmental Education Teaching and the Environmental Education

Teaching Expectation Outcome Scale. All research instruments are suitable for use because Cronbach's alpha coefficient value for the four variables exceeds 0.60. The reliability results obtained for attitude items were 0.882, awareness 0.907, leadership 0.986, and teacher self-efficacy 0.615. In addition to item reliability tests, normality tests were also applied using Kolmogorov-Smirnov and Shapiro-Wilks and Skewness statistics. The reliability results show that the data obtained in this study is normally distributed. Table 1 shows a summary of the instruments used.

Table 1. Instruments Used in This Research

Instrument	Adaptation of	No. Question	Reliability value
Attitude	NEP	20	0.882
Awareness	NEP	20	0.907
Leadership	PIMRS	55	0.986
Self-Efficacy	EEEBI	23	0.615

Data analysis. The collected data was entered into a research database using SPSS (Version 25.0) on the Microsoft Windows operating system for analysis purposes. Descriptive statistics (mean, standard deviation, frequency, and percentage) and inferential statistics (step-by-step multiple linear regression method) were used to analyze and present the research findings (DiStefano et al., 2020). The level of teacher self-efficacy and teacher attitudes towards the environment was measured using a five-point Likert scale (Strongly Disagree, Disagree, Not Sure, Agree, Strongly Agree), where the higher the response indicates the higher the level of efficacy and positivity. attitude. The level of teacher awareness of the environment was measured using a five-point Likert scale (Very Unconcerned, Not Concerned, Not Sure, Concerned, Very Concerned), where a high response indicates a high level of awareness. Teachers' perceptions of the principal's level of instructional leadership practice were measured using a five-point Likert scale (Never, Rarely, Once in a while, Often, Very Often), where a high response indicates a high level of leadership practice. Table 2 shows the interpretation of the average score as well as the interpretation scale for attitudes, level of awareness, self-efficacy, and level of learning leadership of the principal.

Table 2. Interpretation of the Average Score and Interpretation Scale of Attitudes, Level of Awareness, Self-Efficacy, and Level of Learning Leadership

Mean score value	Interpretation of attitudes	Interpretation of levels of self-efficacy, awareness and level of instructional leadership
1.00–2.33	Negative	Low
2.34–3.66	Neutral	Simple
3.66–5.00	Positive	Tall

3. RESULT AND DISCUSSION

Result

Results of teacher self-efficacy towards the school environment is show in Table 3.

Table 3. Results of Teacher Self-Efficacy Towards the School Environment

Variable	Level	Frequency (n = 263)	Percentage (%)	M	SP
Whole	Low	0	0	3.53	0.30
	Simple	196	74.5		
	Tall	67	25.5		
Environmental Education	Low	1	0.4	3.29	0.32
Teaching Personal Efficacy	Simple	233	88.6		
Belief Scale	Tall	29	11.0		
Scale of Expected Results of	Low	0	0	3.82	0.43
Teaching Environmental	Simple	81	30.8		
Education	Tall	182	69.2		

Table 3 show the results of this research indicate that the level of teacher self-efficacy in implementing education in the school environment is moderate (M = 3.53, SP = 0.30). In particular, the

level of teacher self-efficacy on the Personal Efficacy Belief Scale for Teaching Education in the Living Environment at school is also classified as moderate (M=3.29, SP=0.32). On the other hand, the research results show that the level of teacher self-efficacy on the School Environmental Education Teaching Outcome Expectations Scale is high (M = 3.82, SP = 0.43). Results of Teacher Attitudes towards the educational environment in schools. The research results is show in Table 4.

Table 4. Results of teacher attitudes towards the environment at school

Variable	Level	Frequency (people; n = 263)	Percentage (%)	M	SP
Attitude	Negative	0	0	4.22	0.42
	Neutral	22	8.4		
	Positive	241	91.6		

Table 4 show that teachers' attitudes towards the environment are good and positive (M = 4.22, SP = 0.42). Results of teacher concern for the educational environment is show in Table 5.

