

# The Analysis of Self-Regulation Learning on Elementary Schools at the Rural Area in Indonesia

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**Abstract** Information that is easily accessed anytime and anywhere becomes one of the essential factors that influence educational practice at various levels. The ability of students since elementary school level in managing information during the learning process requires excellent self-regulation learning (SRL) skills. In the periphery that is relatively lacking in understanding the importance of this ability, it is necessary to see how the SRL profile of students is the basis for further policy development. This study aims to analyze the SRL profile of students in rural areas in Indonesia at the elementary school level. The research method used was survey research at three elementary schools in Kupang City, East Nusa Tenggara, and Indonesia. This city is one of the cities in a disadvantaged area group. The number of samples was 106 upper-class students from three elementary schools. The instrument used was a questionnaire with a scale of 1 to 5 (from not like me to like me). The analysis used is quantitative descriptive analysis and MANOVA for comparing schools. In the three schools studied, there was generally no difference in the students' SRL skills except for one school, which in the Plan aspect was relatively lower than other schools. This finding shows that elementary students in NTT relatively need to improve their SRL skills. In the measured aspects, which include Plan, Monitor, Control, and Reflect, all of the criteria are more than sufficient criteria but not yet up to proper criteria. The implication of this result is the need for policies from school managers to teach SRL at school. At the level of learning practices, it is necessary to apply many learning strategies that encourage the growth of SRL.

**Keywords** Self-Regulated Learning, Rural Areas, Primary Education, Elementary School

## 1. Introduction

Information that is easily accessed anytime and anywhere becomes one of the essential factors that influence educational practice at various levels. The ability of students since elementary school level in managing information during the learning process requires excellent self-regulation learning (SRL) skills. In Indonesia, the penetration of information technology has been quite high [1]. Almost all regions in Indonesia can access the internet. The IT literacy of elementary school children is also already high enough so that in their daily lives, they are used to using these tools. It is just that not all schools have developed policies for utilizing information from the internet in learning [2]. With this condition, it encourages the formation of behavior capable of self-regulation in managing information as part of the learning process becomes essential for students [3-6], including elementary students [7, 8]. Self-regulated learning (SRL) refers to the deliberate and strategic adaptation of the learning process to change cognitive, motivational, and behavioral outcomes [9, 10]. In the context of education and learning, self-regulation refers to proactively applying self-directive processes, cognitive behaviors, and emotions to attain goals, learn skills, and manage emotional reactions [9, 11, 12]. The self-regulation process can be defined as making a plan, monitoring that plan, making changes to stay on track, and reflecting on what worked and what could be improved the next time [12]. The Self-Regulation Formative Questionnaire measures a student's perceived level of proficiency in the four essential components of self-regulation: Plan for and articulate what students want to accomplish; Immediately monitor progress and interference regarding student's goal; Control change by implementing specific strategies when things are not going as planned; and Reflect on what worked and what students can do better next time [9].

In urban schools, there is already an awareness of school management in utilizing information on the internet to support learning. However, on the contrary, in disadvantaged areas, many schools still run conventional learning processes. The ability to self-regulation in obtaining information from the internet is essential [13]. This condition is also related to the anticipation going forward; of course, schools in disadvantaged areas will also shift to use information from the internet for learning. In the periphery that is relatively lacking in understanding the importance of this ability, it is necessary to see how the SLR profile of students is the basis for further policy development. This study aims to analyze the SLR profile of students in rural areas in Indonesia at the elementary school level.

One of the success factors of learning is self-regulation. Self-regulation of learning is the ability to bring up and monitor one's thoughts, feelings, and behaviors to achieve learning goals. Self-regulation of learning is essential, so students have independence in learning using the information from the internet [14,15]. Self-regulation is the ability of a person to maintain or change his personality to be following moral values in society [16] using their competences [17]. The aspects of SRL are metacognition, motivation, and affirmative action. Stages of good self-regulation can achieve the expected learning goals [18,19]. SRL can also be in the form of cognitive regulation, motivation regulation, behavior regulation, and emotion regulation [9,20,21]. It is inseparable from the social support provided to them.