Table 5. Results of Teacher Concern for the Educational Environment

Change enabler	Stage	Frequency (people; n = 263)	Percentage (%)	M	SP
Awareness	Low	6	2.3	3.60	0.58
	Simple	141	53.6		
	Tall	116	44.1		

Base on Table 5 show the level of teacher awareness of the environment in this study was also at a medium level (M=3.60, SP=0.58). Teachers' Perceptions of the Level of Instructional Leadership Practices of School Principals in Providing Environmental Education. Leadership in the environmental concept is seen from the perspective of an environmentally aware leader, namely a leader who has a personality and behavior towards respecting and loving the natural environment. Environmental leadership is an individual who is the leader of a group whose task is to guide and coordinate activities related to the environmental sector, resolve problems related to the natural environment, and influence structured group activities towards determining and fulfilling goals. group goals. environment, carrying out efforts or initiatives to help a group in protecting and preserving the environment, being a supporter and organizer of the organization's journey in solving environmental problems and meeting the needs of individuals and society so that they are in balance with the needs of the environment. natural environment.

Instructional leadership in this research has been adapted to instructional leadership with a PIMRS-based environmental concept. Divided into three dimensions, namely; (i) Dimensions of Setting School Goals and Environmental Goals, (ii) Dimensions of Managing Teaching Programs and Environmental Programs, and (iii) Dimensions of Cultivating a Teaching and Learning Climate for Environmental Education. These three dimensions are then divided into 11 functions: 1) Formulate school academic goals and environmental goals, 2) Clarify school goals and environmental goals, 3) Observe and evaluate teacher teaching related to Environmental Education, 4) Coordination of the Environmental Education curriculum, 5) Monitor student academic progress and environmental application progress, 6) Control and protect teaching time, 7) Providing support in Environmental Education teaching activities, 8) Providing incentives for the efforts of teachers who implement environmental programs/activities, 9) Foster staff development, 10) Establish and enforce academic standards and environmental standards and 11) Give awards to students. Results of teacher perceptions of the level of principal learning leadership practices in the school environment is show in Table 6.

Table 6. Results of Teacher Perceptions of the Level of Principal Learning Leadership Practices in the School Environment

Variable	Level	Frequency (persons; n = 263)	Percentage (%)	M	SP
Whole	Low	26	9.9	3.36	0.77
	Simple	138	52.5		
	Height	99	37.6		
Dimension 1: Understanding School Goals and Environmental Goals	Low	43	16.3	3.19	0.87
	Simple	127	48.3		
	Height	93	35.4		

Variable	Level	Frequency (persons; n = 263)	Percentage (%)	M	SP
Dimension 2:					
Program Management	Low	56	21.3	3.10	0.92
Nature Teaching and	Simple	119	45.2		
Programs	Height	88	33.5		
Around	Low	19	7.2	3.54	0.77
	Simple	111	42.2		
	Height	133	50.6		

The research results in Table 6 show that teachers' perceptions of the level of principals' learning leadership practices in implementing education in the school environment are moderate (M = 3.36, SP = 0.77). Teachers' perceptions of the principal's level of instructional leadership practices for Dimension 1 (M = 3.19, SP = .87), Dimension 2 (M = 3.10, SP = 0.92), and Dimension 3 (M = 3.54, SP = 0.77) were also moderate. Results of Factors That Influence Teacher Self-Efficacy in Implementing School Environmental Education. The research results show that all identified factors are predictors of teacher self-efficacy in implementing school environmental education is show in Table 7.

Table 7. Research Results Regarding Regression Coefficients

Variables	Unstandardized coefficients		Standardized coefficient	t	P	Collinearity statistics	
	β	Standard error	β			Tolerance	VIF
Constant	2.349	0.184		12.740	0.000		
Consciousness (Xkg)	0.166	0.033	0.323	4.983	0.000	0.608	1.645
Attitude (Xsg)	0.169	0.044	0.234	3.859	0.000	0.694	1.440
Instructional Leadership Dimension 3: Fostering a Teaching and Learning Climate for Environmental Education (Xkd3)	0.116	0.033	0.298	3.521	0.001	0.357	2.804
Instructional Leadership Dimension 2: Curriculum Management and Environmental Programs (Xkd2)	−0.071	0.028	−0.219	−2.537	0.012	0.344	2.903
R = .586				F = 2271			
Squared R^2 = 0.344				p = 0.000			
Adjusted R squared =				n = 263			