## 2. Methods

### 2.1. Research Context

Kupang is one of the disadvantaged areas in Indonesia. The SLR study in this area was conducted to obtain a picture that represented the SLR profile in other regions in Indonesia. There are 367 elementary schools in Kupang. In this study, three elementary schools were taken representing several different places in this city. The research method used was survey research at these schools. The samples are 105 upper-class students (4th, 5th, 6th grade). There are 51 students from MIS Al-Fitrah Oesapa Kupang City (SCH1), 25 students from MIS Fatul Mubin (SCH2), and 30 students from SD Muhammadiyah Kupang (SCH3). Data were collected in September and October 2019. Table 1 shows the sample structure of this

study.

**Table 1.** Sample Structure

Gender	Schools		
	SCH1	SCH2	SCH3
Male	31	13	13
Female	20	12	17
Total	51	25	30

### 2.2. Instrumentations

The instrument used was a questionnaire with a scale of 1 to 5 (from not like me to like me). The overall self-regulation questionnaire was found to be highly reliable (22 items;  $\alpha = .896$ ). The plan subscale consisted of 5 items ( $\alpha = .632$ ), the monitor subscale consisted of 6 items ( $\alpha = .704$ ), the control subscale consisted of 6 items ( $\alpha = .744$ ), and the reflect subscale consisted of 5 items ( $\alpha = .682$ ). Table 2 shows the matrix for each factor and item.

**Table 2.** Questionnaire Matrix

No	Factors	Item number		Total
		Positive Statements	Negative Statements	
1	Plan	1, 2, 3, 4	5	5
2	Monitor	6, 7, 8, 9, 10	11	6
3	Control	12, 13, 14, 15	16, 17	6
4	Reflect	18, 19, 20, 21	22	5

### 2.3. Analysis Technique

The analysis used is quantitative descriptive analysis. Descriptive data (average and standard deviation) was used for each factor in comparing profiles between schools. MANOVA on each SLR factor is used to see the effect of school places. The results of this MANOVA will be the basis for a comprehensive analysis of the Kupang area. Descriptive data together for three schools will also be the basis of analysis.

## 3. Result

### 3.1. SRL Profile in Kupang

Table 3 shows the score summary of three schools for each aspect of SRL.

**Table 3.** Descriptive Statistics

	N	Mean	Std. Dev.	Var.	Skew.		Kurt.	
					Stat.	Std. Error	Stat.	Std. Error
Plan	106	3.70	.64	.406	-.656	.235	.463	.465
Monitor	106	3.39	.66	.430	-.365	.235	-.049	.465
Control	106	3.55	.61	.375	-.183	.235	.298	.465
Reflect	106	3.68	.74	.551	-.488	.235	-.434	.465
Valid N (listwise)	106							

From Table 3, the obtained score of all aspects have an average of less than 4.0 and also have negative skewness. Negative skewness means that the mode is higher than the mean. This data shows that many students who have SRL above average. This result implies to be studied further, especially for Plan and Reflect factors. Both factors have relatively large skewness values (-.656 for Plan factor; -.488 for Reflect factor), which means there is a large gap between students on SRL.

From the calculation of kurtosis, Plan and Control factors have positive kurtosis, while Monitor and Reflect have negative kurtosis. The Reflect factor has a significant negative kurtosis value (-.434). This value indicates that students tend to spread their abilities in this factor. It needs to be studied more deeply in students, especially those who have low Reflection ability.

The lowest score is on the Monitor aspect (3.40), whereas in other aspects the relative equal around 3.60. Based on a maximum score of 5.0, as mentioned in the method section, the SRL of students is still low enough to support the desired learning in this era. Some strategies for increasing SRL are essential to improve the SRL of students. A detailed analysis of this result would be found in the Discussion section.

**3.2. SRL Comparison between Schools**

Table 4 shows descriptive statistics for each elementary school. From Table 3, the second column (Mean), SCH2 tends to have the lowest average score and the highest standard deviation of all aspects compared to other schools. This result will be the basis for paying attention to the situation at SCH2.