Base on Table 7 show these factors are teacher awareness of the school environment (β= 0.323, p = 0.000), teacher perceptions of the principal's learning leadership practices for Dimension 3, namely Fostering a Teaching and Learning Climate for Environmental Education (β = 0.298, p = 0.001), teacher attitudes towards the environment (β = 0.234, p = 0.000), and teacher perceptions of the principal's instructional leadership practices for Dimension 2, namely Teaching Program Management and Environmental Programs (β = −0.219, p = 0.012). This model produces the following regression equation: Y (Teacher Self-Efficacy) = 2.349 + 0.166 (Xkg) + 0.169 (Xsg) + 0.116, (Xkd3) – 0.071 (Xkd2) + e where: As much as 34.4% of the variance in teacher self-efficacy is explained by four independent variables, namely teacher awareness of the environment (Xkg), teacher attitude towards the environment (Xsg), and teacher perception of the principal's learning leadership. practice of Dimension 3: Educational Learning Development, School Climate and Environment (Xkd3) and teacher perceptions of the principal's learning leadership practices for Dimension 2: Curriculum Management and School Environmental Programs (Xkd2).

Only 32.9% of the variance in teacher self-efficacy is caused by four variables, namely teacher awareness of the environment (Xkg), teacher attitude towards the school environment (Xsg), and teacher perception of the principal's learning leadership practices towards the school environment. Dimension 3 (Xkd3) and teacher perceptions of the principal's instructional leadership practices for Dimension 2 (Xkd2). There is a positive and moderate relationship between teacher self-efficacy and the four variables,

namely teacher awareness of the environment (Xkg), teacher attitude towards the environment (Xsg), perception of the teacher's level of practice towards the environment (Xsg), and perception of the teacher's level of practice towards the environment. the principal's instructional leadership practices for Dimension 3: Fostering a Teaching and Learning Climate for Environmental Education (Xkd3) and teachers' perceptions of the principal's level of instructional leadership practices for Dimension 2: Management of Teaching and Environmental Programs (Xkd2).

These findings also confirm the existence of a linear relationship between the dependent variable (teacher self-efficiency) and predictor variables (teacher awareness of the environment (Xkg), teacher attitude towards the environment (Xsg), and teacher perception of the environment). the level of the principal's instructional leadership practice for Dimension 3: Fostering a Teaching and Learning Climate for Environmental Education (Xkd3) and teacher perceptions of the principal's level of instructional leadership practice for Dimension 2: Management of Teaching and School Environmental Programs (Xkd2). The teacher environmental awareness factor is the main predictor of teacher self-efficacy (β = 0.323) with the highest t-statistic value (t = 4.983). The second predictor is the teacher's perception of the principal's level of awareness. Learning leadership practices Dimension 3: Fostering a Teaching and Learning Climate for Environmental Education (β = 0.298) with a t-statistical value (t = 3.51) The third predictor is the teacher's attitude towards the environment (β = 0.234) with a t-statistical value (t = 3.859). The final predictor is the teacher's perception of the principal's instructional leadership practices for Dimension 2: Management of Teaching Programs and Environmental Programs (β= –.219) with a t-statistic value (t = –2.537). Significant results (p = 0.000, F = 22.371) prove that these factors contribute to efforts to increase teacher self-efficacy in implementing school environmental education, although their contribution is small.

Discussion

The findings of this research indicate that the level of teacher self-efficacy in implementing school environmental education is moderate (M = 3.53, SP = 0.30). The teachers have shown seriousness in designing and integrating school environmental values in their teaching and learning processes. This situation clearly shows that the teacher has tried hard to explore teaching methods by using effective teaching approaches in implementing environmental values. The research results also found that teachers are more concerned with the expected results or outcomes of teaching than personal factors. Teachers are more effective in producing students who behave well towards the environment but teachers place less emphasis on personal factors or personal factors such as teaching skills. Environmental education, monitoring school environmental activities, being able to answer questions about the environment at school from students, and handling environmental activities (Karataş & Karataş, 2016; Winarno et al., 2022). The findings of this research also show that teachers' attitudes toward the environment are good and positive (M = 4.22, SP = 0.42). The teacher has shown a good attitude or behavior towards the environment. Even though attitudes do not reflect behavior, teachers can think about environmental problems (cognitive), have emotions that are closely related to environmental problems (affective), and take actions related to environmental problems (behavioral) (Metin et al., 2012; Syahrial et al., 2019). This situation clearly shows that teacher attitudes influence teacher behavior toward environmental problems. The level of teacher awareness of the environment in this study was classified as moderate (M=3.60, SP=0.58). This is because there is awareness among teachers of the importance of protecting and preserving the environment.