However, overall, in the three schools, the mean for SRL, no one reached more than 4.0 (High). There are many models for being able to improve SRL through various systematic exercises in learning. Self-regulation is an essential component of psychosocial theories about behavior — low of SRL associated with poor adherence to

the objectives to be achieved. The implication of this result is the need for policies from school managers to improve the SRL At the level of learning practices, and it is necessary to apply collaborative learning models that encourage the growth of SRL.

**Table 4.** Descriptive Statistics for each school

	Schools	Mean	Std. Dev.	N
Plan	SCH1	3.8157	.50730	51
	SCH2	3.3440	.85151	25
	SCH3	3.7933	.53171	30
	Total	3.6981	.63680	106
Monitor	SCH1	3.3431	.66283	51
	SCH2	3.3200	.71673	25
	SCH3	3.5444	.58548	30
	Total	3.3947	.65600	106
Control	SCH1	3.5392	.61877	51
	SCH2	3.5667	.64190	25
	SCH3	3.5611	.59610	30
	Total	3.5519	.61221	106
Reflect	SCH1	3.6784	.73656	51
	SCH2	3.5120	.84277	25
	SCH3	3.8133	.65587	30
	Total	3.6774	.74249	106

Table 5 shows the test of between-subject effects. From this table, there are significant differences between schools in the Plan aspect (Sig. = 0.005) for p-value = 0.05. In other aspects it tends not to be significantly different (Sig. = 0.336 for Monitors; Sig. = 0.979 for Control and Sig. = 0.328 for Reflect).

**Table 5.** Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Plan	4.112	2	2.056	5.505	.005
	Monitor	.948	2	.474	1.103	.336
	Control	.016	2	.008	.021	.979
	Reflect	1.238	2	.619	1.126	.328
Intercept	Plan	1290.802	1	1290.802	3456.212	.000
	Monitor	1121.082	1	1121.082	2610.295	.000
	Control	1224.266	1	1224.266	3205.594	.000
	Reflect	1302.790	1	1302.790	2368.820	.000
Schools	Plan	4.112	2	2.056	5.505	.005
	Monitor	.948	2	.474	1.103	.336
	Control	.016	2	.008	.021	.979
	Reflect	1.238	2	.619	1.126	.328
Error	Plan	38.468	103	.373		
	Monitor	44.237	103	.429		
	Control	39.337	103	.382		
	Reflect	56.647	103	.550		
Total	Plan	1492.240	106			
	Monitor	1266.694	106			
	Control	1376.639	106			
Corrected Total	Plan	42.580	105			
	Monitor	45.185	105			
	Control	39.354	105			
	Reflect	57.886	105			

The results from Table 4 imply that inter-schools have the same SRL score on each factor. This result also means that a generic strategy can be applied to all schools to improve the SRL. A Post Hoc analysis with Bonferroni was conducted to find out the differences between schools in more detail. The results are shown in Table 6.

**Table 6.** Multiple Comparisons Bonferroni

Dependent Variable	(I) Schools	(J) Schools	Mean Difference (I-J)	Std. Error	Sig.
lan	SCH1	SCH2	.4717*	.14920	.006
		SCH3	.0224	.14061	1.000
	SCH2	SCH1	-.4717*	.14920	.006
		SCH3	-.4493*	.16549	.023
	SCH3	SCH1	-.0224	.14061	1.000
		SCH2	.4493*	.16549	.023
Monitor	SCH1	SCH2	.0231	.16000	1.000
		SCH3	-.2013	.15079	.554
	SCH2	SCH1	-.0231	.16000	1.000
		SCH3	-.2244	.17747	.627
	SCH3	SCH1	.2013	.15079	.554
		SCH2	.2244	.17747	.627
Control	SCH1	SCH2	-.0275	.15088	1.000
		SCH3	-.0219	.14219	1.000
	SCH2	SCH1	.0275	.15088	1.000
		SCH3	.0056	.16735	1.000
	SCH3	SCH1	.0219	.14219	1.000
		SCH2	-.0056	.16735	1.000
Reflect	SCH1	SCH2	.1664	.18106	1.000
		SCH3	-.1349	.17063	1.000
	SCH2	SCH1	-.1664	.18106	1.000
		SCH3	-.3013	.20083	.410
	SCH3	SCH1	.1349	.17063	1.000
		SCH2	.3013	.20083	.410