Environmental preservation requires active and positive stimulation so that the awareness shown is manifested in behavior involving oneself and jointly solving environmental problems. The results of the research show that teachers' perceptions of the level of principals' learning leadership practices in implementing Environmental Education are moderate (M = 3.36, SP = 0.77). Teachers' perceptions of the level of principals' instructional leadership practices for Dimension 1: Definition of School Goals and Environmental Targets (M = 3.19, SP = .87), Dimension 2: Curriculum Management and Environmental Programs (M = 3.10, SP = .92) and Dimensions 3: Maintaining the Teaching and Learning Climate for Environmental Education (M=3.54, SP=0.77) is also classified as moderate. The principal has practiced instructional leadership in implementing Environmental Education in the school well by showing concern and sensitivity towards the teacher's teaching observation process to ensure teachers integrate environmental values in the teaching and learning process in the classroom (Gunansyah et al., 2021; Magomedkhan & Sadovoy, 2021). The school principal also provides support and cooperation to teachers in implementing environmentally motivated activities or programs at school. This finding is in line with previous research findings that in increasing students' understanding and knowledge in the school environment, teachers and school principals have tried to design learning and improve the learning

process by paying attention to the educational values that exist in the school environment (Suryaman et al., 2020; Wang et al., 2022).

Research findings also show that the factors that influence teacher self-efficacy in implementing school environmental education are teacher awareness of the school environment (β = 0.323, p = 0.000), and teacher perception of the school principal's level of awareness. instructional leadership practices for Dimension 3: Maintaining a Teaching and Learning Climate for Environmental Education (β = 0.298, p = 0.001), teacher attitudes towards the environment (β = 0.234, p = 0.000) and teacher perceptions of the environment (β = .234, p = .000) principals' attitudes towards learning levels of leadership practices for Dimension 2: Management of Teaching Programs and Environmental Programs (β = –0.219, p = 0.012). Teachers' awareness and attitudes towards the school environment as well as the principal's learning leadership practices are some of the challenges for today's teachers in implementing school environmental education (Kaldi et al., 2011; Korhonen & Lappalainen, 2004). These factors need to be considered and given attention to increase teacher self-efficacy in implementing school Environmental Education values. School environmental education is related to the development and value of love for the environment, including elements of knowledge and attitudes obtained from school, this finding is in line with previous findings (Begum et al., 2022; Fu et al., 2020; Gugssa, 2023; Prieto-Sandoval et al., 2022). Environmental education encourages individuals to explore personal responses to relationships with the environment and environmental problems by emphasizing personal ethics, responsible nature and environmental awareness. Emphasized that cognitive aspects play an important role in determining self-efficacy, self-regulation, information and shaping individual behavior (G. Huang & Ren, 2020; Pawlak et al., 2020). Therefore, to ensure the effectiveness of the implementation of Environmental Education, all of these factors need to receive attention so that teachers can be as empowered as possible.

The research results also found that teachers' perceptions of the level of learning leadership practices of school principals in the Environmental Education Teaching and Learning Climate Development Dimension and the Environmental Education Teaching and Learning Program Management Dimension are factors that contribute to teachers' self-efficacy in implementing the Environment. Education. School principals who practice learning leadership are responsible for creating a conducive learning climate as well as planning and managing teaching programs as best as possible to increase the seriousness and motivation of teachers in implementing Environmental Education values in their teaching process. The principal's willingness to accept change can increase the teacher's confidence in his or her ability to succeed in the required tasks. The effectiveness and excellence of a school lies in the learning leadership of the principal and this includes the effectiveness of implementing Environmental Education which is closely related to the commitment between the principal and teachers in teaching. Instructional leadership is an activity carried out by schools to increase the success of the teaching and learning process and school development (Gümüş et al., 2021; Joo, 2020). Environmental activities also need to be implemented to further improve the quality of teaching and the school environment.

Instructional leadership can also increase the motivation and self-confidence of subordinates (followers) toward greater excellence. Become an effective school principal, a school principal must carry out the function of instructional leadership because this leadership influences various aspects of education for the direction of achieving educational goals and vision to form superior and quality leadership patterns by the current world of changes and developments in science and technology (Agustina et al., 2020; Pellegrini et al., 2020). Effective principal learning leadership can increase teacher effectiveness, teacher commitment, teacher satisfaction, and teacher persistence. So instructional leadership based on managing an organization is considered an effective leadership practice. The main challenges to teacher self-efficacy in implementing Environmental Education are the teacher's awareness of the environment (β= 0.168), the principal's learning leadership practices for the Teaching and Learning Climate of Environmental Education (β= 0.116), and the teacher's attitude toward the surrounding environment (β= 0.169). Teachers must have a high awareness and positive attitude towards the environment before environmental education can be implemented effectively (Gunansyah et al., 2021; Kusumaningrum et al., 2020). School principals should create a learning climate that is conducive to the teaching and learning process of Environmental Education.

The implications of this research indicate that the level of teacher self-efficacy in implementing Environmental Education in schools is already in the medium category. Therefore, all parties need to ensure that teachers can implement environmental education in schools even though it is taught across the curriculum. Teachers have thought positively about all curriculum innovations related to school environmental education. The application of environmental values is considered a burden on the existing curriculum. Furthermore, a positive attitude will produce positive actions, while a negative attitude will produce negative actions. A teacher's positive attitude towards the environment will give birth to positive behavior related to the environment and this is manifested in teaching (through actions and words) inside

and outside the classroom. The teacher's attitude can only be changed if a deep awareness arises within the teacher himself. As an educator, the attitudes or actions shown become followers for students. In this regard, teachers can be given motivation, exposure, and knowledge about the importance of protecting and preserving the environment.

The limitation of this research is that the sample in the study was too small considering that this research only involved 300 teachers spread throughout Indonesia. Another limitation of this research is not obtaining primary data sources to strengthen the data obtained. Another limitation of this research is that no data information was obtained from students and in this research students were not involved as research subjects. Due to these limitations, the study recommends conducting further research by involving students as subjects and varying the samples studied. Another recommendation is for the school principal to ensure the dissemination of the latest information regarding the learning process in the environment by holding internal courses from time to time so that the dissemination of information is not interrupted but continues. Principals should encourage course participants to share information with other teachers in the school. For this reason, internal courses or in-house training can be held so that the latest information can be disseminated to all teachers and be useful for schools and students. Courses on teaching planning, selecting appropriate teaching and learning methods, and teaching and learning strategies also need to be held regularly so that teachers receive the latest information regarding the teaching and learning process, especially in efforts to integrate environmental education. although it may take a short time, namely two or three minutes.

4. CONCLUSION

This research was conducted to identify factors that hinder teachers' success in implementing environmental education in schools. The results of this research found that the factors that influence teacher self-efficacy in implementing environmental education in schools are the teacher's awareness and attitudes towards the environment and the level of the principal's learning leadership practices. The information obtained through this research is very useful information for the Indonesian Ministry of Education, especially in the field of Curriculum Development, as well as for policymakers to consider these factors in updating the Environmental Education curriculum and syllabus. This is to ensure that Environmental Education can be implemented effectively and achieve the oldest aims and objectives as stated in the Environmental Education Cross-Curriculum Teacher Guidelines. In this way, the level of teacher self-efficacy in learning Environmental Education at school can be achieved. It is hoped that the information obtained from this research can help increase knowledge, raise awareness, and increase the involvement of school principals, teachers, and students in implementing Environmental Education subjects throughout the curriculum. It is hoped that this research can contribute useful knowledge as well as enrich and expand research in the field of Environmental Education in schools and can help and become a reference source for other researchers in the future.

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