Table 6 shows the differences for each school in each aspect. For the Plan aspects, SCH1 and SCH2 differ significantly (0.006) but do not differ significantly from SCH3 (1.000). SCH2 is significantly different from SCH3 (0.023). For Monitor aspects, SCH1 and SCH2 did not differ significantly (1.000) and also did not differ significantly from SCH3 (0.554). SCH2 is not significantly different from SCH3 (0.726). For the Control aspect, SCH1 and SCH2 did not differ significantly (1.000) and also did not differ significantly from SCH3 (1.000). SCH2 is not significantly different from SCH3 (1.000). For the Reflect aspect, SCH1 and SCH2 did not differ significantly (1.000) and also did not differ significantly from SCH3 (1.000). SCH2 does not differ significantly from SCH3 (0.410). From these results, there is a tendency that attention needs to be addressed to SCH2, especially on the Plan aspect. In other aspects, there is no significant difference, although the score still needs to be

improved for all schools.

#### 4. Discussions

SRL refers to the ability to understand and control the learning environment. The ability of SRL includes setting goals (Plan), self-monitoring (Monitor), self-instruction (Control), and self-reinforcement (Reflect) [9,11,12]. SRL is different and does not constitute mental ability or skills in academic performance. SRL is a process of self-direction through a series of behaviors to turn mental abilities into skills and habits through a process of development that arises from guided practice and feedback. With a good SRL, students will be better able to deal with the development of their learning environment, including using information from the internet world. This full and heavy information needs to be in lined with good

SRL. From the results of the study, it appears that elementary schools in NTT still need to be improved in all aspects, because there was no score of SRL factors that reached 4.0. Various efforts need to be made to improve this.

Due to the importance of SRL, teachers and school policymakers in NTT need to teach SRL explicitly in elementary schools. This suggestion also refers to the other result of research conducted by [5] and [22]. It is essential to determine the strategies that encourage students to apply when dealing with information in cyberspace. Activities that can be carried out to encourage better SRL include providing an explanation of the benefits and importance of SRL, explicitly teaching SRL strategies, and helping to identify when and how to use SRL when dealing with information for their learning [4,11]. With this activity, it can be expected that there will be an increase in SRL in elementary schools in NTT. Re-role of school policymakers is essential in this endeavor. The era of digital technology faced in the daily activities of students cannot be ignored without giving or teaching skills to manage information for student growth and development. However, SRL is closely related to how to regulate emotions, cognition, behavior, and environmental aspects.

This result in the knowledge aspect implies that SRL in students in the three schools studied still needs to be improved with a variety of relevant strategies. By assuming that these results can be generalized, elementary students in NTT need to be given attention to improving SRL in the face of current communication and information technology. The wise use of technology and the proper use of information that supports their learning need to be promoted. Based on implications at the level of practical learning, teachers need to develop strategies both explicitly and implicitly to teach SRL to students. Also, the policy implication is that managers of education and schools need to make regulations to ensure that the process of improving the SRL of these students can be measured. To further utilize the results of this research, a study to develop strategies to teach SRL and its application needs to be applied to ensure improvements in SRL skills in elementary students in NTT.

## 5. Conclusions

Form the study in the three schools, and there was generally no difference in the students' SRL skills except for one school, which in the Plan aspect was relatively lower than other schools. This finding shows that elementary students in NTT relatively need to improve their SRL skills. In the measured aspects, which include Plan, Monitor, Control, and Reflect, all of the criteria are more than sufficient but not yet up to proper criteria. These results need to be improved to achieve functional

skills by developing various policies both implicitly and explicitly by education policymakers in NTT, policymakers in schools, and teachers in the learning process in the classroom.

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